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Report on
Detailed Site Investigation for Contamination

Murwillumbah Education Campus
86 Riverview Street, Murwillumbah

Prepared for
Built (NSW) Pty Ltd

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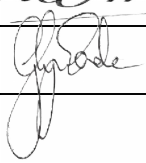
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The undersigned, on behalf of Douglas Partners Pty Ltd, confirm that this document and all attached drawings, logs and test results have been checked and reviewed for errors, omissions, and inaccuracies.

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Report on Detailed Site Investigation for Contamination
Murwillumbah Education Campus
86 Riverview Street, Murwillumbah

1. Introduction

Douglas Partners Pty Ltd (DP) was engaged by Built (NSW) Pty Ltd to complete this detailed site investigation (DSI) for contamination for Murwillumbah Education Campus at 86 Riverview Street, Murwillumbah (hereinafter referred to as 'the site').

The NSW Department of Education – School Infrastructure have proposed the development of an education campus, including a primary school and a high school, at the Murwillumbah High School site. The Murwillumbah Education Campus will bring together students from Murwillumbah Primary School, Murwillumbah East Primary School, Murwillumbah High School, and Wollumbin High School. The Murwillumbah Education Campus project includes demolition of some existing buildings, refurbishment of existing buildings; and construction of new educational buildings and facilities that will reflect best practice and innovative education design principles.

Murwillumbah High School is listed on the New South Wales Department of Education (DoE) schools asbestos register for building materials containing asbestos and the site has an Asbestos in Grounds Management Plan (AGMP). The AGMP requires that a permit to work be issued by the DoE Facility Manager prior to works being conducted in areas of potential disturbance. The AGMP states there has been no asbestos containing materials (ACM) identified in the soil from previous investigations at the site.

DP previously conducted a Preliminary Site Investigation (PSI) for contamination[1] at the site, that included preparation of a Conceptual Site Model (CSM) and soil sampling and analysis from twelve boreholes distributed across the site. The investigation did not indicate the presence of contamination at concentrations exceeding the adopted site assessment criteria (SAC). However, DP recommended that either a DSI be undertaken, or that a contamination investigation be conducted in the proposed areas of disturbance for the development.

The objective of this DSI is to provide more complete and definitive information on the contamination status of the site for the proposed areas of disturbance for the development. This will be achieved through an appraisal of past site uses, a site walkover inspection, assessing the soil contamination conditions via implementation of an intrusive sampling and analysis program and assessing the presence of actual or potential acid sulfate soils (ASS). It is understood that the investigation will form a part of the State Significant Development Application (SSDA) for the proposed development. The DSI has been designed to meet the requirements detailed in the document 'MEC HS – Minor Works Consultancy Agreement – Scope of Works- Rev 1 – 18.03.21'.

[1] DP (2020) *Preliminary Site Investigation for Contamination, Murwillumbah High School Proposed Works, Murwillumbah High School, Riverview Street, Murwillumbah* (Ref: 98119.01.R.001.Rev0 dated 14 May 2020)

The following key guidelines were consulted in the preparation of this report:

- Ahern, CR, Stone, Y and Blunden B (1998) *Acid Sulfate Soils Assessment Guidelines,* Acid Sulfate Soil Management Advisory Committee, Wollongbar, NSW, Australia
- NEPC *National Environment Protection (Assessment of Site Contamination) Measure 1999 (as amended 2013) [the 'NEPM']* (NEPC, 2013);
- NSW Department of Urban Affairs and Planning (1998) *Managing Land Contamination, Planning Guidelines, SEPP 55 – Remediation of Land;*
- NSW EPA (1995) *Sampling Design Guidelines*;
- NSW EPA (2020) *Guidelines for Consultants Reporting on Contaminated Land* (NSW EPA, 2020); and
- Stone, Y, Ahern CR and Blunden B (1998) *Acid Sulfate Soils Manual 1998*. Acid Sulfate Soil Management Advisory Committee, Wollongbar, NSW, Australia.

A full list of references is provided in Section 16.

This report must be read in conjunction with the notes entitled 'About this Report' in Appendix A and other explanatory notes, and the report should be kept in its entirety without separation of individual pages or sections.

1.1 Scope of Work

The investigation was undertaken in general accordance with the scope of services described in DP's proposal P203033.01 dated 22 March 2021. A geotechnical investigation was conducted concurrently with this investigation and the results are presented under separate cover. The DSI comprised of the following items:

- A review of the following:
  - Previous investigation reports for the site and surrounding area;
  - New and previously identified (DP, 2020) site information including, regional geology and soil landscape, acid sulfate soil risk, registered groundwater bores, historical aerial photographs, contaminated land records mainatined by the NSW EPA, historical business activities, dryland salinity, heritage items, ecological constraints and other planning related information relavent to the asessment;
  - Current and historical site information, land title records and aerial photographs contained in a commissioned independent Lotsearch Pty environmental report;
  - Section 10.7 (2) & (5) certificates for the site maintained by Council;
  - SafeWork NSW license records for the storage of dangerous goods; and
  - Readily available site information.
- A site walkover inspection noting any potential for contamination and the identification of potential sources and/or receptors;

- Development of a revised conceptual site model (CSM) identifying potential contamination sources expected at the site, the affected media, potential receptors, as well as potential migration pathways.
- Excavation of 31 test pits (to a maximum depth of 2 m bgl, 0.5m into natural soils or refusal, whichever occurred first) with an excavator;
- Collection of soil samples at depths of approximately 0.2 m, 0.5 m and every 0.5 m thereafter to 0.5 m into natural material from each test pit for contamination assessment purposes;
- Collection of soil samples from seven geotechncial boreholes at depths of approximately 0.2 m, 0.5 m and every 0.5 m thereafter to 0.5 m into natural material;
- Collection of 500 ml grab samples (one per test pit) for laboratory analysis for the presence/absence of ACM and/or asbestos fines and fibrous asbestos (AF/FA);
- Collection of three background soil samples from an undisturbed area of the site. The background samples were analysed for soil pH and cation exchange capacity, total organic carbon, % clay and iron so that background ecological investigation levels could be established;
- Collection and analysis of quality control (QC) samples as required, including intra- and inter-laboratory duplicate, trip blank and trip spike samples;
- Screening of selected replicate soil samples in the field for volatile organic compounds (VOCs) using a calibrated photoionisation detector (PID);
- Collection of soil samples from four of the test pits at 0.25 m depth intervals to a depth of 2.0 m bgl for an acid sulfate soil (ASS) investigation;
- pH screening of all thirty-two ASS samples to determine the likelihood of actual or potential ASS being present;
- Chromium suite analysis of sixteen selected ASS samples (i.e., 50% of the total) to confirm the presence of actual or potential ASS and allow determination of suitable liming rates, if required;
- Analysis of 37 selected soil samples (i.e. one per sample location) for a range of CoPC comrpising metals/metalloids, total recoverable hydrocarbons (TRH), benzene, toluene, ethylbenzene, xylenes, naphthalene (BTEXN), polycyclic aromatic hydrocarbons (PAH), organochlorine pesticides (OCP), organophosphorus pesticides (OPP), polychlorinated biphenyls (PCBs), phenols and asbestos; and
- Preparation of this DSI report.

2. Site Information

2.1 Site Identification Details

The site identification details are presented in Table 1

Table 1: Site Identification Details

Site Address	86 Riverview Street, Murwillumbah, NSW
Legal Description	Lot 5 on DP820602, Lot 6 on DP820602 and Lot 2 on DP578679
Area	11.7 ha
Local Council Area	Tweed Shire Council
Land Zoning	Low Density Residential
Current Use	Education – Secondary School
Surrounding Uses	North – Residential East – Sporting Fields South – Agricultural West – Residential/Agricultural

The site location and approximate site boundary are shown in Drawing 1, Appendix B. The current title and registered plan are presented in Appendix C.

3. Preliminary Site Investigation (PS) for Contamination – DP (2020)

DP was commissioned by the NSW DoE to undertake a limited PSI to establish the contamination status of soils at the site. At the time of the investigation, details on earthworks and proposed building footprints were unknown. The PSI included an overview of the environmental setting (detailed in Sections 4.1, 4.7 and 4.8), the development of a CSM, and soil sampling and analysis from twelve boreholes distributed across the site. No site history or Lotsearch Report was commissioned for the limited PSI. The PSI was conducted concurrently with a geotechnical investigation.

The limited CSM produced in this PSI identified fill of an unknown origin as a potential source of contamination. The CoPC, potential receptors and potential exposure routes are detailed in Table 2 below.

Table 2: PSI CSM

Source Media	Potential Receptor	Potential Exposure Route	CoPC
S_1: Fill material of unknown origin	R_1: Site users R_2: Construction staff R_3: Utility maintenance workers	P_1: Direct dermal contact with soil P_2: Inadvertent ingestion P_3: Dust inhalation	Various including metals/metalloids, TRH, BTEXN, PAH, OC/OP, PCBs, Phenols and Asbestos
	R_4: Sensitive waterbodies (i.e., the adjacent irrigation/drainage channel and Tweed River) R_5: Sensitive flora and fauna	P_4: Lateral migration of contaminants through soil, through preferential pathways or soil features.	

Following the development of the limited CSM, a sampling, analysis and quality plan was prepared, which outlined the field methodologies and strategies. Field investigations were conducted on 16 and 17 April 2020 and consisted of:

- Drilling 12 geotechnical boreholes using a solid flight auger mounted on a 4WD drill rig;
- Collection of representative soil samples at depths of approximately 0.2 m, 0.5 m and every 0.5 m thereafter to approximately 0.5 m into natural soils; and
- Collection of additional soil samples for QC purposes.

Figure 1 below shows the locations of the boreholes that were sampled as part of the Limited PSI in 2020.

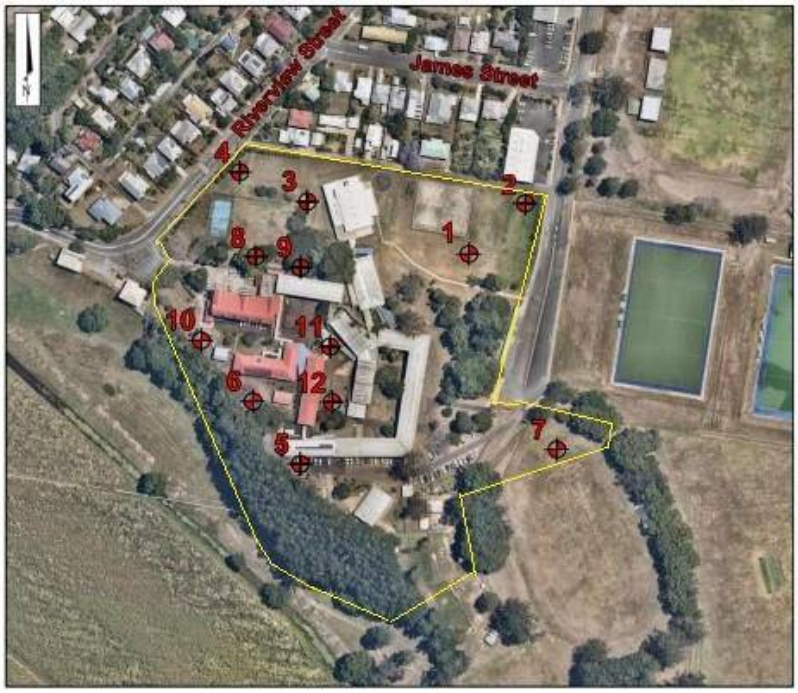


Figure 1: Limited PSI Borehole Locations (DP, 2020)

The SAC adopted for the PSI comprised low density residential HIL/HSL A and EIL/ESL B. The ground conditions encountered during this investigation are described on the bore logs in Appendix J, and generally comprised fill and/or silty sands, underlain by sandy or silty clays. Fill material of unknown origin was encountered to depths of up to 1.8 m bgl in BH9 (see Figure 1). A total of 45 samples were collected during the field work and 18 of these were analysed for the aforementioned CoPC. The analytical results indicated that trace concentrations of metals/metalloids were detected, however, there were no exceedances of the adopted SAC.

4. Environmental Setting

4.1 Site Topography

Surface levels were derived from digital elevation model ('DEM') data obtained from the Intergovernmental Committee on Surveying and Mapping ('ICSM') *Elevation and depth – Foundation Spatial Data* ('ELVIS') database (ICSM 2019). ICSM is a standing committee of the Australia and New Zealand Land Information Council ('ANZLIC').

The site is located on a hillside ridge that slopes in a west to east direction to a lower-lying floodplain. Relative Levels (RL) generally decrease from a high point of 21.5 m above Australian Height Datum (AHD) to a low point of 3.0 m AHD.

The ridgetop and hillslope areas of the site (generally > 5.0 m AHD) were occupied by the school's facilities, including classrooms, administration buildings and the library, while the lower-lying floodplain areas (generally < 5.0 m AHD) were occupied by sporting fields and open space.

4.2 Proximity to Environmentally Sensitive Areas (ESA)

According to the Eastern Bushland Database for vegetation, disturbed forest woodland was located 228 m north-west of the site. The site is also located within 1 km of low to high potential Groundwater Dependent Ecosystems (GDE), both terrestrial and aquatic in nature.

ESA mapping is attached in Appendix D.

4.3 Contaminated Land

According to the Lotsearch Report the site is not listed on the NSW Environmental Protection Agency (EPA) Contaminated Land list. However, one allotment located 627 m east of the site is listed on the Contaminated Land list for previous uses as a former Mobil Depot, for Other Petroleum activities. This was not considered to present a significant impact to the contamination status of the site.

There were no recorded former gasworks or records of notice areas located on or within proximity of the site.

The Lotsearch Report is attached in Appendix E.

4.4 Waste Management and Liquid Fuel Facilities

According to the Lotsearch Report the site was not located on, or within proximity to any National Waste Management Sites or National Liquid Fuel Facilities.

4.5 PFAS Investigation and Management Programs

Reference to the Lotsearch Report indicated that the site was not located on or within proximity to any EPA PFAS Investigation Program sites, Defence PFAS Investigation or Management Program Sites, Airservices Australia National PFAS Management Program Sites and/or Defence Sites.

4.6 EPA Activities

Reference to the Lotsearch Report indicated that two areas of licensed activities under the EPA Protection of the Environmental Operations Act (POEO) 1997 were listed within proximity of the site. This included the John Holland Rail Network and the Murwillumbah Wastewater Treatment Plant, located 738 m east and 952 m north of the site, respectively.

Furthermore, the site was formerly licensed and located within proximity to formerly licensed activities under the POEO Act 1997. These included the application of herbicides on-site, which was subsequently surrendered in 2000, as well as miscellaneous licensed discharge to waters on areas located 874 m west of the site, also surrendered in 2000.

4.7 Surface Water and Groundwater

There are no surface waterbodies on the site, however, a modified drainage/irrigation channel occupies the low-lying floodplain approximately 40 m to the south/south-west of the site. Additionally, the Tweed River is located approximately 500 m to the east of the site.

Surface topography indicated that surface runoff at the site would drain to the east and south to either the irrigation/drainage channel or Tweed River.

Reference to the Lotsearch Report indicated that a porous, extensive, highly productive aquifer is located on-site.

Groundwater data available on WaterNSW's "Real Time Data" database indicated that five groundwater monitoring wells were located within a 1.5 km radius of the site. Groundwater monitoring well details are provided in Table 3.

Table 3: Groundwater Monitoring Well Details

Well ID	Date Installed	Coordinates	SWL (m bgl AHD)
064147	1986	537380E 6866204N	25.9
305006	2002	539529E 6866254N	5.0
307330	2011	539227E 6866671N	8.0
307331	2011	539223E 6866663N	8.0
307332	2011	539229E 6866665N	8.0

Notes

SWL Standing water level

The date SWL was recorded at each monitoring well was not available. It was presumed that the recorded date was at the time of installation.

4.8 Geology

Reference to the NSW Department of Planning, Industry and Environment's (DPIE 2019[2]) *Seamless Geology Dataset* indicated that surface geology differs according to elevation at the site. The ridgetop and hillslope parts of the site are underlain by the Devonian-aged *Neranleigh-Fernvale beds* with a lithology of feldspathic and lithic meta-arenite, meta-siltstone, chert, jasper, basic meta-volcanics, conglomerate. They are a thick sequence of proximal to distal turbidites with structurally intercalated or stratigraphically underlying chert, jasper and metabasalt.

Lower lying floodplains are underlain by Cainozoic-aged undifferentiated alluvial deposits, with a lithology consisting of sand, silt, clay, and gravel; some residual and colluvial deposits. This includes

[2] The NSW Department of Planning and Environment ('DPE') at the time of publication.

some channel, levee, lacustrine, floodplain and swamp deposits, as well as some higher-level Tertiary terraces consolidated with alluvial deposits.

4.9 Acid Sulfate Soils (ASS)

ASS mapping included in the Lotsearch Report indicated that the on-site ASS Class that presented the largest environmental risk was Class 3, which are indicated to be present in the eastern sections of the site. On-site works which are more than one metre below the natural ground surface and/or works by which the water table is likely to be lowered more than one metre below natural ground surface, present an environmental risk.

5. Site History Information

A historical title deeds search was used to obtain ownership and occupancy information including company names and the occupations of individuals. Copies of the title records are included in Appendix C. Title information can assist in the identification of previous land uses by the company names or the site owners and can, therefore, assist in establishing whether there were potentially contaminating activities occurring at the site. A summary of the title deeds and possible land use is presented in Table 4.

Table 4: Historical Title Deeds

Date of Acquisition and Term Held	Registered Proprietor(s) & Occupations	Inferred Land Use
Lot 2 DP 578679		
14.01.1913 (1913 to 1949)	Francis Edward Conaghan (Farmer)	Agriculture
18.11.1949 (Gazette Date) (1949 To Date)	The Minister for Education	School
Lot 5 DP 820602		
24.09.1926 (Gazette Date) (1926 to Date)	Minister of Public Instruction Now Minister for Education	School
Lot 6 DP 820602		
03.10.1924 (Gazette Date) (1924 to Date)	Minister of Public Instruction Now Minister for Education	School

5.1 Historical Aerial Photography

Historical aerial photographs from 1953 to 2021 were included in the Lotsearch Report in Appendix E. A summary of key features observed for the site and surrounding land is presented in Table 5 below.

Table 5: Summary of Historical Aerial Photographs

Year	Site	Surrounding Land Use
1953	The site appears to be predominantly cleared with remnant vegetation observed in the north-eastern corner of the site. Two school buildings (Buildings A and H) and a shed were observed in the north-western corner. In addition, a potential third large building/courtyard/sporting court was observed in the north-west.	The surrounding areas appeared to consist predominantly of residential buildings to the north of the site, along with cleared land, for agricultural purposes to the east, west and south of the site.
1962	One of the northern buildings appeared to be L-shaped (Building H) with an adjacent cottage (Building P) to the west. Two additional school buildings appeared to have been constructed east of the original buildings (Buildings S and C), along with a small shed within the centre of the buildings, and a track leading from High School Lane.	Minimal changes compared to the previous photograph.
1972	The 1972 image indicated that three additional buildings had been built (Buildings B, D and E), two of which were connected to the original Building A and the 1962 Building C. A distinctive field shape was observed in the eastern corner of the site.	A sporting field appeared to be under construction north-east of the site. New dirt roads also appeared to have been constructed north-east of the site. Cropping activities were evident south of the site.
1979	The western corner appeared more densely vegetated in the 1979 image. In addition, a number of sheds and tracks were evident south-west of the main school buildings. Potential tennis/basketball courts were evident along the northern boundary.	The sporting field located north-east of the site appeared complete.
1987	The site appeared similar to the 1979 image, with the addition of a small shed located south-west of the main school buildings. Two small structures were also built near the eastern boundary, along with one small structure along the north-eastern boundary.	Areas of cropped land were observed south of the site.

Year	Site	Surrounding Land Use
1991	Two new buildings appeared to have been constructed north of the 1972 buildings (including Building G). Small cropping areas appear to be located south-west of the school buildings.	The site appeared similar to the 1987 image.
2004	One of the two 1991 buildings appeared to have been removed and a pathway leading to a large school building (Building M) was observed. Sports courts were also constructed along High School Lane. Several small structures along the south-eastern and north-western school area appeared to have been removed. Two circular markings were evident on the north-western large building/courtyard/sporting court.	A tennis court appeared to have been constructed east of the site.
2009	The site appears similar to the 2004 image. The circular markings on the north-western building/courtyard/sporting court appeared more prominent.	The surrounding areas appears similar to the 2004 image.
2015	A large building (Building F), appeared to have been constructed in the agricultural department area, located south-west of the main school buildings. The north-western court appears to have been partially grassed and converted into a tennis court.	An additional synthetic sporting field appeared to have been constructed east of the site.
2021	Additional sheds were constructed in the southern part of the site as part of the agricultural department area. Corridors connecting the buildings appeared to have been constructed.	A creek was observed along the western and southern boundary lines.

5.2 Planning Certificate S10.7

The three allotments which comprise the site fall under the Tweed Shire Local Environmental Plan (LEP) 2014. According to the Planning Certificate S10.7 for each allotment (attached in Appendix F), the following prescribed matters relating to the site have been detailed below:

5.2.1 Lot 6 DP 820602

- Item 2(a) - Zone R2 Low Density Residential;
- Item 2 (h) - Environmental Heritage (as listed in Schedule 5);
- Item 3 - Complying Development;
- Item 7 - (a-b) Council and other public authority policies on hazard risk restrictions – Bushfire;

- Item 7 - (a-b) Council and other public authority policies on hazard risk restrictions – Acid Sulfate Soils – Class 3 and Class 5;
- Item 7A (1-3) - Flood related development controls information and Floodplain Risk Management Study; and
- Item 11 – Bush Fire Prone Land.

5.2.2 Lot 2 on DP578679

- Item 2(a-d) - Zone R2 Low Density Residential;
- Item 3 - Complying Development;
- Item 7(a-b) - Council and other public authority policies on hazard risk restrictions – Bushfire;
- Item 7(a-b) - Council and other public authority policies on hazard risk restrictions – Acid Sulfate Soils – Class 3, 4 and 5;
- Item 7A (1-3) - Flood related development controls information and Floodplain Risk Management Study; and
- Item 11 – Bush Fire Prone Land.

5.2.3 Lot 5 DP 820602

- Item 2(a-d) - Zone R2 Low Density Residential;
- Item 3 - Complying Development;
- Item 7(a-b) - Council and other public authority policies on hazard risk restrictions – Bushfire;
- Item 7(a-b) - Council and other public authority policies on hazard risk restrictions – Acid Sulfate Soils –Class 5;
- Item 7A (1-3) - Flood related development controls information and Floodplain Risk Management Study; and
- Item 11 – Bush Fire Prone Land.

5.3 SafeWork NSW Dangerous Goods Search

A search of the SafeWork NSW Dangerous Goods Register indicated that the site was listed on the register for Storage of Hazardous Chemicals, licence number 35/017710. The application was first submitted in 1994 and renewed in 2004 and was for a 1,000L LPG Aboveground Storage Tank (AST) of Class 2.1 Liquified Petroleum Gases supplied by EL Gas. ASTs containing LPG gas are not considered likely to result in site contamination.

A copy of the Dangerous Goods Search is attached in Appendix G.

5.4 Additional Site History Information

According to the Lotsearch Report, notable historical business that operated within proximity to the site from 1950 until 1991 included the following:

- Carriers and cartage contractors;
- Painters, paperhangers, and decorators;
- Motor Bus Services;
- Motor Oil and Spirit Depots;
- Motor Garages and Engineers;
- Motor Service Stations – Petrols, Oils etc; and
- Cattle Dip (located 942 m south).

Block A is Heritage listed on the Tweed Local Environmental Plan.

5.5 Site History Integrity Assessment

The information used to establish the history of the site was sourced from reputable and reliable reference documents, many of which were official records held by Government departments/agencies. The databases maintained by various Government agencies potentially can contain high quality information, but some of these do not contain any data.

In particular, aerial photographs provide high quality information that is generally independent of memory or documentation. They are only available at intervals of several years, so some gaps exist in the information from this source. The observed site features are open to different interpretations and can be affected by the time of day and/or year at which they were taken, as well as specific events, such as flooding. Care has been taken to consider different possible interpretations of aerial photographs and to consider them in conjunction with other lines of evidence.

5.6 Summary of Site History

The site history information suggests that the allotments that comprise the site were acquired by the current owners in 1924, 1926 and 1949. Information on historical aerial photographs and historical leases suggest the site has been predominantly utilised as a school. Small scale agricultural operations occurred on the southernmost portion of the site, due to prior land ownership and use by the school agricultural department. According to historic aerial photographs, the majority of the school buildings appear to have been constructed prior to 1991, with the original buildings constructed prior to 1953.

6. Site Walkover

6.1 Observations

A site walkover was undertaken by DP Environmental Scientist Sarah McKay on 12 April 2021. The general site topography was consistent with that described in Section 4.1. The following key site features pertinent to the PSI were observed (refer to the photographs in Appendix H, and Drawings 1 and 2, Appendix B for site layout).

- The site structures appeared to consist predominantly of brick structures of varying construction dates, with plaques located on or near the structures indicating that the age of the buildings ranged from approximately 1927 to 1980;
- The original heritage-listed school building (Building A) was located in the western section of the site (Photograph 11);
- A concrete courtyard connected the heritage building to the newer buildings (Photograph 12). The courtyard surface was cut as part of the excavation of test pits for this investigation (Photograph 13);
- Additional classroom buildings and another courtyard were located south-east of the original constructions (Photographs 1 and 2);
- Newer buildings were observed in the north-eastern portion of the site (Photographs 17 and 18);
- The south-eastern portion of the site consisted of grassed sporting fields (Photograph 14);
- Patches of mature vegetation had been planted along the eastern boundary (Photograph 15);
- Low-lying grassed areas and hard-stand basketball courts were located in the north-eastern corner of the site (Photographs 16 and 19);
- An agricultural learning area was observed in the south-eastern corner of the site, it consisted of:
    - A chicken coop (Photograph 6);
    - A grazing area for goats (Photograph 8);
    - A shed storing a tractor (Photograph 28);
    - A shed/learning area storing hazardous agricultural goods, in chemical cabinets, petrol cans, fertiliser/herbicide/pesticide backpack applicator (Photographs 5 and 30);
    - Storage of transmission oils (Photograph 24);
    - Storage of miscellaneous agricultural tools (Photograph 7);
    - An AST containing LPG (Photograph 5);
    - A large storage shed/classroom (Building F) that stored a tractor and miscellaneous agricultural tools, chemicals, chemical cabinets and mower parts (Photographs 27 and 29)
    - Stockpiles of old furniture, paints and tyres were stored outside of Building ‘F’ (Photographs 25 and 26);
    - Banana trees were observed growing near Building F; and
- Storage areas were located underneath Buildings B and D.

6.2 Interview with Site Personnel

DP interviewed the school groundskeeper on 13 April 2021 and noted the following:

- Lead-based paint is understood to be present on windows in Buildings B and D;
- A natural spring was located underneath the site; and
- Mould was an issue for numerous buildings.

7. Preliminary Conceptual Site Model

A conceptual site model (CSM) is a representation of site-related information regarding contamination sources, receptors and exposure pathways between those sources and receptors. The CSM provides the framework for identifying how the site may become contaminated and how potential receptors may be exposed to contamination either in the present or the future; i.e., it enables an assessment of the potential source – pathway – receptor linkages (complete pathways).

Potential Sources

Based on the current investigation, the following potential sources of contamination and associated CoPC have been identified.

- S1: Fill material of unknown origin placed at the site during the construction of school's facilities.
  - Various CoPC could include, but are not limited to, metals/metalloids, TRH, BTEX, PAH, PCB, OC/OP, PCBs, phenols, and asbestos.
- S2: Use of pesticides, herbicides, fertilisers, petrol, or oils for agriculture (i.e., crops, grazing and tractor maintenance);
  - CoPC could include but are not limited to, arsenic, TRH, BTEX, PAH, OC/OP, nitrogen, and phosphorus.
- S3: Hazardous building materials within current structures;
  - CoPC could include but are not limited to, lead (in paint), synthetic mineral fibres (SMF), potential ACM (PACM) and PCBs.

Potential Receptors

The following potential human receptors have been identified:

- R1: Current users [school students, staff, and visitors];
- R2: Construction and maintenance workers;
- R3: End users [school students, staff, and visitors]; and
- R4: Adjacent site users [residential].

The following potential environmental receptors have been identified:

- R5: Surface water [Tweed River];

- R6: Groundwater; and
- R7: Terrestrial ecology.

Potential Pathways

The following potential pathways have been identified:

- P1: Ingestion and dermal contact;
- P2: Inhalation of dust and/or vapours;
- P3: Surface water run-off;
- P4: Leaching of contaminants and vertical migration into groundwater;
- P5: Lateral migration of groundwater providing base flow to water bodies; and
- P6: Contact with terrestrial ecology.

Summary of Potentially Complete Exposure Pathways

A 'source–pathway–receptor' approach has been used to assess the potential risks of harm being caused to human or environmental receptors from contamination sources on or in the vicinity of the site, via exposure pathways (potential complete pathways). The possible pathways between the above sources (S1 and S3) and receptors (R1 to R7) are provided in Table 6 below.

Table 6: Revised Potentially Complete Exposure Pathways

Source and CoPC	Transport Pathway	Receptor	Risk Management Action
S1: Fill - Metals, TRH, BTEX, PAH, OC/OP, phenols, PCBs, and asbestos S2: Agricultural Activities - Arsenic, TRH, BTEX, PAH, OC/OP, nitrogen, and phosphorus.	P1: Ingestion and dermal contact; P2: Inhalation of dust and/or vapours P3: Surface water run-off P4: Leaching of contaminants and vertical migration into groundwater. P5: Lateral migration of groundwater providing base flow to water bodies. P6: Contact with terrestrial ecology	R1: Current users R2: Construction workers R3: Maintenance workers R4: Adjacent site users R5: Sensitive waterbodies R6: Groundwater R7: Terrestrial ecology	An intrusive investigation is recommended to assess possible contamination including testing of the soils.

Source and CoPC	Transport Pathway	Receptor	Risk Management Action
S3: Hazardous building materials within current structures – asbestos, SMF, lead and PCBs.	P1: Ingestion and dermal contact P2: Inhalation of dust and/or vapours	R1: Current users R2: Construction workers R3: Maintenance workers R4: Adjacent site users	Whilst an AGMP exists for the site, a Hazardous Materials (HAZMAT) investigation is recommended to identify other hazardous building materials such as potential SMF and lead contamination.

8. Sampling, Analysis and Quality Plan

8.1 Data Quality Objectives

Data qualitative objectives (DQOs) are qualitative and quantitative statements that specify the data required for the DSI and have been derived from the CSM (Table 6). The DQO process is a seven-step iterative planning approach specified in the NEPM (Schedule B2, Appendix B) that is used to define the type, quantity and quality of data needed to inform decisions relating to the environmental condition of a site. DQOs for this assessment were developed in accordance with this process and are summarised in Table 7 below.

Table 7: DQOs for the project

Problem	Uncertainty exists as to whether contamination exists at the site
Identify the Decision/Goal	• Are there any signs of elevated soil contamination within the site? • Does the site, or is the site likely to, present a risk of harm to human health or the environment? • Does the site require further investigation, remediation and/or validation to render the site suitable for the proposed use?
Information Inputs	• Historical information regarding past land uses and features. • Site operations and observation details • Soil profile information obtained through the sampling phase. • Chemical analysis data for soil samples analysed. • Assessment of analytical data against applicable site assessment criteria
Study Boundaries	The physical site boundary is shown on Drawings 1 and 2, Appendix B and forms the boundary of this investigation. The temporal boundary of this assessment is limited to the time at which the assessment was conducted.

Decision Rules	Information obtained in this investigation is to be used to make an assessment of contamination issues likely to impact on the proposed development. In assessing analytical data against screening levels for ecological and/or human health risk, site conditions can be stated to be acceptable if either: • All results are below the relevant screening level; OR • Individual concentrations of analytes (non-volatile) are less than 250% of the relevant screening level; and • The 95% upper confidence limit (UCL) of mean concentrations of a data set for samples of like material is below the relevant screening level; and • The standard deviation of the population is <50% of the relevant screening level. Statistical analysis needs only be conducted where analytical results for a contaminant of concern are recorded above, but less than 250% of the relevant screening level. • Laboratory results are accepted and considered suitable for this assessment under the following conditions: • All laboratories are accredited by the National Association of Testing Authorities (NATA) for all analyses to be performed; • All practical quantitation limits (PQLs), or laboratory limits of reporting (LORs) set by the laboratories fall below the adopted assessment criteria; • Reported concentrations of analytes in the replicate and/or split sample pairs are within accepted limits; and • Quality assurance/quality control (QA/QC) protocols and results reported by the laboratories comply with the requirements of the NEPM (Schedule B3).
Performance Criteria	Analyte selection is based on available site history information, observed site activities, site features, and field observations during sampling. The potential for contaminants to be present other than those analysed is considered to be low. Assessment criteria adopted from the guidelines stated in Section 10 incorporate risk probabilities. Acceptable limits for replicate/split comparisons are described in Appendix I. Acceptable limits for laboratory QA/QC parameters are based on those stated by the laboratory and those stated in the NEPM (Schedule B3).
Optimise design	Locate sampling points to target potential sources of contamination as described in Section 8.3.1 Procedures for collection of environmental samples, as described in Sections 8.3, were developed prior to undertaking the assessment phase of works with reference to the NEPM, AS4482.1, AS4482.2, and current good industry practice. Optimise selection of samples for TRH and BTEXN analysis by screening samples with a calibrated PID to assist in determining the analytical programme. Results of PID screening are provided with the field work results. Use of NATA accredited analytical laboratories to conduct sample analyses.

8.2 Summary of Field Methodologies

Field investigations were carried out by DP Environmental Scientist, Sarah McKay, between 12 and 16 April 2021. The investigations comprised the following activities:

- Excavation of 26 test-pits using four tonne and six tonne excavators;
- Hand auguring of five environmental test locations due to excavator access issues;
- Drilling and hand auguring of seven geotechnical boreholes to a maximum depth of 2 m with a track mounted EziProbe drilling rig utilising solid flight augers;
- Collection of soil samples from the seven geotechnical boreholes and 31 environmental test locations at depths of approximately 0.15 m, 0.5 m, 1.0 m, and every 0.5 m thereafter;
- Collection of soil samples from four test-pits across the school area at 0.25 m intervals for ASS soils to termination depth;
- Collection of additional soil samples for QC purposes; and
- Screening of selected replicate soil samples in the field for volatile organic compounds (VOCs) using a calibrated photoionisation detector (PID).

8.3 Soil Sampling

8.3.1 Soil Sampling Rationale

The borehole and test pit locations were determined by the client and related to the footprints of the proposed development works.

8.3.2 Sampling Handling

Soil was sampled by DP Environmental Scientist Sarah McKay from 12 to 16 April 2021. Sampling was conducted with reference to AS4482.1 and AS4482.2 and the standard operating procedures described in DP's Field Procedures Manual to obtain representative samples and to maintain their integrity.

All samples were recorded on DP chain of custody sheets, and the general sampling procedure comprised:

- Collection of samples from the sides and base of the test pit or from the bucket of the excavator. Samples were also collected directly from the auger in locations which were drilled or hand augured;
- Transfer of samples into laboratory-prepared glass jars with Teflon-lined lids with minimal head spacing and capping immediately;
- In addition to contamination sampling, ASS soil samples were collected from four test pits across the school area (TP2, TP12, TP26 and TP30) at 0.25 m intervals until termination depth;
- Various sampling for QC purposes (refer to Appendix I);
- Collection of 500 ml soil samples for asbestos in soil analysis;
- Labelling of sample containers with individual and unique identification details, including project number and sample location; and

- Placement of the sample jars into ice-cooled, insulated, and sealed containers for transport to the laboratory.

The soil profile encountered in each test pit and borehole was lithologically logged as presented in Appendix J. Test-pit and borehole locations are shown on Drawing 2, Appendix B.

8.4 Rationale for Selection of Laboratory Analyses

For contamination assessment purposes 188 soil samples were collected during field investigations and sent to Australian Laboratory Services Pty Ltd (ALS), at 2 Byth Street, Stafford, Brisbane. Of these, 109 samples were selected for analysis.

In addition, two blind replicate soil samples (R4 and R5), and one trip blank were analysed by ALS for QC purposes. Two additional soil samples (S4 and S5) were analysed by Eurofins at 1/21 Smallwood Place, Murarrie, Brisbane for QC purposes. Both laboratories are accredited by NATA for the analyses undertaken.

Soil samples selected for laboratory analysis was based on the rationale described in Section 7.3 and observations made during field work. Analytes were selected based on the CSM (Section 6). Analytes included metals/metalloids, TRH, BTEXN, PAH, OC/OP pesticides, PCB, phenols and asbestos (absence/presence).

For ASS assessment purposes, 30 samples were collected during the field investigation and sent to ALS for pHF and pHFOX assessment. Based on these results an additional 16 samples were selected for chromium suite analysis.

8.5 Sampling Handling

Sample integrity was maintained by keeping all samples in sealed glass jars and in ice-cooled, insulated containers immediately after sampling. Samples were placed on ice and sent to the laboratories on 16 April 2021. Samples were all received by the laboratories in good condition, in the appropriate containers with minimal headspace, and within relevant laboratory holding times.

It is considered that the integrity of samples was preserved during temporary storage and transportation to the laboratories. Chain of custody and sample receipt documentation is provided in Appendix K.

9. Quality Assurance and Quality Control (QA/QC)

QA/QC measures were implemented throughout the investigation. This was achieved by defining the data quality objectives (DQOs, Table 7) for the project based on the CSM prior to the commencement of field investigations. All QA/QC information was then evaluated against the DQOs and is summarised in Appendix I.

10. Site Assessment Criteria

The site assessment criteria (SAC) applied in the current investigation are informed by the CSM (Section 7) which identified human and ecological receptors that may be at risk of harm to potential contamination on the site. Analytical results were compared against the SAC comprising the investigation and screening levels of Schedule B1 of the NEPC (2013).

The NEPM guidelines are applicable to generic land use settings and include consideration of the soil type and depth of parameters for some analytes. They are broadly divided into two groups, health-based investigation or screening levels (HIL/HSLs) representing risks to human receptors, and ecological investigation or screening levels (EIL/ESLs) representing risks to ecological and/or environmental receptors. Guidelines are not intended to be used as clean-up levels, rather, they establish concentrations above which further investigation (e.g., Tier 2 Investigation) should be conducted.

The following criteria were adopted for this investigation:

- HIL/HSL-A: Residential premises with garden/accessible soil, including children's day care centres, preschools, and primary schools.
- EIL/ESL-B: Urban residential areas and public open space. Broadly corresponding with the HIL/HSL selected above.

EILs for selected analytes were calculated using average site-specific soil parameters for pH, cation exchange capacity and clay content, based on the analysis of three natural soil samples (30/2.0, 9/1.1 and 22/1.4). The average values were as follows:

- Cation exchange capacity (CEC): 8.4 meq/100 g;
- pH: 5.33;
- Clay content – 51%; and
- Organic Carbon - 0.5%

Laboratory results have been compared against the adopted thresholds and are summarised in Appendix L.

10.1 SAC for Acid Sulfate Soils

Criteria used to assess the results of the screening tests (pH_F and pH_{FOX}) to identify possible actual ASS (AASS), or potential ASS (PASS) are taken from the *National Acid Sulfate Soils Guidance*[3] (Sullivan et al, 2018) as follows:

- pH_F <4 indicates oxidation has occurred in the past and that AASS is present.
- pH_{FOX} <3, plus a pH_{FOX} reading at least one pH unit below pH_F, plus a strong reaction with peroxide, strongly indicates the presence of PASS.

The above criteria as well as visual assessment of samples were used to select samples for quantitative laboratory analysis by chromium suite testing.

[3] Sullivan, L, Ward, N. Toppler, N and Lancaster, G (2018) National Acid Sulfate Soils guidance: National acid sulfate soils sampling and identification methods manual, Department of Agriculture and Water Resources, Canberra ACT

The action criteria for the presence of ASS and which may trigger a requirement for an ASSMP are based on the *National Acid Sulfate Soils Guidance*. The relevant action criteria for medium-grained soil were adopted for this assessment, based on the soil types encountered during the investigation. The adopted action criteria are as follows:

Existing plus potential acidity (S_{CR} + TAA + S_{NAS}) of greater than or equal to 0.06 %S (sulfur trail) or 36 mol H^+/tonne (acid trail).

Where: S_{CR} = Chromium Reducible Sulfur
TAA = Titratable Actual Acidity
S_{NAS} = Net Acid Soluble Sulfur (retained acidity)

11. Ground Conditions

The subsurface conditions encountered are described in detail in the borehole and test-pit logs presented in Appendix J.

TOPSOIL/FILL	Generally comprised of sandy silt (SM) or silty clay (CL) encountered from the majority of boreholes and test-pits. Depths were variable depending on test location and ranged from 0.1 m bgl at TP6 to 0.4 m bgl at TP14. Texture was also variable, but predominantly included dark brown sandy silts with fine to medium sands and trace fine gravels, in addition to low plasticity dark brown clays with fine sands.
Silty/Sandy CLAY	Encountered from depths of 0.1 to 2.0 m bgl. Typically grey- brown or red-brown in appearance and comprised of fine to medium grained sands, with low-medium plasticity clays.

No obvious visual and olfactory evidence (e.g., staining, odours) suggested the presence of hydrocarbons. Trace amounts of ash, bricks and other non-soil, non-PACM, building materials were observed within the fill material in test locations TP 21, TP20, TP18, TP2 and TP3.

The PID screening indicated that the sub-surface conditions contained recorded values of VOC concentrations lower than 2ppm.

Free groundwater was observed whilst excavating TP30 at 0.5 m bgl. It should be noted that groundwater levels are affected by climatic conditions and soil permeability and will therefore vary with time.

12. Discussion of Results

12.1 Results of Soil Contamination Investigation

Please note: earlier versions of this report (i.e.; revisions 0 to 3) had compared the soil laboratory analytical results to the NEPM EILs and ESLs for 'areas of ecological significance', rather than 'urban residential and public open space' areas, as was stated in Section 10. The EILs and ESLs for 'areas of ecological significance' are lower than those for 'urban residential and public open space' areas, which resulted in several soil samples being identified as containing concentrations of CoPC that exceeded the adopted EIL or ESL. Revision 4 of this report corrected this error, and the following discussion has been revised accordingly.

The soil laboratory analytical results are contained in the laboratory reports presented in Appendix K and summarised in the tables found in Appendix L. A summary of the results compared to the adopted SAC is presented below:

- Most of the metals/metalloids results were below the adopted HIL/HSL and EIL/ESL SAC, except for:
  - Sample R5, an intra-laboratory replicate of sample TP13/0.1, which reported a zinc concentration of 335 mg/kg, marginally exceeding the adopted EIL criterion of 310 mg/kg. This was not considered indicative of widespread contamination that presents a risk to potential ecological receptors for the following reasons:
    - In accordance with the project decision rules detailed in the DQOs in Section 8.1, statistical analysis was performed on the data set of zinc concentrations, using ProUCL software (version 5.1). The results of the statistical analysis are included in Appendix M. An assessment of the results of the statistical analysis compared to the decision rules is detailed below in Table 8.

Table 8: Summary of Statistical Analysis

	Zinc
Adopted SAC (EIL)	310 mg/kg
Maximum value reported	335 mg/kg
Maximum value less than 250% of SAC?	Yes
Adopted 95% UCL	73.04 mg/kg
Adopted 95% UCL less than SAC?	Yes
Standard deviation (detects only)	70.8 mg/kg
Standard deviation less than 50% of SAC?	Yes

    - The statistical analysis indicated that, with a 95% confidence level, the true population mean value of zinc concentrations in soil at the site is less than the SAC. Considering the statistical analysis, the exceedance of the adopted SAC for nickel in sample R5 is not considered to present a significant risk to potential ecological receptors. DP considers that remediation of the site for zinc contamination is not required to render the site suitable for the proposed development.
- All TRH results were below the adopted SAC;
- All BTEX results were below the adopted SAC;

- All PAH results were below the adopted SAC;
- All OCP results were below the adopted SAC;
- All OPP results were below the adopted SAC; and
- Asbestos was not detected in the samples analysed.

12.2 ASS Soil Investigation Results

The ASS laboratory analytical results for soil are summarised in Table 4, Appendix L, and the results are described below:

12.2.1 Soil pH Screening

Results of the soil screening tests (pH_F, pH_{FOX}) were assessed based on the recommendations in Sullivan et al (2018) to assess whether they are indicative of actual ASS or potential ASS (PASS).

- The pH_F values of the samples ranged from slightly acidic (4.8) to neutral (7.6). As all results were greater than 4, there is no indication that actual ASS is present.
- The pH_{FOX} values of the samples ranged from very acidic (3.5) to slightly acidic (5.6). None of the pH_{FOX} results were equal to or below a pH of 3. Four samples exhibited a mild reaction (2) with the introduction of hydrogen peroxide and reported a pH change greater than two. This indicates that PASS may be present in the alluvial clay soil.

12.2.2 Chromium Suite Analysis

Of the 16 samples selected for chromium suite analysis, eight samples including TP30/0.5, TP30/1.0, TP30/1.5, TP30/2.0, TP12/1.0, TP12/1.5, TP12/2.00 and TP2/1.25 recorded a net acidity value that was equal to or exceeded the adopted action criteria of 0.06 %S, indicating the presence of PASS.

13. Discussion

13.1 Contamination Investigation

- Does contamination exist from previous site uses?
  - No, the results of the investigation did not indicate the presence of soil contamination from previous site uses. Although a specific groundwater investigation was not undertaken, DP has not identified any potential sources of groundwater contamination at the site and consider that the potential for groundwater contamination is very low.
- Does the site, or is the site likely to, present a significant risk of harm to human health or the environment?
  - No, the results of the investigation do not indicate that the site presents a significant risk of harm to human or ecological health.

  - Whilst one EIL exceedance in replicate sample R5 was reported, this was not considered to be indicative of widespread contamination that presents a risk to potential ecological receptors.
- Are there any significant contamination issues that could restrict the proposed development?
  - No, the results of the investigation do not indicate that there are significant contamination issues at the site that could restrict the proposed development.
- Does the site require further investigation, remediation and/or validation to render the site suitable for the proposed use?
  - No, DP considers that the site does not require further investigation, remediation and/or validation to render the site suitable for the proposed use.

13.2 Acid Sulfate Soil Investigation

The results have indicated the potential for PASS to be present in the natural soils in test-pits TP30 and TP12 and at a depth of 1.25 m bgl in TP2. It is considered that for disturbance of the soils onsite below a depth of 0.5 m in the lower lying areas in the east of the site, an ASS management plan (ASSMP) will be required. An ASSMP is included in Section 15 of this report.

14. Conclusions and Recommendations

Based on the investigations described in this report, the following conclusions are made:

- No contamination above the HIL/HSL SAC was identified in the soil samples collected and analysed;
- An EIL exceedance in sample TP13/0.1 was reported[4], however, this was not considered to be indicative of widespread contamination that presents a risk to potential ecological receptors;
- No buried ACM was identified during the evacuation or drilling;
- Traces of bricks, ash and other building materials were observed within the fill material in test-pits TP 21, TP20, TP18, TP2 and TP3;
- If soil disturbance is required within the eastern part of the site, as well as at depths below 1.25 m bgl near TP2, an ASSMP should be implemented; and
- Whilst an AGMP exists for the site, a Hazardous Materials (HAZMAT) investigation is recommended to identify potential SMF and lead contamination within the current building structures.

Based on the results of this investigation the soil is safe to reuse onsite and the site is considered to be suitable for the proposed continued scholastic development.

[4] Note: this section of the report has been revised from the previous revision (i.e.; Rev4) to reflect the correction to the adopted EILs/ESLs, as discussed in Section 12.1.

14.1 Unexpected Finds

There is considered to be a relatively low potential for contamination-related unexpected finds to occur at the site during the proposed development works. Unexpected finds would typically be able to be identified by visual or olfactory indicators and could include:

- Waste materials in fill, including building and demolition waste;
- Fibre cement fragments/sheeting (e.g., ACM);
- Stained fill/soil;
- Malodorous soils (e.g., hydrocarbon odours); and/or
- Ash, slag and/or coal wash.

The following should be implemented in the event of an unexpected find:

- All work in the immediate vicinity should cease and temporary barricades should be erected to isolate the area;
- A suitably qualified contaminated land consultant should be engaged to inspect the find and provide advice on the appropriate course of action; and
- Any actions should be implemented and validated to demonstrate that there are no unacceptable risks to identified receptors.

15. Acid Sulfate Soil Management Plan (ASSMP)

As detailed above, PASS is present in the lower lying eastern areas of the site, below a depth of approximately 0.5 m bgl, and at a depth of 1.25 m bgl near TP2. Although major excavation of soil below this depth is not expected to be required for the development, if any minor excavation of soil from below 0.5 m occurs (e.g., building piles and footings, underground service trenches) the procedures detailed in this ASSMP should be implemented.

The objective of the ASSMP is to reduce the potential on- and off-site environmental impacts associated with the disturbance of PASS identified at the site.

15.1 Management Strategy for On-Site Treatment

15.1.1 Overview

If natural soil below a depth of 0.5 m is excavated within the south-western section of the site it is required to be neutralised with lime. Liming is required to control the oxidation of pyritic material contained within the soil when released into aerobic conditions, with the associated generation of acid.

It follows that, where lime neutralisation treatment is to be undertaken, it will require management in a controlled environment, in a bunded and lined pad with perimeter drainage and a sump, in order to enable the collection and separate treatment of any acid leachate formed during the soil drying and liming process. The proposed treatment area is located on the oval in the south-eastern section of the site, as shown in the attached Drawing 2.

It should be noted that saturated soil cannot be neutralised effectively with lime, particularly where it is cohesive. This is because the lime must be well mixed into the soil and this cannot be performed when the soil is overly wet and 'sticky'. Hence, the excavated soil must be dried back on a lined pad before effective mixing can take place with earthmoving machinery.

All water draining from the soil, once it is removed from the excavation, should be considered as potentially acidic and should be separated in a controlled area, such as the aforementioned bunded and lined pad, and not be allowed to flow back into waterways or stormwater until it has been tested for pH and for any other environmental tests required by the appropriate regulatory authority.

15.1.2 Neutralisation Pads

On-site neutralisation of ASS should be carried out as follows:

- Prepare a liming pad/stockpile site of appropriate area for the volume of soil to be treated. The pad should be prepared on relatively level or gently sloping ground to minimise the risk of any potential instability issues, with a natural (or shaped) fall to the local drainage sump.
- The surface of the pad should be lined with selected approved compacted clay (at least two layers to a combined compacted thickness of 0.5 m) or a geosynthetic liner.
- A guard layer of fine agricultural lime (i.e., aglime) should be applied over the clay subgrade or compacted clay liner, to neutralise downward seepage. The guard layer of lime should be applied at a rate of approximately 5 kg lime per square metre of surface area for every 1 m height of stockpiled soil.
- The excavated soil should then be spread onto the guard layer in layers of 200 mm to 300 mm thickness, leaving a 1 m flat area between the toe of the spread soil and the containment bund or drain. When spreading the first soil layer, care should be taken not to churn up the lime guard layer.
- Let the soil dry back to facilitate lime mixing (if too wet, then adequate mixing of lime cannot be undertaken).
- Apply aglime to the stockpiled soil over each spread layer and harrow for thorough mixing prior to spreading the next layer. An overall liming rate of 11 kg/t should be applied to neutralise PASS within the area.
- Continue the spreading/liming/harrowing cycle until excavation is complete.
- Liming pads should be bunded off, and a circumference drain excavated to collect and localise leachate. The drain and inner bund slopes should be covered with a layer of fine lime applied to neutralise any possible leachate migrating from the stockpiled material.
- When testing indicates that lime neutralisation is complete, then the stockpiled soil may be removed from the liming/neutralisation pad.

Figure 2 below shows a schematic cross section of a treatment pad, extracted from Dear et al (2014)[5].

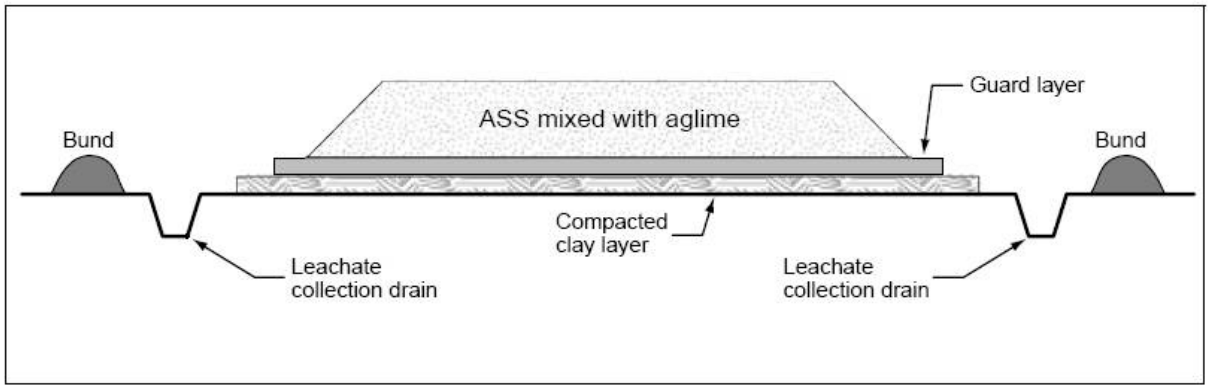


Figure 2: Schematic cross section of treatment pad

Liming of each excavation area should be pre-planned and appropriate liming pads constructed. Allowances should be made during construction planning to resume sufficient land to allow for these liming pads. Leachate collection location, lining and construction should similarly be pre-planned.

15.1.3 Neutralising Materials

Aglime should be used as the preferred neutralisation material for the management of ASS as it is usually the cheapest and most readily available product available for soil neutralisation. This material is mildly alkaline (pH of 8.5 to 9), of low solubility, and does not present any handling problems if used correctly. The aglime comprises calcium carbonate typically made from limestone that has been finely ground and sieved to a fine powder.

The aglime purity should preferably be 95% or better, (i.e., NV >95, where NV is the neutralising value, a term used to rate the neutralising power of different forms of materials relative to pure, fine calcium carbonate which is designated NV = 100). Aglime is typically sold at an NV of 95% to 98%. There could be economic justification for using a less pure grade of aglime; however, under these circumstances, the individual lime dosing rates should be increased by a factor of 100/NV.

Due to its low solubility in water, aglime is not suitable for the neutralisation of leachate, which requires a product with a very quick reaction and high solubility. The most suitable neutralising agent for leachate and stockpile drainage water is slaked or quicklime (calcium hydroxide). This is made by treating burnt lime with water (slaking) and comes as a fine white powder. It has a typical NV of about 135. Due to its high alkalinity (pH of about 12.5 to 13), slaked or quicklime should not be allowed to come into contact with the skin or be inhaled.

[5] Dear SE, Ahern CR, O'Brien LE, Dobos SK, McElnea AE, Moore NG and Watling KM (2014) *Queensland Acid Sulfate Soils Technical Manual: Soil Management Guidelines*, QLD Department of Science, Information, Technology, Innovation and the Arts.

15.1.4 Validation Testing

Validation testing of the soil and drainage water is required to be conducted after the addition of lime to test whether or not mixing has been adequate, and to reduce the risk of acidic water being returned to watercourses. Based on an existing plus potential acidity of <0.5%, validation samples of soil should be collected and tested for field pH screening and chromium suite at a minimum frequency of one sample per batch of mixed soil, with a minimum of one sample per 1,000 m^3 of treated soil.

In accordance with Dear et.al. (2014) single non-random grab samples are not recommended for this type of testing. Composite samples should be collected according to either a random or stratified-random protocol. Within each sample for laboratory analysis, a minimum of six subsamples of consistent volume should be collected. The subsamples should extend through the total depth of the treated material but avoid the underlying guard layer. The subsamples should be thoroughly mixed together in a container with a secure lid. Following the compositing of the material, a composite sample should be collected for laboratory analysis.

In addition, the pH of all ponded drainage water around the confines of the treatment bunds should be measured daily.

The soil and water contained within the treatment bunds should not be removed until the target values have been achieved as presented in Table 8 below. Similarly, additional layers of soil should not be added to the bunded stockpile for treatment until the underlying layers have been validated.

Table 8: Target Levels of Neutralised Soil and Water

Test	Target Level
Acid neutralising capacity (ANC)	To exceed existing plus potential acidity of the soil by at least a safety factor of 1.5.
pH_F of soil	6.5 to 8.5
pH_{KCL} of soil	Greater than 6.5
pH of water	6.5 to 8.5

It should be noted that validation testing (i.e., chromium suite tests) will require at least four days turn-around, possibly longer, and hence sufficient time should be allowed in the treatment programme for such verification testing. Only appropriately skilled operatives, such as available through DP, should collect and test verification samples. In addition to normal daily supervision of the soil management process, it is suggested that regular formal inspections be undertaken.

15.2 Management Strategy for Off-Site Disposal

If any PASS is required to be disposed off-site during the development, it must be undertaken in accordance with the NSW EPA *Waste Classification Guidelines – Part 4: Acid Sulfate Soils*, as detailed below.

- PASS must be kept wet at all times during excavation and subsequent handling, transport and storage; and
- PASS must be received at the proposed disposal facility within 16 hours of excavation.

15.2.1 Disposal of PASS Below the Water Table

PASS may be disposed of below the permanent water table provided:

- this occurs within 24 hours of excavation; and
- the PASS must meet the definition of virgin excavated natural material (VENM) under the *Protection of the Environment Operations Act 1997*.

The following requirements must also be met:

- The disposal facility (i.e., landfill) must be licensed by the NSW EPA to dispose of PASS below the water table;
- PASS must be kept wet at all times until burial under the water table;
- PASS must be buried at least 2 m below the lowest historical level of the water table;
- PASS must be disposed of within eight hours of receipt at the landfill; and
- The landfill operator must be provided with documentation for each truckload of material received, indicating that the soil's excavation, transport and handling have been undertaken in accordance with the *Acid Sulfate Soil Manual* (1998)[6].

The landfill operator is required to meet the following requirements:

- The pH of each load of PASS received must be tested prior to placement below the water table in accordance with the test methods specified in the *Acid Sulfate Soil Manual*. These details must be recorded and retained by the landfill operator;
- Soil that has dried out, undergone any oxidation of its sulfidic materials, or which has a pH less than 5.5 must be treated by neutralisation and disposed of at a landfill that can lawfully accept it; and
- The pH of the water into which the PASS is placed must not be less than 6.0 at any time.

15.2.2 Disposal of PASS Above the Water Table

If PASS cannot be classified as VENM or no facility is available to dispose of the material under the water table, it may be disposed of above the water table provided the following conditions are met:

- The soil must be treated in accordance with the neutralising techniques contained in the *Acid Sulfate Soil Manual 1998*;
- Following treatment, the soil must be chemically assessed in accordance with Step 5 in Part 1 of the *Waste Classification Guidelines,* to determine whether any contaminants are present, and assigned a waste classification; and
- It must be disposed of at a landfill that can lawfully accept that class of waste.

[6] Acid Sulfate Soil Management Advisory Committee, (1998). *Acid Sulfate Soil Manual.* (ASS Manual 1998)

15.3 Training and Induction

Training and induction sessions should be conducted for all contractors and staff involved in the excavation, transport or handling of soils or earthworks on the site. The sessions should be designed to ensure that staff are made aware of relevant issues and are familiar with their responsibilities.

15.4 Record Keeping

Current good management practices should be adopted by the appointed contractor. Complete records of all testing and treatment should be maintained by the contractor, and such records should be made available as required.

15.5 Emergency Response Procedures

Construction activities which may cause potential environmental hazards are summarised in Table 9 below together with recommendations for "Emergency Response Procedures".

Table 9: Emergency Response Procedures

Construction Activity	Potential Environmental Threat	Emergency Response
Excavation of trenches	Flooding of open excavation causing adjacent groundwater levels to rise, leading to potential acid leachate once the excavation is drained	• Inform site foreman and project manager/ environmental officer; • Determine excavation pH; • Correct excavation pH; and • Drain pit to tanks/ponds for water quality assessment prior to discharge.
Stockpiling/Neutralisation	Stockpile washes or slips outside of bunded lime pad	• Inform site foreman and project manager/ environmental officer; • Estimate volume of material breaching bund; • Conduct pH analysis of adjacent watercourses (if any); • Remove breached soil into a bunded limed pad; and • Over-excavate contaminated area to 0.2 m depth, apply and mix lime at rate as for guard layers (5 kg lime per m^2 of surface).
Stockpiling/Neutralisation	Breach in stockpile containment bund	• Inform site foreman and project manager/ environmental officer; • Close breach in bund; • Conduct pH analysis of adjacent watercourses (if any); and • Correct pH in any adjacent watercourse (if required).

For all construction activity incidents which pose an environmental threat, an incident report must be completed to determine how the incident occurred, to implement additional control measures, and to modify work procedures to reduce the likelihood of the incident re-occurring.

16. References

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17. Limitations

Douglas Partners (DP) has prepared this report for this project at 86 Riverview St, Murwillumbah in accordance with DP's proposal dated 22 March 2021 and acceptance received from Built (NSW) Pty Ltd. The work was carried out under DP's Conditions of Engagement. This report is provided for the exclusive use of Built (NSW) Pty Ltd for this project only and for the purposes as described in the report. This report must not be used by any other party or relied upon for other projects or purposes on the same or other site. Any party so relying upon this report beyond its exclusive use and purpose as stated above, and without the express written consent of DP, does so entirely at its own risk and without recourse to DP for any loss or damage. In preparing this report DP has necessarily relied upon information provided by the client and/or their agents.

The results provided in the report are indicative of the sub-surface conditions on the site only at the specific sampling and/or testing locations, and then only to the depths investigated and at the time the work was carried out. Sub-surface conditions can change abruptly due to variable geological processes and also as a result of human influences. Such changes may occur after DP's field testing has been completed.

DP's advice is based upon the conditions encountered during this investigation. The accuracy of the advice provided by DP in this report may be affected by undetected variations in ground conditions across the site between and beyond the sampling and/or testing locations. The advice may also be limited by budget constraints imposed by others or by site accessibility.

The assessment of atypical safety hazards arising from this advice is restricted to the environmental components set out in this report and based on known project conditions and stated design advice and assumptions. While some recommendations for safe controls may be provided, detailed 'safety in design' assessment is outside the current scope of this report and requires additional project data and assessment.

This report must be read in conjunction with all of the attached and should be kept in its entirety without separation of individual pages or sections. DP cannot be held responsible for interpretations or conclusions made by others unless they are supported by an expressed statement, interpretation, outcome or conclusion stated in this report.

This report, or sections from this report, should not be used as part of a specification for a project, without review and agreement by DP. This is because this report has been written as advice and opinion rather than instructions for construction.

Douglas Partners Pty Ltd

Appendix A

About this Report

About this Report

Douglas Partners

Introduction

These notes have been provided to amplify DP's report in regard to classification methods, field procedures and the comments section. Not all are necessarily relevant to all reports.

DP's reports are based on information gained from limited subsurface excavations and sampling, supplemented by knowledge of local geology and experience. For this reason, they must be regarded as interpretive rather than factual documents, limited to some extent by the scope of information on which they rely.

Copyright

This report is the property of Douglas Partners Pty Ltd. The report may only be used for the purpose for which it was commissioned and in accordance with the Conditions of Engagement for the commission supplied at the time of proposal. Unauthorised use of this report in any form whatsoever is prohibited.

Borehole and Test Pit Logs

The borehole and test pit logs presented in this report are an engineering and/or geological interpretation of the subsurface conditions, and their reliability will depend to some extent on frequency of sampling and the method of drilling or excavation. Ideally, continuous undisturbed sampling or core drilling will provide the most reliable assessment, but this is not always practicable or possible to justify on economic grounds. In any case the boreholes and test pits represent only a very small sample of the total subsurface profile.

Interpretation of the information and its application to design and construction should therefore take into account the spacing of boreholes or pits, the frequency of sampling, and the possibility of other than 'straight line' variations between the test locations.

Groundwater

Where groundwater levels are measured in boreholes there are several potential problems, namely:

- In low permeability soils groundwater may enter the hole very slowly or perhaps not at all during the time the hole is left open;
- A localised, perched water table may lead to an erroneous indication of the true water table;
- Water table levels will vary from time to time with seasons or recent weather changes. They may not be the same at the time of construction as are indicated in the report; and
- The use of water or mud as a drilling fluid will mask any groundwater inflow. Water has to be blown out of the hole and drilling mud must first be washed out of the hole if water measurements are to be made.

More reliable measurements can be made by installing standpipes which are read at intervals over several days, or perhaps weeks for low permeability soils. Piezometers, sealed in a particular stratum, may be advisable in low permeability soils or where there may be interference from a perched water table.

Reports

The report has been prepared by qualified personnel, is based on the information obtained from field and laboratory testing, and has been undertaken to current engineering standards of interpretation and analysis. Where the report has been prepared for a specific design proposal, the information and interpretation may not be relevant if the design proposal is changed. If this happens, DP will be pleased to review the report and the sufficiency of the investigation work.

Every care is taken with the report as it relates to interpretation of subsurface conditions, discussion of geotechnical and environmental aspects, and recommendations or suggestions for design and construction. However, DP cannot always anticipate or assume responsibility for:

- Unexpected variations in ground conditions. The potential for this will depend partly on borehole or pit spacing and sampling frequency;
- Changes in policy or interpretations of policy by statutory authorities; or
- The actions of contractors responding to commercial pressures.

If these occur, DP will be pleased to assist with investigations or advice to resolve the matter.

About this Report

Site Anomalies

In the event that conditions encountered on site during construction appear to vary from those which were expected from the information contained in the report, DP requests that it be immediately notified. Most problems are much more readily resolved when conditions are exposed rather than at some later stage, well after the event.

Information for Contractual Purposes

Where information obtained from this report is provided for tendering purposes, it is recommended that all information, including the written report and discussion, be made available. In circumstances where the discussion or comments section is not relevant to the contractual situation, it may be appropriate to prepare a specially edited document. DP would be pleased to assist in this regard and/or to make additional report copies available for contract purposes at a nominal charge.

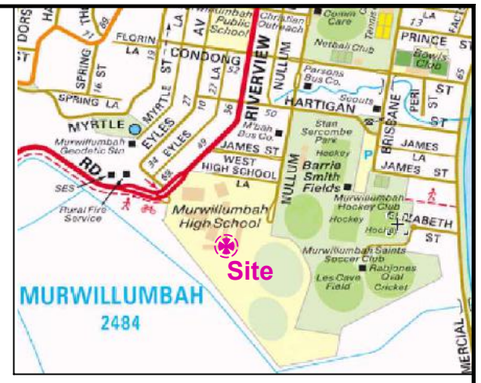
Site Inspection

The company will always be pleased to provide engineering inspection services for geotechnical and environmental aspects of work to which this report is related. This could range from a site visit to confirm that conditions exposed are as expected, to full time engineering presence on site.

Appendix B

Drawing 1





Location Plan

N

0 25 50 75 100

SCALE 1: 2,500 (A3)

LEGEND:-

- Approximate Site Boundary
- (A) Building Name

NOTE:-

1. Image obtained from Metromap. Date of imagery 25-03-2021.

Douglas Partners
Geotechnics | Environment | Groundwater

CLIENT: Built Pty Ltd		
OFFICE: Brisbane	DRAWN BY: JST	
SCALE: As shown	DATE: 25 May 2021	

TITLE: **Site Location Plan**
Proposed School Structures
85 Kyogle Road, Murwillumbah

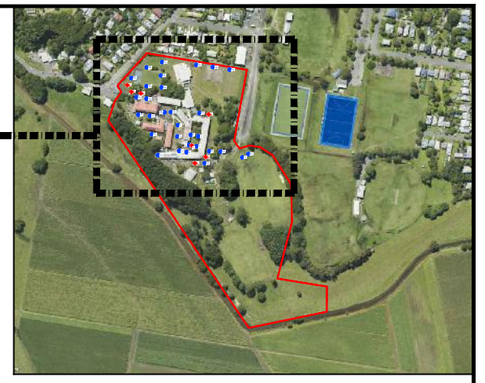
PROJECT No:	203033.01
DRAWING No:	1
REVISION:	0

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Appendix B

Drawing 2





Location Plan

N

0 10 20 30 40 50m

SCALE 1:1250 (A3)

LEGEND:-

- Pit Location and Number
- Geotech Bore Location and Number
- Approximate Site Boundary

NOTE:-

1. Test locations are approximate only and are shown with reference to existing site features.
2. Image obtained from Metromap. Date of imagery 25-03-2021.

Douglas Partners
Geotechnics | Environment | Groundwater

CLIENT: Built Pty Ltd		
OFFICE: Brisbane	DRAWN BY: JST	
SCALE: As shown	DATE: 25 May 2021	

TITLE: **Test Location Plan**
Proposed School Structures
85 Kyogle Road, Murwillumbah

PROJECT No:	203033.01
DRAWING No:	2
REVISION:	0

P:\203033.01 - MURWILLUMBAH, Proposed School Works, DSI\7.0 Drawings\7.2 Out\203033.02.D.001.Rev0.dwg

Appendix C

Current and Historic Title Certificates and Registered Plans

ABN: 36 092 724 251
Ph: 02 9099 7400
(Ph: 0412 199 304)

Level 14, 135 King Street, Sydney
Sydney 2000
GPO Box 4103 Sydney NSW 2001
DX 967 Sydney

Summary of Owners Report

Address: Murwillumbah High School, 86 Riverview Street, Murwillumbah, NSW 2484

Description: - Lot 2 D.P. 578679 & Lots 5 & 6 D.P. 820602

As regards to Lot 2 D.P. 578679: -

Date of Acquisition and term held	Registered Proprietor(s) & Occupations where available	Reference to Title at Acquisition and sale
14.01.1913 (1913 to 1949)	Francis Edward Conaghan (Farmer)	Volume 2341 Folio 11 Now Volume 4418 Folio 54
18.11.1949 (Gazette Date) (1949 To Date)	# The Minister for Education	Volume 4418 Folio 54 Now 2/578679

 # Denotes current registered proprietor

Leases: -

- 03.12.1923 (B35253): Lease to Walter Coulon (Farmer) of part of the land. Expired by effluxion of time 26.07.1933.
- 04.07.1933 (C192569): Lease to Alexander Gilmore (Farmer) of part of the land. Expired by effluxion of time 11.05.1939.
- 01.03.1939 (C780193): Lease to Laurence O'Reilly (Farmer) of part of the land. Expired by effluxion of time 07.10.1947.

Easements: -

- 18.04.1961 (H782401): Easement for passage of water 3.05 wide affecting the part of the land above described shown so burdened in title diagram.
- 04.03.2003 (DP1049940): Easement for water supply 3.905 & 10 metre(s) wide and variable affecting the part(s) shown so burdened in DP1049940.

As regards to Lot 5 D.P. 820602: -

Date of Acquisition and term held	Registered Proprietor(s) & Occupations where available	Reference to Title at Acquisition and sale
24.09.1926 (Gazette Date) (1926 to Date)	# Minister of Public Instruction Now # Minister for Education	Volume 2341 Folio 11 & Volume 1550 Folio 227 Now 5/820602

 # Denotes current registered proprietor

Leases: -

- 05.05.1924 (B35453): Lease to Walter Conlon (Farmer) of part of the land. Expired by effluxion of time 26.07.1933.

Easements: -

- 18.04.1961: Easement(s) affecting the part(s) shown so burdened in the title diagram created by:
  - DP202881 for passage of water 3.05 wide (H782400)

ABN: 36 092 724 251
Ph: 02 9099 7400
(Ph: 0412 199 304)

Level 14, 135 King Street, Sydney
Sydney 2000
GPO Box 4103 Sydney NSW 2001
DX 967 Sydney

As regards to Lot 6 D.P. 820602: -

Date of Acquisition and term held	Registered Proprietor(s) & Occupations where available	Reference to Title at Acquisition and sale
03.10.1924 (Gazette Date) (1924 to Date)	# Minister of Public Instruction Now # Minister for Education	Volume 3680 Folio 200 Now 6/820602

 # Denotes current registered proprietor

Leases: - NIL

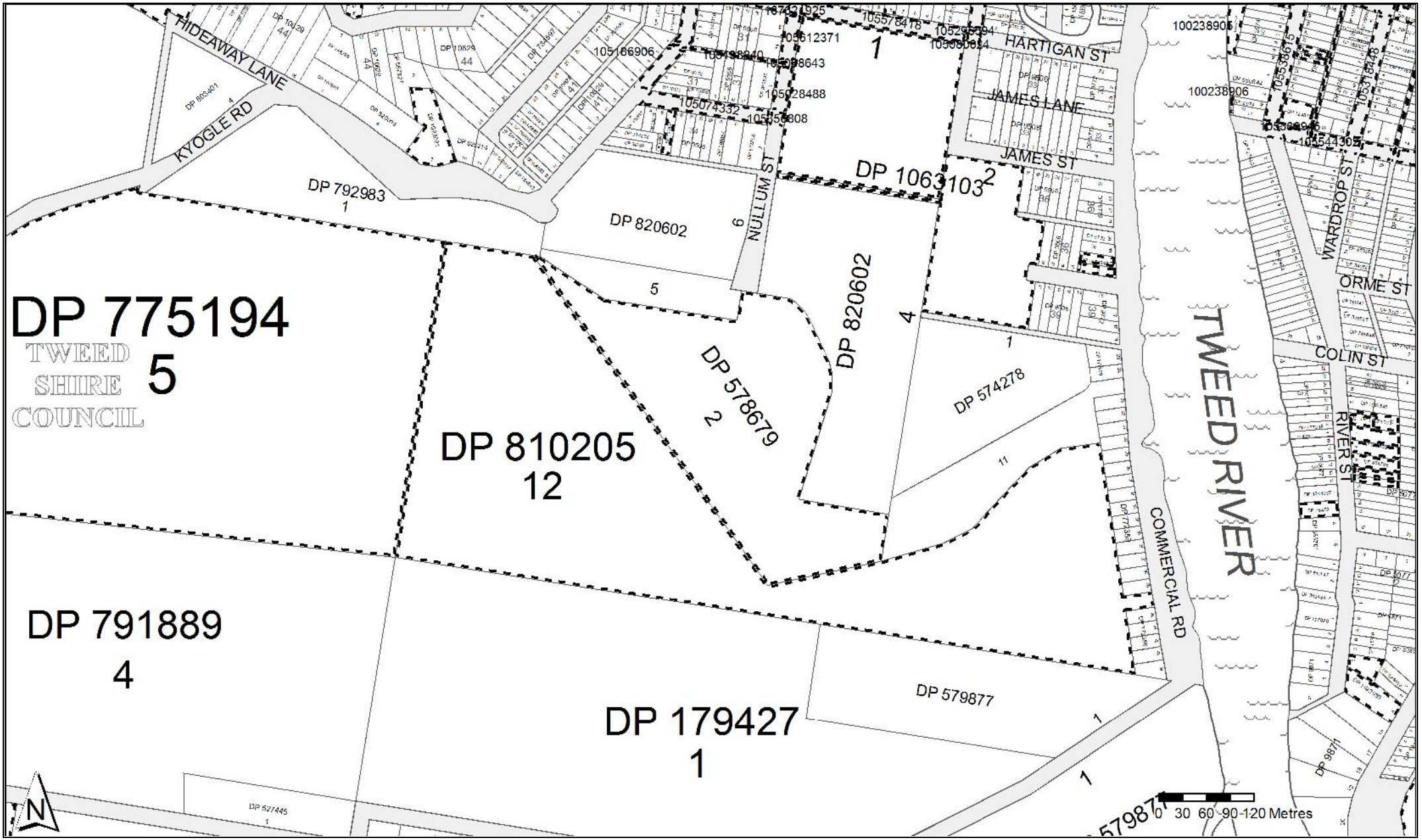
Easements: - NIL

Yours Sincerely,
Taylor Wilson
(Checked by Mark Groll)
18th May 2021

Cadastral Records Enquiry Report : Lot 2 DP 578679

Ref : 86 Riverview Street, Murwillumbah

Locality : MURWILLUMBAH
Parish : MURWILLUMBAH
LGA : TWEED
County : ROUS



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This information is provided as a searching aid only.Whilst every endeavour is made to ensure that current map, plan and titling information is accurately reflected, the Registrar General cannot guarantee the information provided. For ALL ACTIVITY PRIOR TO SEPTEMBER 2002 you must refer to the RGs Charting and Reference Maps

InfoTrack
Req:R870645 /Doc:DP 0202881 P /Rev:05-Jun-1992 /NSW LRS /Pgs:ALL /Prt:18-May-2021 16:51 /Seq:1 of 1
© Office of the Registrar-General /Src:INFOTRACK /Ref:86 Riverview Street, INFOTRACKurwillumbah

DB 505 881

"A"

Plan Form No6 (for transfers, leases, etc.)

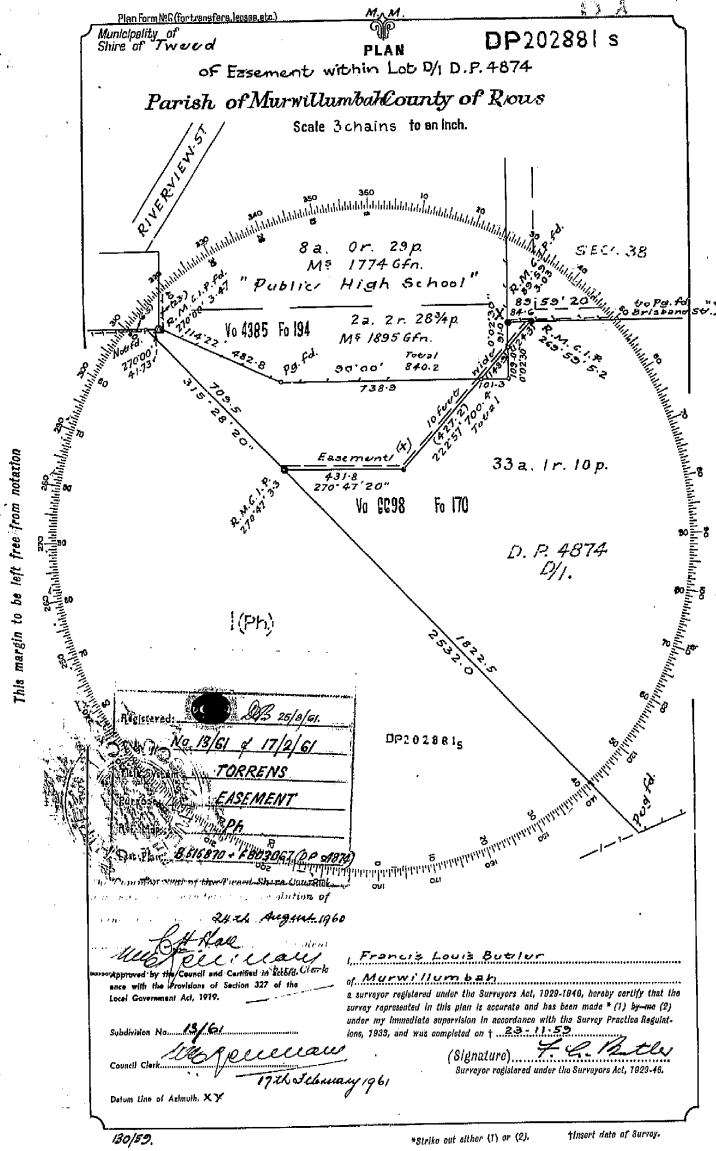
Municipality of Shire of Tweed

PLAN DP202881 s

of Easement within Lot D/1 D.P. 4874

Parish of Murwillumbah County of Rous

Scale 3 chains to an Inch.



This margin to be left free from notation

Registered: 25/8/61

No. 13/61 of 17/2/61

TORRENS

EASEMENT

Ph.

Cancelled Bk 5870 + Fb 90967 (D.P. 4874)

Approved by the Council and Certified in accordance with the Provisions of Section 327 of the Local Government Act, 1919.

24th August 1960

Subdivision No. 13/61

Council Clerk

17th February 1961

Datum Line of Azimuth XY

I, Francis Louis Butler

of Murwillumbah

a surveyor registered under the Surveyors Act, 1929-1940, hereby certify that the survey represented in this plan is accurate and has been made * (1) by me (2) under my immediate supervision in accordance with the Survey Practice Regulations, 1933, and was completed on † 23.11.59

(Signature) F. L. Butler

Surveyor registered under the Surveyors Act, 1929-46.

130/59.

*Strike out either (1) or (2). †Insert date of Survey.

This is the plan marked "A" referred to in [illegible] of Transfer [illegible] Dated 17th February 1961 from the Minister for Education to the Tweed Shire Council.

Signatures of parties to be made in this margin.

CONVERSION TABLE ADDED IN REGISTRAR GENERAL'S DEPARTMENT

DP 202881

LINKS	METRES
0.3	0.060
2.3	0.463
3.03	0.610
3.3	0.664
3.47	0.698
5.2	1.046
10	2.012
33	6.639
41.73	8.395
84.6	17.019
91	18.306
101.3	20.378
109	21.927
124.3	25.005
131.3	26.413
148.9	29.954
427.2	85.939
431.8	86.864
482.8	97.124
700.4	140.898
709.5	142.729
738.9	148.643
840.2	169.021
1822.5	366.629
2532	509.387

AC	RD	P	HA
2	2	28 3/4	1.084
33	1	10	13.48

I, Bruce Richard Davies, Registrar General for New South Wales, certify that this negative is a photograph made as a permanent record of a document in my custody this 22nd day of February, 1977

Table of mm

InfoTrack
Req:R847053 /Doc:DP 0820602 P /Rev:10-Nov-1992 /NSW LRS /Pgs:ALL /Prt:14-May-2021 09:02 /Seq:1 of 1
© Office of the Registrar-General /Src:INFOTRACK /Ref:86 Riverview Street, INFOTRACKurwillumbah

WARNING: CREASING OR FOLDING WILL LEAD TO REJECTION

OFFICE USE ONLY

DP820602

Registered 15-2-1991

Purpose PUBLIC ROADS ACT, 1902

Ref. Map X3660-4

PUBLIC ROADS ACT, 1902 PLAN OF PROPOSED ROAD PAPERS: GF 90H171

PARISH MURWILLUMBAH COUNTY ROUS LOCALITY MURWILLUMBAH

LAND DISTRICT MURWILLUMBAH SHIRE TWEED

Width of Proposed Road VAR. metres

Lands proposed to be resumed for road & withdrawn LOTS 1,2 & 3.

~~Roads proposed to be resumed~~

~~Roads proposed to be declared to be a public road~~

POR 2

NULLUM STREET (20.115 WIDE)

D.P. 9506

LANE 6.095 WIDE

90° 00' 203.79

269° 59' 207.655

1 D.P. 784898

1 D.P. 538849

RIVERVIEW STREET

32° 59' 86.78

LANE

KYOGLE RD

LOT 6 MINISTER FOR EDUCATION C/F 1/784898 3.199 ha

MURWILLUMBAH HIGH SCHOOL

LOT 4

R.87436 FOR PUBLIC RECREATION

NOTIFIED

DIAGRAM 70.76 180° 28' 180° 02' 30" 147.5 66.36 180° 06' 10" 187° 06' 10"

SEE DIAGRAM

D.P. 792983

244.94 270° 15' 30"

2 D.P. 179166

LOT 5 MINISTER FOR EDUCATION C.T. VOL. 4385 FOL. 194 1.071 ha

10.72 90° 25' 14 41.745 75.86

1 D.P. 578679

3RD OCTOBER, 1969

97.325 114° 27'

168.98 90° 00'

(D.P. 202881) 37.78 0° 02' 30"

POR 1

2 D.P. 578679

(ADDITION GAZ. 28TH NOVEMBER, 1975)

FOR PASSAGE OF WATER

EASEMENT 3.05 WIDE

395.94 359° 58' 40"

D.P. 574278

THE MINISTER FOR EDUCATION C.T. VOL. 11226 FOL. 124

5.822 ha

315° 509.36 28' 30"

141.38 187° 49' 20"

90° 18' 20" 114.68

59.24

146.68 248° 48'

	SHORT	LINES
1	0° 00'	9.355
2	0° 00'	33.49
3	80° 06'	1.45
4	61° 48'	5.775
5	43° 53'	5.47
6	26° 57'	5.47
7	6° 52'	7.0
8	314° 00'	14.885
9	113° 31'	9.84
10	126° 36'	14.71
11	139° 00'	14.63
12	146° 19' 30"	53.695
13	156° 44'	14.54
14	164° 54'	9.84
15	172° 09'	16.33
16	180° 02' 30"	2.47
17	90° 25'	10.485
18	90° 25'	4.135
19	90° 25'	5.495
20	42° 57'	3.525
21	269° 59' 20"	4.165
22	222° 57'	3.485
23	180° 02' 30"	8.21
24	90° 00'	8.395

DIAGRAM R.R.1:750

NULLUM STREET (20.115 WIDE) 359° 56' 05" 280.67 TO PM24447 FD

D.P. 9506

PM 24447 FD

STEEL POST 260° 51' 0.075 TO CORNER. RM. DH & WINGS 89° 47' 3.555

358° 43' 40" 81.39

LANE

90° 00' STEEL POST 185° 45' 0.065 TO CORNER.

A 89° 59' 20.115 89° 59'

RM. G.I.PIPE 180° 02' 30" 0.895 TO D.P. 437069 FD

LOT 6 LOT 1 LOT 4

D.P. 784898 1 D.P. 538849

70.76 180° 28' 147.35 144.88 147.5 180° 02' 30"

136.67 0° 02' 30"

STEEL POST ON CORNER

R. 87436 FOR PUBLIC RECREATION

LOT 3 868.8 m²

66.36 187° 06' 10"

2965 m²

90° 15' 30" 12.68 D.P. 437069 RM. G.I.PIPE 89° 59' 0.61 FD

RM. G.I.PIPE 81° 06' 0.515

LOT 1 D.P. 578679

LOT 2 142.2 m² 10.72 14 90° 42' 25' 75.86

S.F. POST ON CORNER D.P. 179166

2 D.P. 578679 EASEMENT 3.05 WIDE FOR PASSAGE OF WATER.

~~This is sheet 1 of my plan in sheets~~ (delete if inapplicable)

I, GEOFFREY NORMAN LANCE of TWEED SHIRE a Surveyor registered under the Surveyors Act, 1929-1946, hereby certify that the survey represented in this plan is accurate and has been made by me in accordance with under my immediate supervision the Survey Practice Regulations, 1933, and the special requirements of the Department of Lands and was completed on 23.05.90

Signature Surveyor registered under the Surveyors Act, 1929-1946 24/11/91

ACCEPTED PLAN (NOT CHECKED IN THE DEPT OF LANDS)

SURVEYOR'S REFERENCE 904

AZIMUTH TAKEN FROM A-B FIELD BOOK LD 90-9 PAGES 35 & 36

REDUCTION RATIO 1:1500

LENGTHS ARE IN METRES

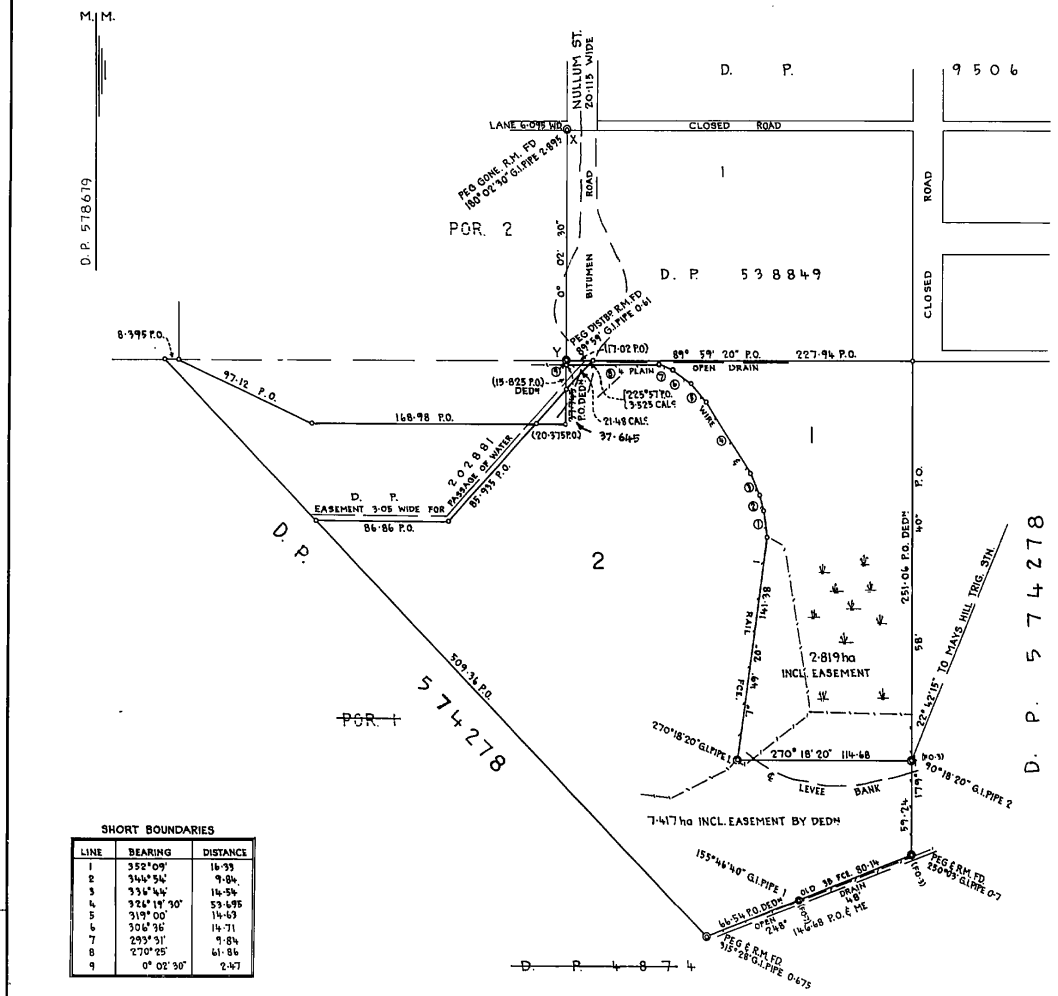
10 20 30 40 50 60 70 Table of mm 110 120 130 140

This negative is a photograph made as a permanent record of a document in the custody of the Registrar General this day. 18th February, 1991

PLAN FORM 2 — Plan Drawing only to appear in this space — * OFFICE USE ONLY

D. P. 578679

Signatures and seals only.



SHORT BOUNDARIES

LINE	BEARING	DISTANCE
1	352°09'	16·33
2	344°54'	9·84
3	334°44'	14·54
4	324°19'30"	53·495
5	319°00'	14·63
6	306°36'	14·71
7	293°31'	9·84
8	270°25'	61·86
9	0°02'30"	2·47

Registered: 4-9-1975

C.A.:

Title System: TORRENS

Purpose: ACQUISITION

Ref. Map: PARISH

Last Plan: D. P. 538849 (D.P. 48744)

PLAN OF SUBDIVISION OF LOT 2, D.P. 538849 BEING LAND IN C.T. VOL. 11226 FOL. 124.

Reduction Ratio 1: 2000
Lengths are in metres.

Mun/Shire City: TWEED

Locality: MURWILLUMBAH

Parish: MURWILLUMBAH

County: ROUS

~~This is sheet 1 of my plan in sheets~~
(Delete if inapplicable).

I, ROBERT PATRICK COLE
of LISMORE
a surveyor registered under the Surveyors Act, 1929, as amended, hereby certify that the survey represented in this plan
is accurate and has been made *(1) by me (2) under my immediate supervision (3) in accordance with the Survey Practice Regulations, 1933, and was completed on †
15TH JUNE, 1973
Signature
Surveyor registered under Surveyors Act, 1929, as amended.
Datum Line of Azimuth.
*Strike out either (1) or (2). †Insert date of survey.

Panel for use only for statements of intention to dedicate public roads or to create public reserves, drainage reserves, easements or restrictions as to user.*

IT IS INTENDED TO ACQUIRE LOT 1 FOR ADDITION TO R87436 FOR PUBLIC RECREATION.

AMENDMENT (37·645) IN R.G.O.

SURVEYOR'S REFERENCE:

Council Clerk's Certificate

I hereby certify that —

(a) the requirements of the Local Government Act, 1919 (other than the requirements for the registration of plans), and

*(b) the requirements of section 348 of the †Metropolitan Water, Sewerage and Drainage Act, 1924, as amended, †Hunter District Water, Sewerage, and Drainage Act, 1938, as amended

have been complied with by the applicant in relation to the proposed .....
(Insert "new road", "subdivision" or "consolidated lot") set out herein

Subdivision No. .....

Date .....

(Signature) .....
Council Clerk

*This part of certificate to be deleted where the application is only for a consolidated lot or the opening of a new road or where the land to be subdivided is wholly outside the areas of operations of the Metropolitan Water Sewerage and Drainage Board and the Hunter District Water Board.
†Delete if inapplicable.

10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170 Table of mm 210 220 230 240 250 260 270 280 290 300 310 320 330 340 350 360 370 380 390

WARNING: CREASING OR FOLDING WILL LEAD TO REJECTION

I, Jack Hayward Watson, Registrar General for New South Wales, certify that this negative is a photograph made as a permanent record of a document in my custody this 5th day of September, 1975.

J. Watson

InfoTrack
Req:R847052 /Doc:DP 0578679 P /Rev:31-Oct-1992 /NSW LRS /Pgs:ALL /Prt:14-May-2021 09:01 /Seq:1 of 1
© Office of the Registrar-General /Src:INFOTRACK /Ref:86 Riverview Street, INFOTRACKurwillumbah

PLAN FORM 2

Plan Drawing only to appear in this space

SIGNATURE AND SEALS ONLY

P.S. O'Connor.

J.R. Owens.

Signed by me R. Masterton as delegate of the Minister for Education and Training pursuant to Section 125 of the Education Act 1990 and I hereby certify that I have no notice of the revocation of such delegation.

R. Masterton

THE COMMON SEAL of SOUTHERN CROSS CREDIT UNION LTD. A.C.N. 087 650 682 was duly affixed in accordance with its Constitution under the authority of a resolution of the Board in the presence of:

Common Seal SOUTHERN CROSS CREDIT UNION LTD. A.C.N. 087 650 682

P. Iwaniuscha
Peter Iwaniuscha
Director

P. McDonald
Peter McDonald
Secretary

Crown Lands Office Approval

PLAN APPROVED .....

Land District .....

Paper No. .....

Field Book ..... pages .....

Subdivision Certificate

I certify that the provisions of s. 109J of the Environmental Planning and Assessment Act 1979 have been satisfied in relation to the proposed EASEMENT (insert "subdivision" or "new road") set out herein

† Authorised Person/General Manager/Accredited Certifier.

Consent Authority : .....

Date of endorsement : .....

Accreditation No : .....

Subdivision Certificate No : .....

File No : .....

When the plan is to be lodged electronically in the Land Titles Office, it should include a signature in an electronic or digital format approved by the Registrar-General.

† Delete whichever is inapplicable

SURVEYORS REFERENCE 013

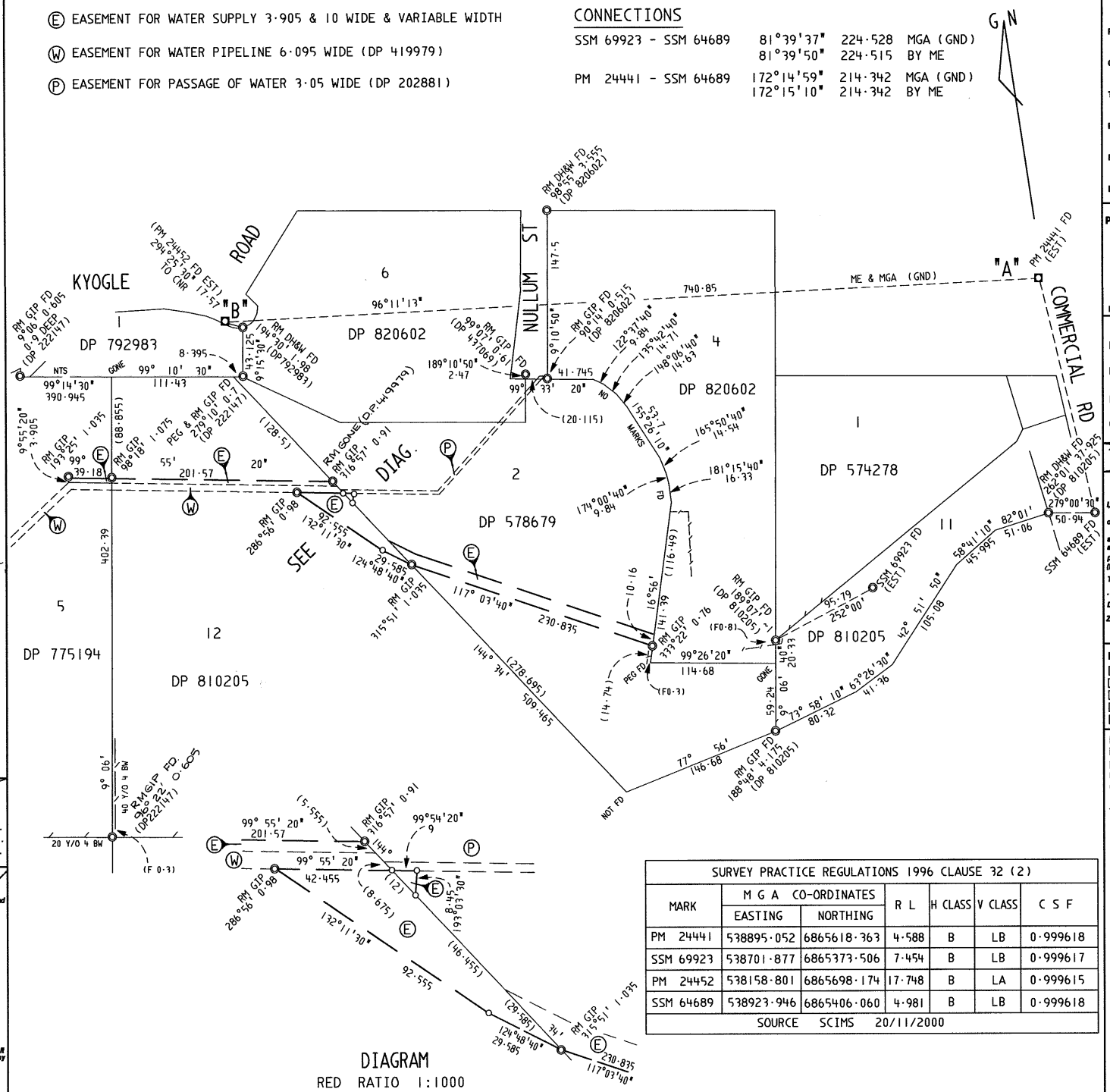
(E) EASEMENT FOR WATER SUPPLY 3·905 & 10 WIDE & VARIABLE WIDTH

(W) EASEMENT FOR WATER PIPELINE 6·095 WIDE (DP 419979)

(P) EASEMENT FOR PASSAGE OF WATER 3·05 WIDE (DP 202881)

CONNECTIONS

SSM 69923 - SSM 64689	81°39'37"	224·528	MGA (GND)
	81°39'50"	224·515	BY ME
PM 24441 - SSM 64689	172°14'59"	214·342	MGA (GND)
	172°15'10"	214·342	BY ME



DIAGRAM

RED RATIO 1:1000

SURVEY PRACTICE REGULATIONS 1996 CLAUSE 32 (2)						
MARK	M G A CO-ORDINATES		R L	H CLASS	V CLASS	C S F
	EASTING	NORTHING				
PM 24441	538895·052	6865618·363	4·588	B	LB	0·999618
SSM 69923	538701·877	6865373·506	7·454	B	LB	0·999617
PM 24452	538158·801	6865698·174	17·748	B	LA	0·999615
SSM 64689	538923·946	6865406·060	4·981	B	LB	0·999618
SOURCE SCIMS 20/11/2000						

DP1049940

Registered: 4/3/2003

C.A:

Title System: TORRENS

Purpose: EASEMENT

Ref. Map: X 3660-4#

Last Plan: D.P. 775194 D.P. 578679 D.P. 810205

PLAN OF EASEMENT FOR WATER SUPPLY 3·905 & 10 WIDE & VARIABLE WIDTH WITHIN LOT 5 DP 775194, LOT 12 DP 810205 AND LOT 2 DP 578679

Lengths are in metres. Reduction Ratio 1 : 2500

LGA: TWEED SHIRE

Locality: MURWILLUMBAH

Parish: MURWILLUMBAH

County: ROUS

This is sheet 1 of my plan in sheets. (Delete if inapplicable)

Survey Certificate

Surveyors (Practice) Regulation 1996

I, COLIN JOHN LUTTON

of TWEED SHIRE COUNCIL CIVIC CENTRE, MURWILLUMBAH NSW 2484

a surveyor registered under the Surveyors Act, 1929, as amended, hereby certify that the survey represented in this plan is accurate, has been made in accordance with the Surveyors (Practice) Regulation 1996, and was completed on 6/07/2001

The survey relates to EASEMENT ONLY

Datum Line : A-B (MGA)

Zone: Urban

Signature: Surveyor registered under the Surveyors Act, 1929

Plans used in preparation of survey/compilation.

DP 810205	DP 222147
DP 775194	DP 419979
DP 792983	DP 574278
DP 820602	DP 202881
DP 578679	

PANEL FOR USE ONLY for statements of intention to dedicate public roads or to create public reserves, drainage reserves, easements, restrictions on the use of land or positive covenants.

PURSUANT TO SECTION 88 B OF THE CONVEYANCING ACT 1964 IT IS INTENDED TO CREATE:-

(1) EASEMENT FOR WATER SUPPLY 3.905 & 10 WIDE & VARIABLE WIDTH

PLAN AMENDED IN LPI RE: RM DETAILS & RM GONE gg 4/3/2003.

10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170 Table of mm 210 220 230 240 250 260 270 280 290 300 310 320 330 340 350 360 370 380 390

WARNING : CREASING OR FOLDING WILL LEAD TO REJECTION

InfoTrack
Req:R870639 /Doc:DP 1049940 P /Rev:04-Mar-2003 /NSW LRS /Pgs:ALL /Prt:18-May-2021 16:50 /Seq:1 of 1
© Office of the Registrar-General /Src:INFOTRACK /Ref:86 Riverview Street, INFOTRACKurwillumbah

Req:R870140 /Doc:CP 01895-3050 P /Rev:28-Nov-2012 /NSW LRS /Prt:18-May-2021 16:06 /Seq:1 of 1
© Office of the Registrar-General /Src:INFOTRACK /Ref:86 Riverview Street, Murwillumbah

~~Municipality of Murwillumbah~~
~~Shire of~~ Tweed

L.B 26 998

Original Plan

PLAN

one Lot containing 2a 2r 28¾p

being part of Lane and part of portion 1 in the

Parish of Murwillumbah County of Rous

Scale 4 chains to an Inch.

Land District of Murwillumbah — Land Board District of Grafton

Measured as Addition to Public High School Site

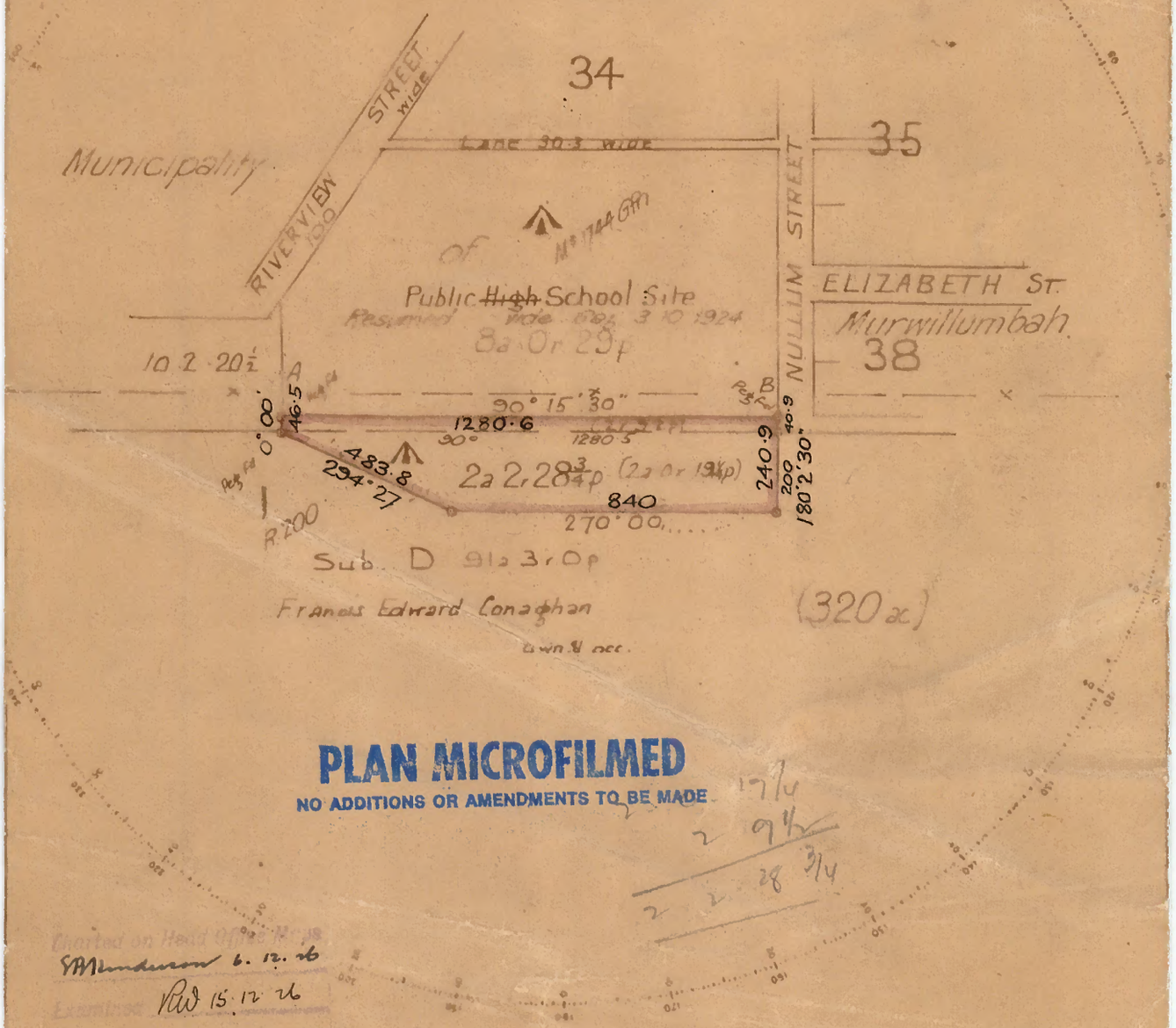
Resumed for Public School purposes Gaz. 24th September 1926.

MS 27-3240.

(a 2 ~ 2 W 28¾)

4

MP 1895 Gfn



PLAN MICROFILMED
NO ADDITIONS OR AMENDMENTS TO BE MADE

17¼
2 9¾
2 2 28 3/4

Charted on Head Office No. 28

Examined

SAHenderson 6. 12. 26

RW 15. 12. 26

Pegs at all corners

Voucher No 26 16 passed

Cash Book 1945 fol 40

Checked & Charted 25 8 26

Examined & Plan Approved

A. E. Harris

First Draftsman

26th August 1926

I Edwin Hill Johnson of Murwillumbah

Licensed Surveyor specially licensed under the Real Property Act, 1900, do hereby solemnly and sincerely declare (a) that all boundaries and measurements shown on this plan are correct, (b) that all survey marks found and relevant physical objects on or adjacent to the boundaries are correctly represented, (c) that all physical objects indicated actually exist in the positions shown, (d) that the whole of the material facts in relation to the land are correctly represented, (e) that the survey has been made *by me , and I make this solemn declaration conscientiously believing the same to be true, and by virtue of the provisions of the Oaths Act, 1900.

Edwin H. Johnson
Licensed Surveyor

Subscribed and declared before me at Murwillumbah

this 23rd day of August A.D. 1926

J.P.

Plan transmitted with my letter of 23 August 26

Date of Survey 23rd August 1926

Datum line of Azimuth A.B.

Field Notes 1926 fols 39 to 42

1895 3050

* Here add by me or under my immediate supervision as the case may be

MS 1895 Gfn

Plan Form No 6A (for transfers, leases, etc)

Municipality of Shire of Tweed

Resumed for Technical College Gaz. 18. 11. 49.

PLAN

of land proposed to be acquired for TECHNICAL COLLEGE SITE AT MURWILLUMBAH

Parish of Murwillumbah County of Rous

Scale: 200 Feet to an Inch.

NOTATION PLAN

JAMES ST (Not Aligned 66 Ft. Wide) — STREET (Not Aligned 66 Ft. Wide)

RIVERVIEW ST (Not Aligned 66 Ft. Wide)

BRISBANE STREET

ELIZABETH STREET

GONOONG STREET

D.P. 9772

D.P. 3506

D.P. 4874

Sec 34 — O. P.

Sec 35

Sec 38

Sec 40

Sec 33

Sec 30

Sec 39

Lane 20 Feet Wide

8 ac. 0r. 29p.

H.M.G.M. King George V
Ms. 1774 Gfn
Vol. 3680 Fol. 200

H.M.G.M. King George V
Ms. 1895 Vol. 4385 Fol. 194
2ac. 2r. 28¾p

33 ac. 1r. 32p.

R.M. Fd. A, B, C, D, E, F, G, H, J, K

R27728-1403

Ms. 3353 Gfn

Open Drain

Earth Fence

Reference — Marks

To	Bearing	From	Distance
A	89° 59'	G. I. Pipe Fd.	3' 3½"
A	180° 02' 30"	G. I. Pipe	9' 6"
B	269° 59'	G. I. Pipe Fd.	3' 3½"
C	270° 35'	G. I. Pipe Fd.	2' 0⅛"
D	270° 0'	G. I. Pipe	2' 3½"
E	90° 0'	G. I. Pipe	2' 6½"
F	89° 59'	G. I. Pipe	2' 0"
G	269° 59'	G. I. Pipe	3' 5½"
H	250° 03'	G. I. Pipe	2' 3½"
J	315° 28'	G. I. Pipe	2' 2½"
K	269° 59'	G. I. Pipe	3' 0"

R.Ms placed to avoid R.M.G. Gables

Approved by Council and covered by Council Clerks Certificate

No. ..... of .....

..... Council Clerk

Subscribed and declared before me at Lismore this 4th day of March A.D. 1949

R. Morgan JP Justice of Peace

I Stanley James Hosie of Lismore a Surveyor registered under the Surveyor's Act, 1929, do hereby solemnly and sincerely declare (a) that all boundaries and measurements shown on this plan are correct, (b) that all survey marks found and relevant physical objects on or adjacent to the boundaries are correctly represented, (c) that all physical objects indicated actually exist in the positions shown, (d) that the whole of the material facts in relation to the land are correctly represented, (e) that the survey represented in this plan has been made in accordance with the Survey Practice Regulations, 1933 *(1) ~~by me~~ (2) under my supervision, the character and extent of which was as required by the Survey Practice Regulations, 1933, and was completed on † 2nd March 1949 and the reference marks have been placed as shown hereon.

And I make this solemn declaration conscientiously believing the same to be true, and by virtue of the provisions of the Oaths Act, 1900

(Signature) Stanley J Hosie

Surveyor registered under the Surveyors Act, 1929

PLAN MICROFILMED

NO ADDITIONS OR AMENDMENTS TO BE MADE

3543 · 3050

Datum line OF Azimuth A-X

Ms 3543 Gfn

Req:R870186 /Doc:CP 03543-3050 P /Rev:01-Dec-2012 /NSW LRS /Prt:18-May-2021 16:09 /Seq:1 of 1
© Office of the Registrar-General /Src:INFOTRACK /Ref:86 Riverview Street, Murwillumbah

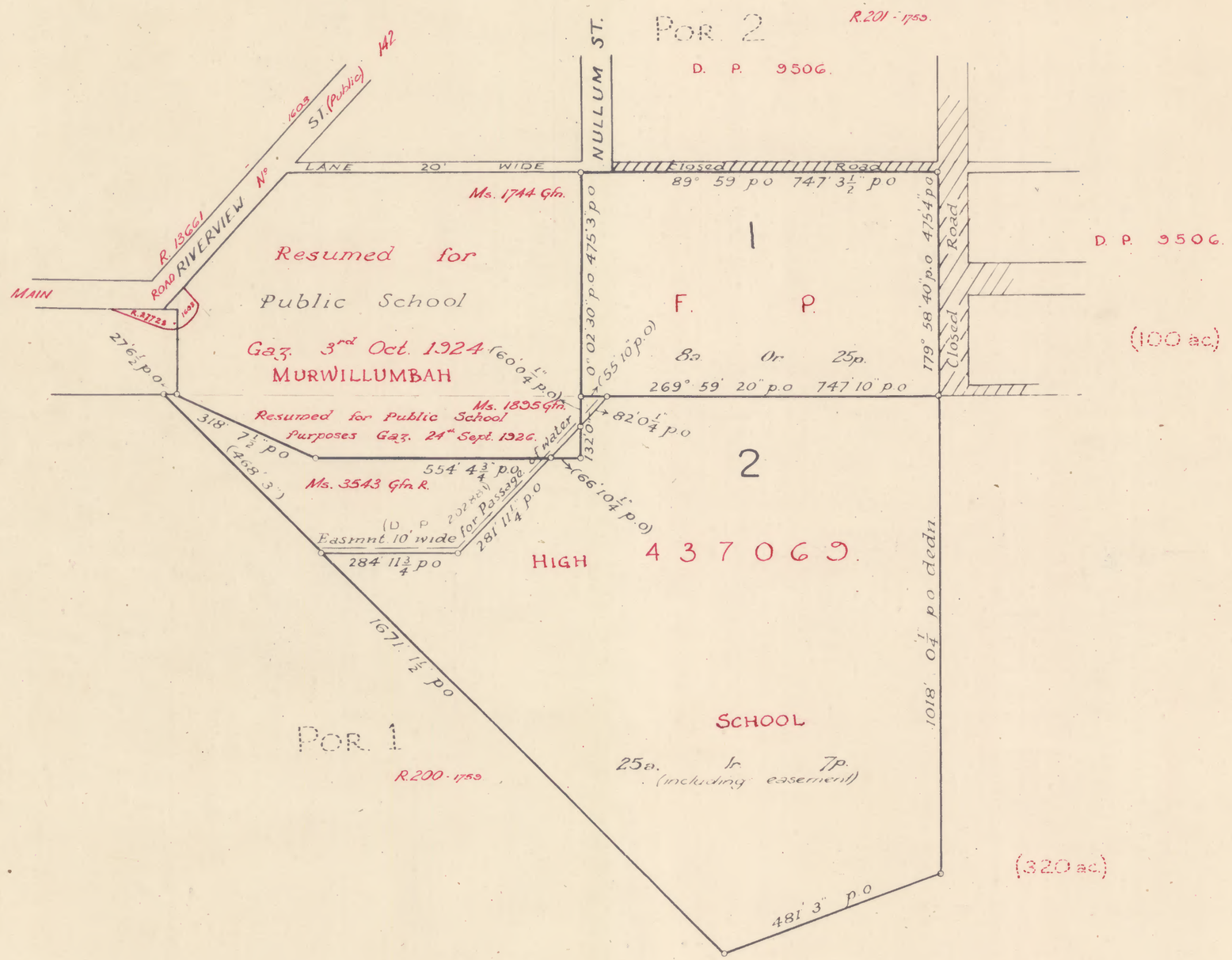
Plan Form 2—This form must NOT be used where it is intended to dedicate public roads or public reserves or create drainage reserves, easements, or restrictions as to user.—See Form 3.

WARNING: CREASING OR FOLDING WILL LEAD TO REJECTION.

A copy of this plan has been approved Ms. 4614 Gfn., Department of Lands.

PLAN MICROFILMED
NO ADDITIONS OR AMENDMENTS TO BE MADE

M M



NOTATION PLAN
Original not in this Department

Registered:
C.A.:
Title System:
Purpose:
Ref. Map:
Last Plan

OFFICE USE ONLY.

PLAN OF SUBDN. OF LAND CONTAINED IN CERT. TITLE VOL. 6698 FOL. 170 (F.P. 437069).

Scale: 200 feet to an inch

~~Mun.~~/Shire
~~City~~: Tweed
Locality: ~~Pitt~~ At Murwillumbah
Parish: Murwillumbah
County: Rous

~~I, Donald Aitken Johnstone~~
Compiled in the
~~Grafton~~
Department of Lands from
~~a surveyor registered under the Surveyors Act, 1929, as amended, hereby certify that the survey represented in this plan has been compiled from information~~
in plans F.P. 437069 & D.P. 202881 in
~~a record and has been made *(1) by me (2) under my immediate supervision in accordance with the Survey Practice Regulations, 1933 and was completed on~~
the Registrar General's Department

~~Signature~~
~~Surveyor registered under Surveyors Act, 1929, as amended.~~
~~Datum Line of Azimuth~~

*Strike out either (1) or (2), insert date of survey.

Lot 1: R. 87433 from sale or lease generally (Sec. 25A) Notified 3-10-69. ~~Revoked 3-10-69.~~ R. 87436 for Public Recreation Notified 3-10-69.

Lot 2: The Minister for Education C.T. Vol. 6698, Fol. 170.

Council Clerk's Certificate.

I hereby certify that—
(a) the requirements of the Local Government Act, 1919 (other than the requirements for the registration of plans), and
*(b) ~~the requirements of section 348 of the †Metropolitan Water, Sewerage and Drainage Act, 1924, as amended, †Hunter District Water, Sewerage and Drainage Act, 1938 as amended.~~

have been complied with by the applicant in relation to the proposed subdivision (insert "new road" or "subdivision") set out herein.

Subdivision No.
Date.

(Signature)
Council Clerk.

*This part of certificate to be deleted where the application is only for the opening of a new road or where the land to be subdivided is wholly outside the areas of operations of the Metropolitan Water Sewerage and Drainage Board and the Hunter District Water Board.
†Delete if inapplicable.

Charted on Head Office Maps
15-10-69
Examined

L.B. 68·86. Pks. 68·206.

Checked & Cleared 15-10-69
Examined 16.10.69.
Plan approved 16.10.69.

Ms. 4614 Gfn. 4614.3050

SURVEYOR'S REFERENCE.

WARNING. Plan Drawing only to appear in this space.

Req:R870119 /Doc:CP 04614-3050 P /Rev:01-Dec-2012 /NSW LRS /Prt:18-May-2021 16:04 /Seq:1 of 1
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Req:R847188 /Doc:CT 11226-124 CT /Rev:28-Jun-2011 /NSW LRS /Pgs:ALL /Prt:14-May-2021 09:18 /Seq:1 of 2
© Office of the Registrar-General /Src:INFOTRACK /Ref:86 Riverview Street, INFOTRACKurwillumbah

[redacted]

FICATE OF TITLE

CT11226-124

NEW SOUTH WALES

ROPERTY ACT, 1900, as amended.

155

Crown Grant Vol. 475 Fol. --

Prior Title Vol. 6698 Fol. 170

Vol. 11226 Fol. 124

CANCELLED IW

Edition issued 14-1-1970

I certify that the person described in the First Schedule is the registered proprietor of the undermentioned estate in the land within described subject nevertheless to such exceptions encumbrances and interests as are shown in the Second Schedule.

Witness L. Huckstepp.

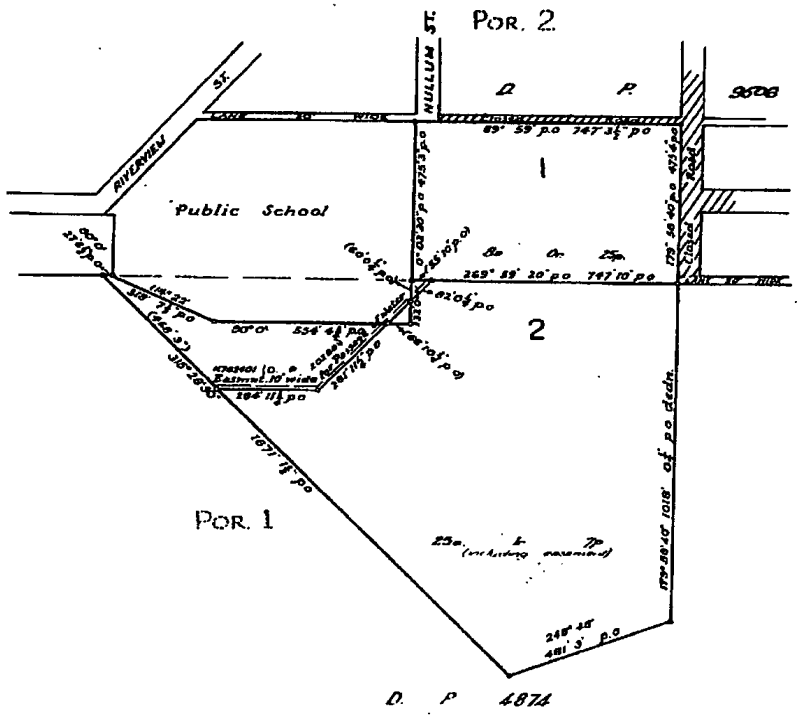
CANCELLED

Registrar General.

SEE AUTO FOLIO

PLAN SHOWING LOCATION OF LAND

A copy of this plan has been approved Ms. 4C14 Gfn., Department of Lands.



ESTATE AND LAND REFERRED TO

Estate in Fee Simple in Lot 2 in Deposited Plan 538849 at Murwillumbah in the Shire of Tweed Parish of Murwillumbah and County of Rous. EXCEPTING THEREOUT the minerals reserved by the Crown Grant and the minerals excepted by Section 141 Public Works Act, 1912.

FIRST SCHEDULE

THE MINISTER FOR EDUCATION.

GRN
XC
XM

SECOND SCHEDULE

EA 1. Easement for Passage of Water created by Transfer No.H782401 affecting the land shown as "Easement 10' wide for passage of water" on the plan hereon.

Registrar General.

(Page 1) Vol. 11226 Fol. 124

PERSONS ARE CAUTIONED AGAINST ALTERING OR ADDING TO THIS CERTIFICATE OR ANY NOTIFICATION HEREON

WARNING: THIS DOCUMENT MUST NOT BE REMOVED FROM THE LAND TITLES OFFICE.

NOTE: ENTRIES RULED THROUGH AND AUTHENTICATED BY THE SEAL OF THE REGISTRAR GENERAL ARE CANCELLED.

Req:R847188 /Doc:CT 11226-124 CT /Rev:28-Jun-2011 /NSW LRS /Pgs:ALL /Prt:14-May-2021 09:18 /Seq:2 of 2
© Office of the Registrar-General /Src:INFOTRACK /Ref:86 Riverview Street, INFOTRACKurwillumbah

FIRST SCHEDULE (continued)

REGISTERED PROPRIETOR	INSTRUMENT NATURE	INSTRUMENT NUMBER	INSTRUMENT DATE	ENTERED	Signature of Registrar General
CANCELLED					
SEE AUTO FOLIO					

DP578679
LOT. 1 DP 578679 including easement
Now Crown Land - Gaz. 9 Jan 28-11-75 folio 5007

SECOND SCHEDULE (continued)

INSTRUMENT NATURE	INSTRUMENT NUMBER	INSTRUMENT DATE	PARTICULARS	ENTERED	Signature of Registrar General	CANCELLATION
			FOLIO CANCELLED NEW FOLIO IS 2/578679 NO FURTHER DEALINGS TO BE REGISTERED			

(Page 2 of 2 pages)

NOTE: ENTRIES RULED THROUGH AND AUTHENTICATED BY THE SEAL OF THE REGISTRAR GENERAL ARE CANCELLED

Historical Title

NEW SOUTH WALES LAND REGISTRY SERVICES - HISTORICAL SEARCH

SEARCH DATE
14/5/2021 9:18AM

FOLIO: 2/538849

First Title(s): SEE PRIOR TITLE(S)
Prior Title(s): VOL 11226 FOL 124

Recorded	Number	Type of Instrument	C.T. Issue
28/3/1988		TITLE AUTOMATION PROJECT	LOT RECORDED FOLIO NOT CREATED
8/8/1988		CONVERTED TO COMPUTER FOLIO	FOLIO CREATED CT NOT ISSUED
15/2/1991	DP820602	DEPOSITED PLAN	
17/3/1995	O95769	DEPARTMENTAL DEALING	FOLIO CANCELLED
16/6/2011	AG303539	LINK FOLIO: DELETED DEPARTMENTAL DEALING	

*** END OF SEARCH ***

86 Riverview Street, Murwillumbah PRINTED ON 14/5/2021

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Received: 14/05/2021 09:17:59

Historical Title

NEW SOUTH WALES LAND REGISTRY SERVICES - HISTORICAL SEARCH

SEARCH DATE
14/5/2021 9:03AM

FOLIO: 2/578679

First Title(s): VOL 475 FOL 155
Prior Title(s): 2/538849

Recorded	Number	Type of Instrument	C.T. Issue
17/3/1995	DP578679	DEPOSITED PLAN	FOLIO CREATED CT NOT ISSUED
16/10/2000	7151721	REQUEST	EDITION 1
4/3/2003	DP1049940	DEPOSITED PLAN	EDITION 2

*** END OF SEARCH ***

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Received: 14/05/2021 09:03:02

Title Search

NEW SOUTH WALES LAND REGISTRY SERVICES - TITLE SEARCH

FOLIO: 2/578679

SEARCH DATE	TIME	EDITION NO	DATE
14/5/2021	9:01 AM	2	4/3/2003

LAND

LOT 2 IN DEPOSITED PLAN 578679
AT MURWILLUMBAH
LOCAL GOVERNMENT AREA TWEED
PARISH OF MURWILLUMBAH COUNTY OF ROUS
TITLE DIAGRAM DP578679

FIRST SCHEDULE

THE MINISTER FOR EDUCATION

SECOND SCHEDULE (4 NOTIFICATIONS)

1 LAND EXCLUDES MINERALS AND IS SUBJECT TO RESERVATIONS AND CONDITIONS IN FAVOUR OF THE CROWN - SEE CROWN GRANT(S)
2 LAND EXCLUDES MINERALS (SEC. 141 PUBLIC WORKS ACT, 1912)
3 H782401 EASEMENT FOR PASSAGE OF WATER 3.05 WIDE AFFECTING THE PART OF THE LAND ABOVE DESCRIBED SHOWN SO BURDENED IN THE TITLE DIAGRAM
4 DP1049940 EASEMENT FOR WATER SUPPLY 3.905 & 10 METRE(S) WIDE AND VARIABLE AFFECTING THE PART(S) SHOWN SO BURDENED IN DP1049940

NOTATIONS

NOTE: THE CERTIFICATE OF TITLE FOR THIS FOLIO OF THE REGISTER DOES NOT INCLUDE SECURITY FEATURES INCLUDED ON COMPUTERISED CERTIFICATES OF TITLE ISSUED FROM 4TH JANUARY, 2004. IT IS RECOMMENDED THAT STRINGENT PROCESSES ARE ADOPTED IN VERIFYING THE IDENTITY OF THE PERSON(S) CLAIMING A RIGHT TO DEAL WITH THE LAND COMPRISED IN THIS FOLIO.

UNREGISTERED DEALINGS: NIL

*** END OF SEARCH ***

* Any entries preceded by an asterisk do not appear on the current edition of the Certificate of Title. Warning: the information appearing under notations has not been formally recorded in the Register. InfoTrack an approved NSW Information Broker hereby certifies that the information contained in this document has been provided electronically by the Registrar General in accordance with Section 96B(2) of the Real Property Act 1900.

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Received: 14/05/2021 09:01:24

Historical Title

NEW SOUTH WALES LAND REGISTRY SERVICES - HISTORICAL SEARCH

SEARCH DATE
14/5/2021 9:03AM

FOLIO: 5/820602

First Title(s): VOL 4385 FOL 194
Prior Title(s): VOL 4385 FOL 194

Recorded	Number	Type of Instrument	C.T. Issue
15/2/1991	DP820602	DEPOSITED PLAN	LOT RECORDED FOLIO NOT CREATED
25/3/1991	Z521622	RESUMPTION APPLICATION	FOLIO CREATED CT NOT ISSUED
9/3/2000	6627925	APPLICATION FOR REPLACEMENT CERTIFICATE OF TITLE	EDITION 1

*** END OF SEARCH ***

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Received: 14/05/2021 09:03:02

Title Search

NEW SOUTH WALES LAND REGISTRY SERVICES - TITLE SEARCH

FOLIO: 5/820602

SEARCH DATE	TIME	EDITION NO	DATE
14/5/2021	9:01 AM	1	9/3/2000

LAND

LOT 5 IN DEPOSITED PLAN 820602
AT MURWILLUMBAH
LOCAL GOVERNMENT AREA TWEED
PARISH OF MURWILLUMBAH COUNTY OF ROUS
TITLE DIAGRAM DP820602

FIRST SCHEDULE

MINISTER FOR EDUCATION

SECOND SCHEDULE (3 NOTIFICATIONS)

1 LAND EXCLUDES MINERALS AND IS SUBJECT TO RESERVATIONS AND CONDITIONS IN FAVOUR OF THE CROWN - SEE CROWN GRANT(S)
2 EASEMENT(S) AFFECTING THE PART(S) SHOWN SO BURDENED IN THE TITLE DIAGRAM CREATED BY:
DP202881 FOR PASSAGE OF WATER 3.05 WIDE (H782400)
3 6627925 THIS EDITION ISSUED PURSUANT TO S.111 REAL PROPERTY ACT, 1900

NOTATIONS

NOTE: THE CERTIFICATE OF TITLE FOR THIS FOLIO OF THE REGISTER DOES NOT INCLUDE SECURITY FEATURES INCLUDED ON COMPUTERISED CERTIFICATES OF TITLE ISSUED FROM 4TH JANUARY, 2004. IT IS RECOMMENDED THAT STRINGENT PROCESSES ARE ADOPTED IN VERIFYING THE IDENTITY OF THE PERSON(S) CLAIMING A RIGHT TO DEAL WITH THE LAND COMPRISED IN THIS FOLIO.

UNREGISTERED DEALINGS: NIL

*** END OF SEARCH ***

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Historical Title

NEW SOUTH WALES LAND REGISTRY SERVICES - HISTORICAL SEARCH

SEARCH DATE
14/5/2021 9:18AM

FOLIO: 1/784898

First Title(s): VOL 1047 FOL 166 VOL 1550 FOL 227
Prior Title(s): VOL 3680 FOL 200

Recorded	Number	Type of Instrument	C.T. Issue
10/4/1990	DP784898	DEPOSITED PLAN	FOLIO CREATED CT NOT ISSUED
15/2/1991	DP820602	DEPOSITED PLAN	
25/3/1991	Z521622	RESUMPTION APPLICATION	FOLIO CANCELLED
13/9/1999	6186600	DEPARTMENTAL DEALING	

*** END OF SEARCH ***

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Received: 14/05/2021 09:17:42

Historical Title

NEW SOUTH WALES LAND REGISTRY SERVICES - HISTORICAL SEARCH

SEARCH DATE
14/5/2021 9:03AM

FOLIO: 6/820602

First Title(s): VOL 1047 FOL 166 VOL 1550 FOL 227
Prior Title(s): 1/784898

Recorded	Number	Type of Instrument	C.T. Issue
15/2/1991	DP820602	DEPOSITED PLAN	LOT RECORDED FOLIO NOT CREATED
25/3/1991	Z521622	RESUMPTION APPLICATION	FOLIO CREATED CT NOT ISSUED
16/10/2000	7151721	REQUEST	EDITION 1

*** END OF SEARCH ***

86 Riverview Street, Murwillumbah PRINTED ON 14/5/2021

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Received: 14/05/2021 09:03:03

Title Search

NEW SOUTH WALES LAND REGISTRY SERVICES - TITLE SEARCH

FOLIO: 6/820602

SEARCH DATE	TIME	EDITION NO	DATE
14/5/2021	9:01 AM	1	16/10/2000

LAND

LOT 6 IN DEPOSITED PLAN 820602
AT MURWILLUMBAH
LOCAL GOVERNMENT AREA TWEED
PARISH OF MURWILLUMBAH COUNTY OF ROUS
TITLE DIAGRAM DP820602

FIRST SCHEDULE

MINISTER FOR EDUCATION

SECOND SCHEDULE (1 NOTIFICATION)

1 LAND EXCLUDES MINERALS AND IS SUBJECT TO RESERVATIONS AND CONDITIONS IN FAVOUR OF THE CROWN - SEE CROWN GRANT(S)

NOTATIONS

NOTE: THE CERTIFICATE OF TITLE FOR THIS FOLIO OF THE REGISTER DOES NOT INCLUDE SECURITY FEATURES INCLUDED ON COMPUTERISED CERTIFICATES OF TITLE ISSUED FROM 4TH JANUARY, 2004. IT IS RECOMMENDED THAT STRINGENT PROCESSES ARE ADOPTED IN VERIFYING THE IDENTITY OF THE PERSON(S) CLAIMING A RIGHT TO DEAL WITH THE LAND COMPRISED IN THIS FOLIO.

UNREGISTERED DEALINGS: NIL

*** END OF SEARCH ***

* Any entries preceded by an asterisk do not appear on the current edition of the Certificate of Title. Warning: the information appearing under notations has not been formally recorded in the Register. InfoTrack an approved NSW Information Broker hereby certifies that the information contained in this document has been provided electronically by the Registrar General in accordance with Section 96B(2) of the Real Property Act 1900.

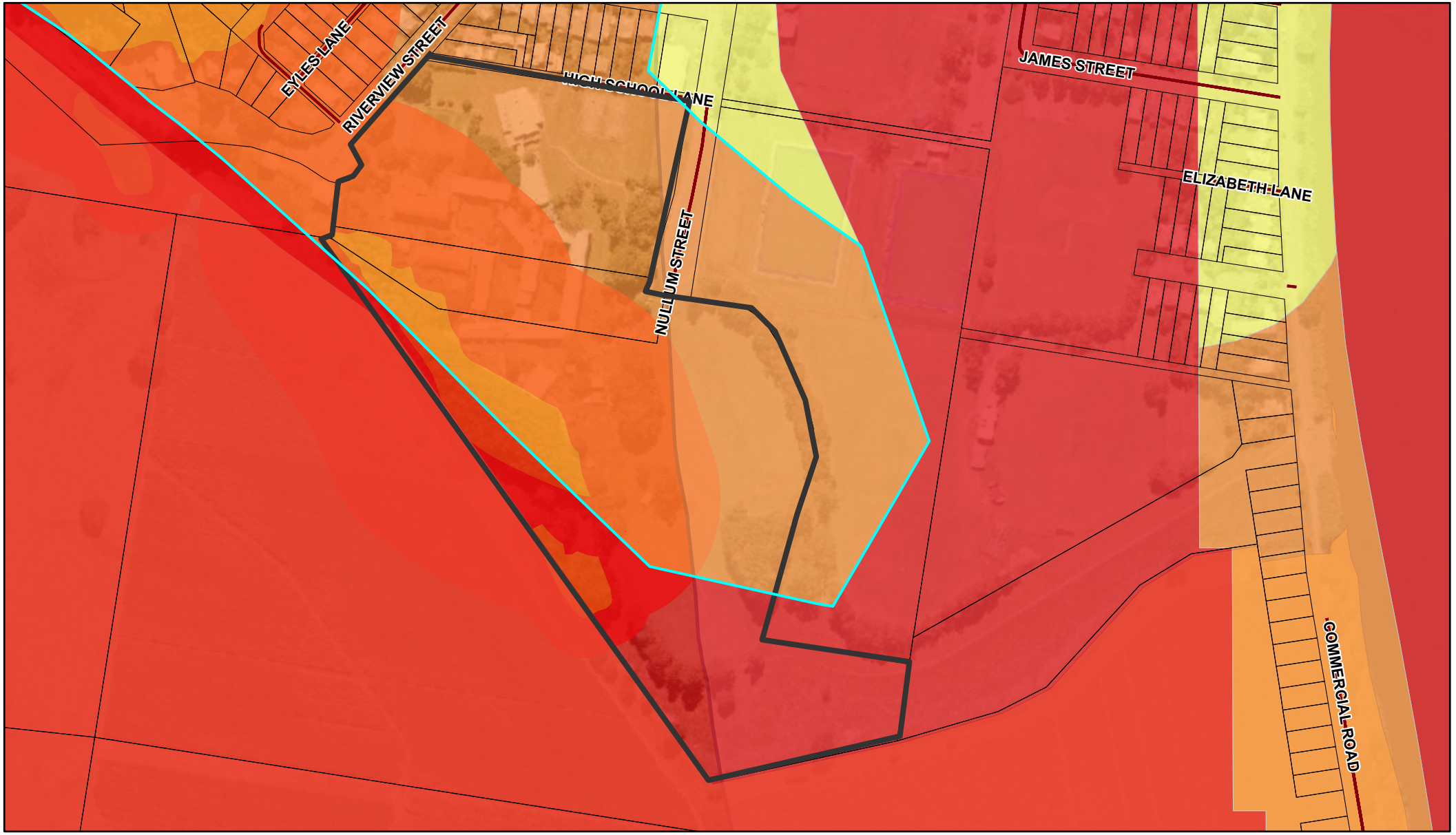
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Received: 14/05/2021 09:01:25

Appendix D

Environmentally Sensitive Area (ESA) Mapping

Environmentally Sensitive Areas (ESA) Map



18/05/2021, 17:22:33

- Roads
- Property Boundaries

Ground Water Vulnerability
- Moderate

- Moderately High
- High
- Farmland Protection Project
- SEPP Coastal Management - Coastal Zone

Bushfire Prone Land (2012)
- Vegetation Category 1
- Vegetation Category 2
- Vegetation Buffer

1:4,514

0 0.03 0.07 0.13 mi

0 0.05 0.1 0.2 km

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Tweed Shire Council

Copyright : Tweed Shire Council, LPI and WBM

Appendix E

Lotsearch Report LS019934_EP

LOTSEARCH

LOTSEARCH ENVIRO PROFESSIONAL

Date: 26 Apr 2021 11:41:42

Reference: LS019934 EP

Address: Murwillumbah High School, 86 Riverview Street, Murwillumbah, NSW 2484

Disclaimer:
The purpose of this report is to provide an overview of some of the site history, environmental risk and planning information available, affecting an individual address or geographical area in which the property is located. It is not a substitute for an on-site inspection or review of other available reports and records. It is not intended to be, and should not be taken to be, a rating or assessment of the desirability or market value of the property or its features.
You should obtain independent advice before you make any decision based on the information within the report.
The detailed terms applicable to use of this report are set out at the end of this report.

Dataset Listing

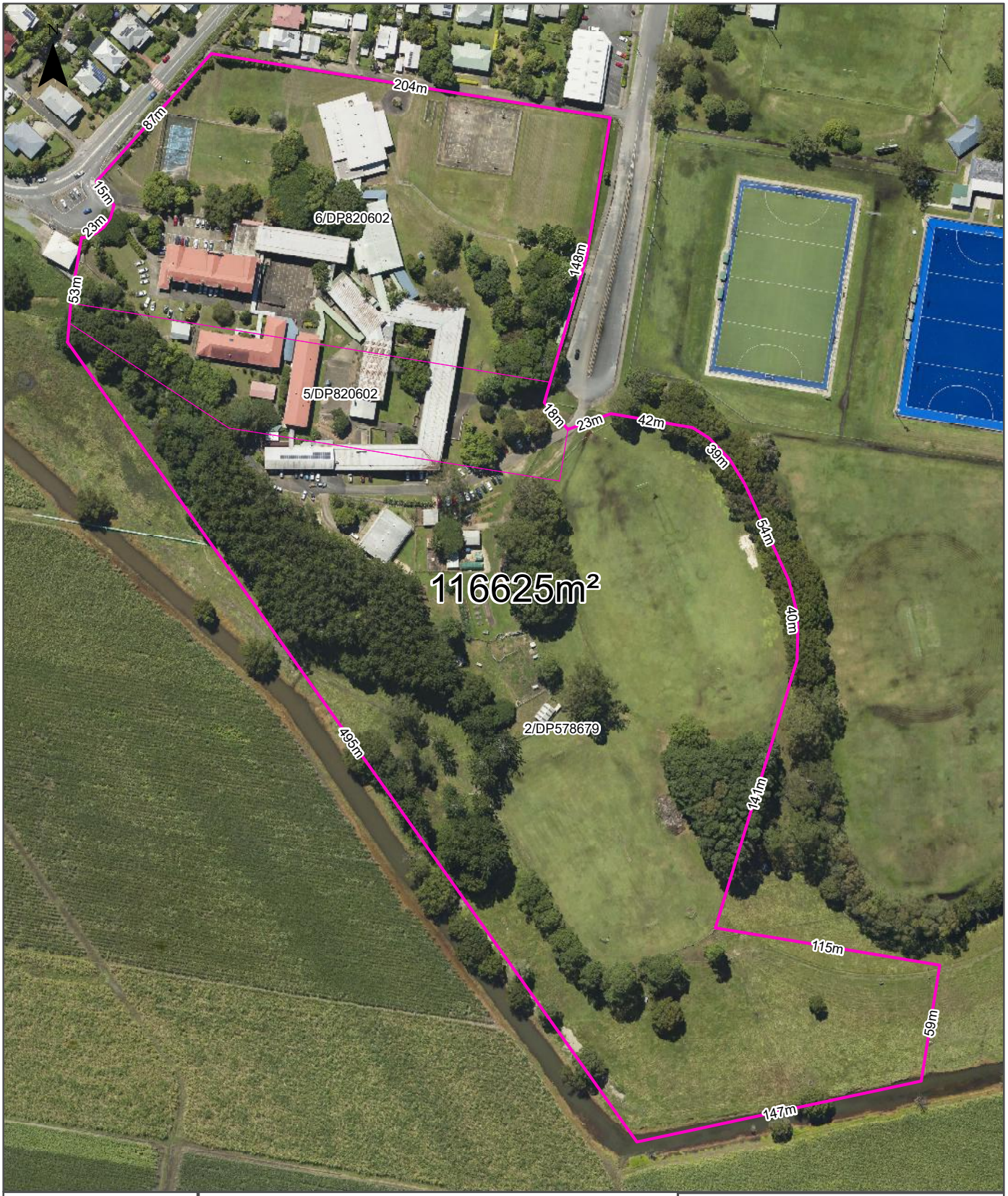
Datasets contained within this report, detailing their source and data currency:

Dataset Name	Custodian	Supply Date	Currency Date	Update Frequency	Dataset Buffer (m)	No. Features Onsite	No. Features within 100m	No. Features within Buffer
Cadastre Boundaries	NSW Department of Finance, Services & Innovation	16/04/2021	16/04/2021	Quarterly	-	-	-	-
Topographic Data	NSW Department of Finance, Services & Innovation	25/06/2019	25/06/2019	As required	-	-	-	-
List of NSW contaminated sites notified to EPA	Environment Protection Authority	14/04/2021	12/04/2021	Monthly	1000m	0	0	1
Contaminated Land Records of Notice	Environment Protection Authority	07/04/2021	07/04/2021	Monthly	1000m	0	0	0
Former Gasworks	Environment Protection Authority	13/04/2021	11/10/2017	Monthly	1000m	0	0	0
National Waste Management Facilities Database	Geoscience Australia	11/02/2021	07/03/2017	Quarterly	1000m	0	0	0
National Liquid Fuel Facilities	Geoscience Australia	15/02/2021	13/07/2012	Annually	1000m	0	0	0
EPA PFAS Investigation Program	Environment Protection Authority	14/04/2021	15/03/2021	Monthly	2000m	0	0	0
Defence PFAS Investigation & Management Program - Investigation Sites	Department of Defence	30/03/2021	30/03/2021	Monthly	2000m	0	0	0
Defence PFAS Investigation & Management Program - Management Sites	Department of Defence	30/03/2021	30/03/2021	Monthly	2000m	0	0	0
Airservices Australia National PFAS Management Program	Airservices Australia	26/04/2021	26/04/2021	Monthly	2000m	0	0	0
Defence 3 Year Regional Contamination Investigation Program	Department of Defence	13/04/2021	13/04/2021	Monthly	2000m	0	0	0
EPA Other Sites with Contamination Issues	Environment Protection Authority	02/02/2021	13/12/2018	Annually	1000m	0	0	0
Licensed Activities under the POEO Act 1997	Environment Protection Authority	13/04/2021	13/04/2021	Monthly	1000m	0	0	2
Delicensed POEO Activities still regulated by the EPA	Environment Protection Authority	13/04/2021	13/04/2021	Monthly	1000m	0	0	0
Former POEO Licensed Activities now revoked or surrendered	Environment Protection Authority	13/04/2021	13/04/2021	Monthly	1000m	4	4	5
UBD Business Directories (Premise & Intersection Matches)	Hardie Grant			Not required	150m	0	4	4
UBD Business Directories (Road & Area Matches)	Hardie Grant			Not required	150m	-	15	15
UBD Business Directory Dry Cleaners & Motor Garages/Service Stations (Premise & Intersection Matches)	Hardie Grant			Not required	500m	0	0	0
UBD Business Directory Dry Cleaners & Motor Garages/Service Stations (Road & Area Matches)	Hardie Grant			Not required	500m	-	0	3
Cattle dips of the Northern Rivers region	NSW Dept. of Primary Industries	15/02/2021	15/02/2021	Annually	1000m	0	0	1
Points of Interest	NSW Department of Finance, Services & Innovation	18/02/2021	18/02/2021	Quarterly	1000m	1	2	67
Tanks (Areas)	NSW Department of Customer Service - Spatial Services	16/02/2021	16/02/2021	Quarterly	1000m	0	0	0
Tanks (Points)	NSW Department of Customer Service - Spatial Services	16/02/2021	16/02/2021	Quarterly	1000m	0	0	1
Major Easements	NSW Department of Finance, Services & Innovation	17/02/2021	17/02/2021	Quarterly	1000m	0	0	0
State Forest	Forestry Corporation of NSW	25/02/2021	14/02/2021	Annually	1000m	0	0	0
NSW National Parks and Wildlife Service Reserves	NSW Office of Environment & Heritage	22/01/2021	11/12/2020	Annually	1000m	0	0	0
Hydrogeology Map of Australia	Commonwealth of Australia (Geoscience Australia)	08/10/2014	17/03/2000	As required	1000m	1	1	1
Temporary Water Restriction (Botany Sands Groundwater Source) Order 2018	NSW Department of Planning, Industry and Environment	26/10/2020	21/02/2018	Annually	1000m	0	0	0

Dataset Name	Custodian	Supply Date	Currency Date	Update Frequency	Dataset Buffer (m)	No. Features Onsite	No. Features within 100m	No. Features within Buffer
Groundwater Boreholes	NSW Dept. of Primary Industries - Water NSW; Commonwealth of Australia (Bureau of Meteorology)	24/07/2018	23/07/2018	Annually	2000m	0	0	17
Geological Units 1:250,000	NSW Department of Planning, Industry and Environment	20/08/2014		Annually	1000m	2	2	2
Geological Structures 1:250,000	NSW Department of Planning, Industry and Environment	20/08/2014		Annually	1000m	0	0	0
Naturally Occurring Asbestos Potential	NSW Dept. of Industry, Resources & Energy	04/12/2015	24/09/2015	Unknown	1000m	0	0	0
Atlas of Australian Soils	Australian Bureau of Agriculture and Resource Economics and Sciences (ABARES)	19/05/2017	17/02/2011	As required	1000m	1	1	2
Soil Landscapes of Central and Eastern NSW	NSW Department of Planning, Industry and Environment	14/10/2020	27/07/2020	Annually	1000m	2	2	5
Environmental Planning Instrument Acid Sulfate Soils	NSW Department of Planning, Industry and Environment	21/04/2021	26/02/2021	Monthly	500m	3	-	-
Atlas of Australian Acid Sulfate Soils	CSIRO	19/01/2017	21/02/2013	As required	1000m	2	2	2
Dryland Salinity - National Assessment	National Land and Water Resources Audit	18/07/2014	12/05/2013	None planned	1000m	0	0	0
Mining Subsidence Districts	NSW Department of Customer Service - Subsidence Advisory NSW	16/02/2021	16/02/2021	Quarterly	1000m	0	0	0
Current Mining Titles	NSW Department of Industry	14/04/2021	14/04/2021	Monthly	1000m	0	0	0
Mining Title Applications	NSW Department of Industry	14/04/2021	14/04/2021	Monthly	1000m	0	0	0
Historic Mining Titles	NSW Department of Industry	14/04/2021	14/04/2021	Monthly	1000m	6	6	7
Environmental Planning Instrument SEPP State Significant Precincts	NSW Department of Planning, Industry and Environment	21/04/2021	07/12/2018	Monthly	1000m	0	0	0
Environmental Planning Instrument Land Zoning	NSW Department of Planning, Industry and Environment	21/04/2021	16/04/2021	Monthly	1000m	1	5	45
Commonwealth Heritage List	Australian Government Department of the Agriculture, Water and the Environment	23/02/2021	20/11/2019	Quarterly	1000m	0	0	0
National Heritage List	Australian Government Department of the Agriculture, Water and the Environment	23/02/2021	20/11/2019	Quarterly	1000m	0	0	0
State Heritage Register - Curtilages	NSW Department of Planning, Industry and Environment	15/02/2021	30/11/2020	Quarterly	1000m	0	0	1
Environmental Planning Instrument Local Heritage	NSW Department of Planning, Industry and Environment	21/04/2021	31/03/2021	Monthly	1000m	1	2	30
Bush Fire Prone Land	NSW Rural Fire Service	17/04/2021	14/04/2021	Weekly	1000m	3	3	3
Eastern Bushland Database (North Region)	NSW Office of Environment & Heritage	24/07/2016	01/01/1991	None planned	1000m	0	0	1
Ramsar Wetlands of Australia	Australian Government Department of Agriculture, Water and the Environment	24/02/2021	19/03/2020	Annually	1000m	0	0	0
Groundwater Dependent Ecosystems	Bureau of Meteorology	14/08/2017	15/05/2017	Annually	1000m	0	0	6
Inflow Dependent Ecosystems Likelihood	Bureau of Meteorology	14/08/2017	15/05/2017	Unknown	1000m	0	0	7
NSW BioNet Species Sightings	NSW Office of Environment & Heritage	20/04/2021	20/04/2021	Weekly	10000m	-	-	-

Site Diagram

Murwillumbah High School, 86 Riverview Street, Murwillumbah, NSW 2484



Legend

- Site Boundary
- Internal Parcel Boundaries

Total Area: 116625m²

Total Perimeter: 1.7km

Scale: 0 25 50 100 Meters

Data Sources: Data Sources: Aerial Imagery: © Aerometrex Pty Ltd

Disclaimers:

Measurements are approximate only and may have been simplified or smaller lengths removed for readability.

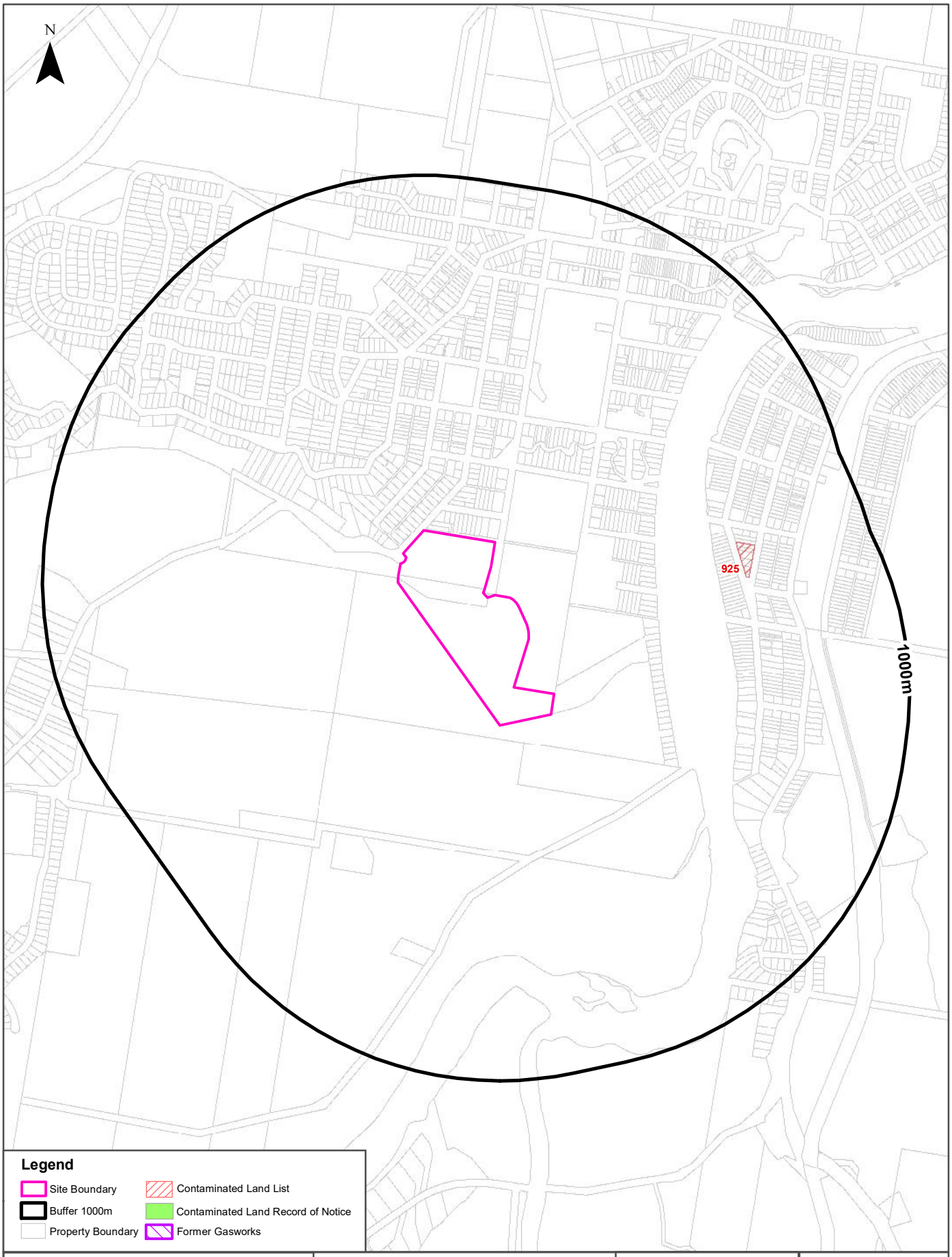
Parcels that make up a small percentage of the total site area have not been labelled for increased legibility.

Coordinate System: GDA 1994 MGA Zone 56

Date: 26 April 2021

Contaminated Land

Murwillumbah High School, 86 Riverview Street, Murwillumbah, NSW 2484



Data Sources: Property Boundaries & Topographic Data: © Department Finance, Services & Innovation 2021

Coordinate System: GDA 1994 MGA Zone 56

Date: 26 April 2021

Contaminated Land

Murwillumbah High School, 86 Riverview Street, Murwillumbah, NSW 2484

List of NSW contaminated sites notified to EPA

Records from the NSW EPA Contaminated Land list within the dataset buffer:

Map Id	Site	Address	Suburb	Activity	Management Class	Status	Location Confidence	Dist	Direction
925	Former Mobil Depot	45 Wardrop Street	South Murwillumbah	Other Petroleum	Regulation under CLM Act not required	Current EPA List	Premise Match	627m	East

The values within the EPA site management class in the table above, are given more detailed explanations in the table below:

EPA site management class	Explanation
Contamination being managed via the planning process (EP&A Act)	The EPA has completed an assessment of the contamination and decided that the contamination is significant enough to warrant regulation. The contamination of this site is managed by the consent authority under the Environmental Planning and Assessment Act 1979 (EP&A Act) planning approval process, with EPA involvement as necessary to ensure significant contamination is adequately addressed. The consent authority is typically a local council or the Department of Planning and Environment.
Contamination currently regulated under CLM Act	The EPA has completed an assessment of the contamination and decided that the contamination is significant enough to warrant regulation under the Contaminated Land Management Act 1997 (CLM Act). Management of the contamination is regulated by the EPA under the CLM Act. Regulatory notices are available on the EPA's Contaminated Land Public Record of Notices.
Contamination currently regulated under POEO Act	The EPA has completed an assessment of the contamination and decided that the contamination is significant enough to warrant regulation. Management of the contamination is regulated under the Protection of the Environment Operations Act 1997 (POEO Act). The EPA's regulatory actions under the POEO Act are available on the POEO public register.
Contamination formerly regulated under the CLM Act	The EPA has determined that the contamination is no longer significant enough to warrant regulation under the Contaminated Land Management Act 1997 (CLM Act). The contamination was addressed under the CLM Act.
Contamination formerly regulated under the POEO Act	The EPA has determined that the contamination is no longer significant enough to warrant regulation. The contamination was addressed under the Protection of the Environment Operations Act 1997 (POEO Act).
Contamination was addressed via the planning process (EP&A Act)	The EPA has determined that the contamination is no longer significant enough to warrant regulation. The contamination was addressed by the appropriate consent authority via the planning process under the Environmental Planning and Assessment Act 1979 (EP&A Act).
Ongoing maintenance required to manage residual contamination (CLM Act)	The EPA has determined that ongoing maintenance, under the Contaminated Land Management Act 1997 (CLM Act), is required to manage the residual contamination. Regulatory notices under the CLM Act are available on the EPA's Contaminated Land Public Record of Notices.
Regulation being finalised	The EPA has completed an assessment of the contamination and decided that the contamination is significant enough to warrant regulation under the Contaminated Land Management Act 1997. A regulatory approach is being finalised.
Regulation under the CLM Act not required	The EPA has completed an assessment of the contamination and decided that regulation under the Contaminated Land Management Act 1997 is not required.
Under assessment	The contamination is being assessed by the EPA to determine whether regulation is required. The EPA may require further information to complete the assessment. For example, the completion of management actions regulated under the planning process or Protection of the Environment Operations Act 1997. Alternatively, the EPA may require information via a notice issued under s77 of the Contaminated Land Management Act 1997 or issue a Preliminary Investigation Order.

NSW EPA Contaminated Land List Data Source: Environment Protection Authority

© State of New South Wales through the Environment Protection Authority

Contaminated Land

Murwillumbah High School, 86 Riverview Street, Murwillumbah, NSW 2484

Contaminated Land: Records of Notice

Record of Notices within the dataset buffer:

Map Id	Name	Address	Suburb	Notices	Area No	Location Confidence	Distance	Direction
N/A	No records in buffer							

Contaminated Land Records of Notice Data Source: Environment Protection Authority
© State of New South Wales through the Environment Protection Authority
Terms of use and disclaimer for Contaminated Land: Record of Notices, please visit http://www.epa.nsw.gov.au/clm/clmdisclaimer.htm

Former Gasworks

Former Gasworks within the dataset buffer:

Map Id	Location	Council	Further Info	Location Confidence	Distance	Direction
N/A	No records in buffer					

Former Gasworks Data Source: Environment Protection Authority
© State of New South Wales through the Environment Protection Authority

Waste Management & Liquid Fuel Facilities

Murwillumbah High School, 86 Riverview Street, Murwillumbah, NSW 2484

National Waste Management Site Database

Sites on the National Waste Management Site Database within the dataset buffer:

Site Id	Owner	Name	Address	Suburb	Class	Landfill	Reprocess	Transfer	Comments	Loc Conf	Dist	Direction
N/A	No records in buffer											

Waste Management Facilities Data Source: Geoscience Australia
Creative Commons 3.0 © Commonwealth of Australia http://creativecommons.org/licenses/by/3.0/au/deed.en

National Liquid Fuel Facilities

National Liquid Fuel Facilties within the dataset buffer:

Map Id	Owner	Name	Address	Suburb	Class	Operational Status	Operator	Revision Date	Loc Conf	Dist	Direction
N/A	No records in buffer										

National Liquid Fuel Facilities Data Source: Geoscience Australia
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PFAS Investigation & Management Programs

Murwillumbah High School, 86 Riverview Street, Murwillumbah, NSW 2484

EPA PFAS Investigation Program

Sites that are part of the EPA PFAS investigation program, within the dataset buffer:

Map ID	Site	Address	Loc Conf	Dist	Dir
N/A	No records in buffer				

EPA PFAS Investigation Program: Environment Protection Authority
© State of New South Wales through the Environment Protection Authority

Defence PFAS Investigation Program

Sites being investigated by the Department of Defence for PFAS contamination within the dataset buffer:

Map ID	Base Name	Address	Loc Conf	Dist	Dir
N/A	No records in buffer				

Defence PFAS Investigation Program Data Custodian: Department of Defence, Australian Government

Defence PFAS Management Program

Sites being managed by the Department of Defence for PFAS contamination within the dataset buffer:

Map ID	Base Name	Address	Loc Conf	Dist	Dir
N/A	No records in buffer				

Defence PFAS Management Program Data Custodian: Department of Defence, Australian Government

Airservices Australia National PFAS Management Program

Sites being investigated or managed by Airservices Australia for PFAS contamination within the dataset buffer:

Map ID	Site Name	Impacts	Loc Conf	Dist	Dir
N/A	No records in buffer				

Airservices Australia National PFAS Management Program Data Custodian: Airservices Australia

Defence Sites

Murwillumbah High School, 86 Riverview Street, Murwillumbah, NSW 2484

Defence 3 Year Regional Contamination Investigation Program

Sites which have been assessed as part of the Defence 3 Year Regional Contamination Investigation Program within the dataset buffer:

Property ID	Base Name	Address	Known Contamination	Loc Conf	Dist	Dir
N/A	No records in buffer					

Defence 3 Year Regional Contamination Investigation Program, Data Custodian: Department of Defence, Australian Government

EPA Other Sites with Contamination Issues

Murwillumbah High School, 86 Riverview Street, Murwillumbah, NSW 2484

EPA Other Sites with Contamination Issues

This dataset contains other sites identified on the EPA website as having contamination issues. This dataset currently includes:

- James Hardie asbestos manufacturing and waste disposal sites
- Radiological investigation sites in Hunter's Hill
- Pasminco Lead Abatement Strategy Area

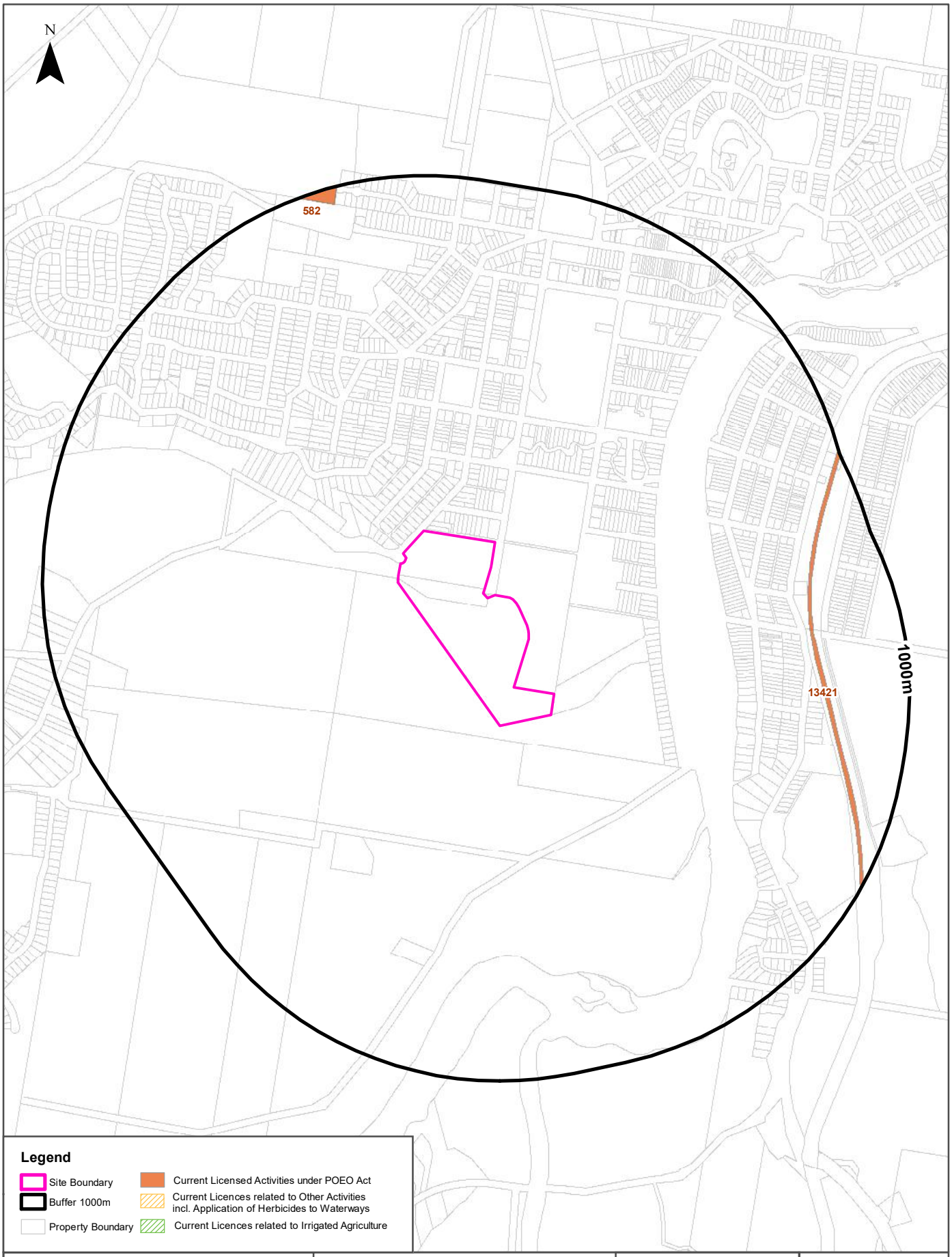
Sites within the dataset buffer:

Site Id	Site Name	Site Address	Dataset	Comments	Location Confidence	Distance	Direction
N/A	No records in buffer						

EPA Other Sites with Contamination Issues: Environment Protection Authority
© State of New South Wales through the Environment Protection Authority

Current EPA Licensed Activities

Murwillumbah High School, 86 Riverview Street, Murwillumbah, NSW 2484



EPA Activities

Murwillumbah High School, 86 Riverview Street, Murwillumbah, NSW 2484

Licensed Activities under the POEO Act 1997

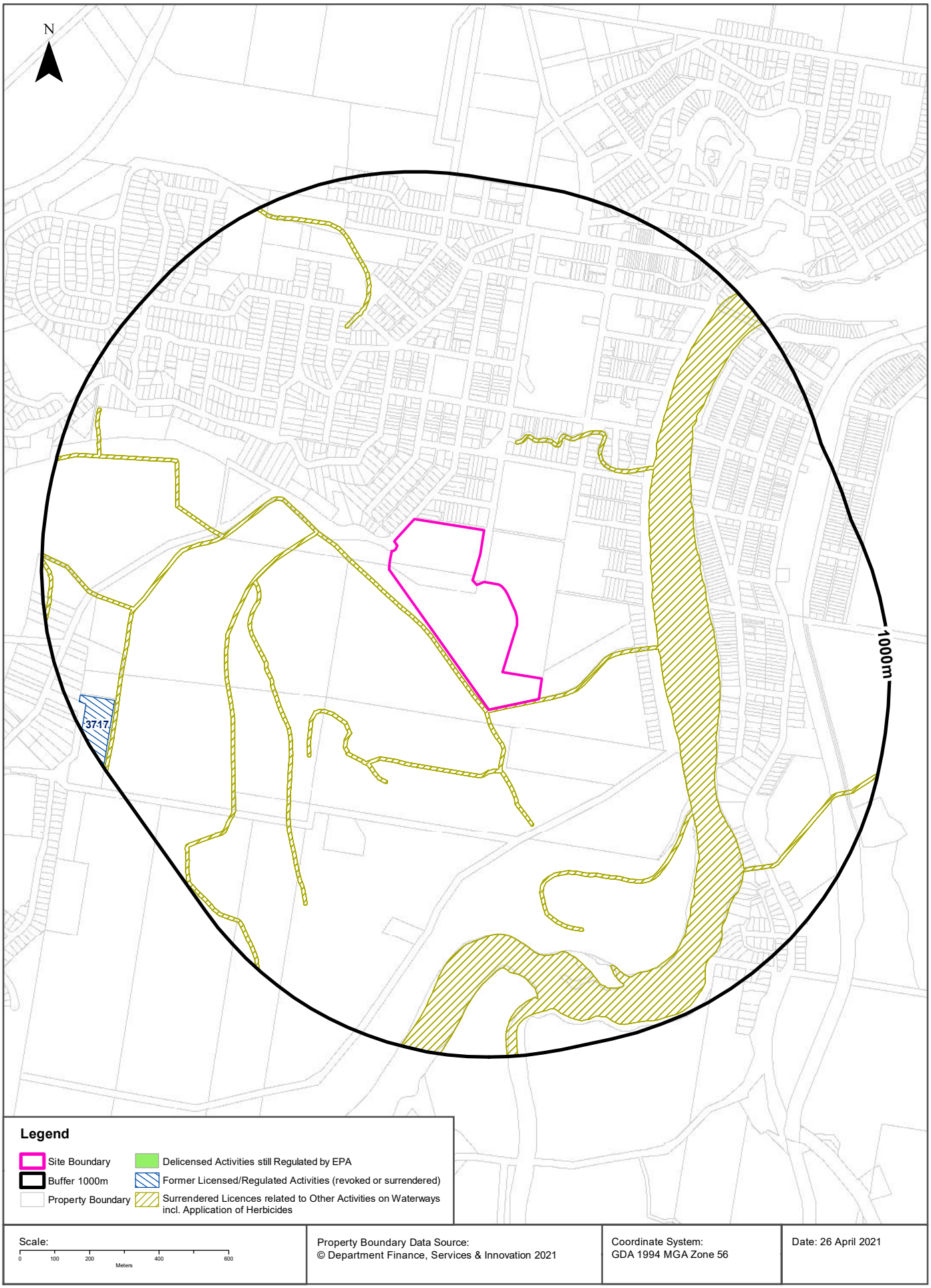
Licensed activities under the Protection of the Environment Operations Act 1997, within the dataset buffer:

EPL	Organisation	Name	Address	Suburb	Activity	Loc Conf	Distance	Direction
13421	JOHN HOLLAND RAIL PTY LTD		JOHN HOLLAND RAIL NETWORK, PARRAMATTA, NSW 2124		Railway systems activities	Network of Features	738m	East
582	TWEED SHIRE COUNCIL	MURWILLUMBAH WASTEWATER TREATMENT PLANT	FRANCES STREET	MURWILLUMBAH	Sewage treatment processing by small plants	Premise Match	952m	North

POEO Licence Data Source: Environment Protection Authority
© State of New South Wales through the Environment Protection Authority

Delicensed & Former Licensed EPA Activities

Murwillumbah High School, 86 Riverview Street, Murwillumbah, NSW 2484



EPA Activities

Murwillumbah High School, 86 Riverview Street, Murwillumbah, NSW 2484

Delicensed Activities still regulated by the EPA

Delicensed activities still regulated by the EPA, within the dataset buffer:

Licence No	Organisation	Name	Address	Suburb	Activity	Loc Conf	Distance	Direction
N/A	No records in buffer							

Delicensed Activities Data Source: Environment Protection Authority

© State of New South Wales through the Environment Protection Authority

Former Licensed Activities under the POEO Act 1997, now revoked or surrendered

Former Licensed activities under the Protection of the Environment Operations Act 1997, now revoked or surrendered, within the dataset buffer:

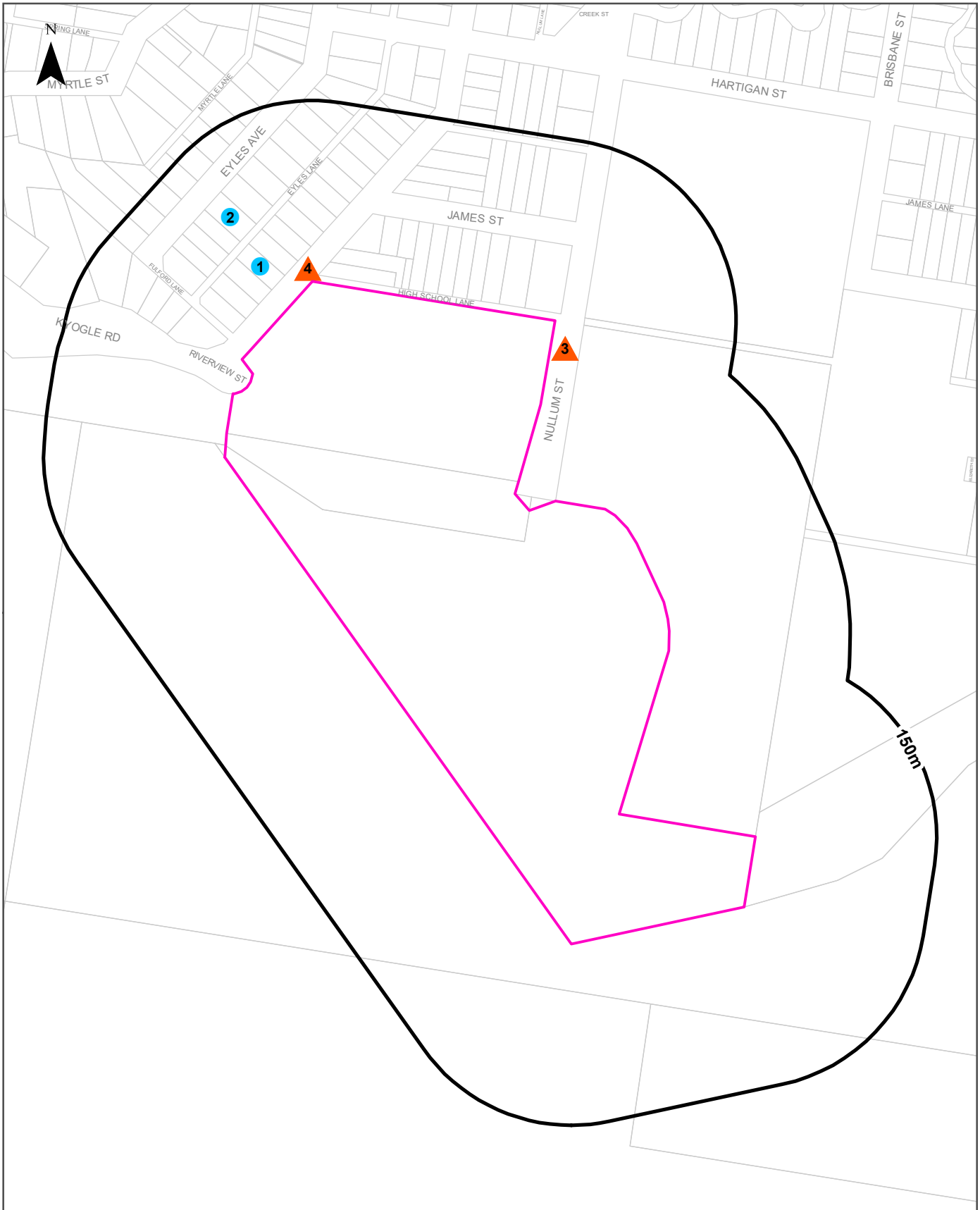
Licence No	Organisation	Location	Status	Issued Date	Activity	Loc Conf	Distance	Direction
4292	FAR NORTH COAST COUNTY COUNCIL	COUNTY DISTRICT - LISMORE NSW 2480	Surrendered	06/09/2000	Other Activities / Non Scheduled Activity - Application of Herbicides	Network of Features	0m	On-site
4653	LUHRMANN ENVIRONMENT MANAGEMENT PTY LTD	WATERWAYS THROUGHOUT NSW	Surrendered	06/09/2000	Other Activities / Non Scheduled Activity - Application of Herbicides	Network of Features	0m	On-site
4838	Robert Orchard	Various Waterways throughout New South Wales - SYDNEY NSW 2000	Surrendered	07/09/2000	Other Activities / Non Scheduled Activity - Application of Herbicides	Network of Features	0m	On-site
6630	SYDNEY WEED & PEST MANAGEMENT PTY LTD	WATERWAYS THROUGHOUT NSW - PROSPECT, NSW, 2148	Surrendered	09/11/2000	Other Activities / Non Scheduled Activity - Application of Herbicides	Network of Features	0m	On-site
3717	TWEED SHIRE COUNCIL	O'CONNOR DRIVE, MURWILLUMBAH, NSW 2484	Surrendered	30/10/2000	Miscellaneous licensed discharge to waters (at any time)	Premise Match	874m	West

Former Licensed Activities Data Source: Environment Protection Authority

© State of New South Wales through the Environment Protection Authority

Historical Business Directories

Murwillumbah High School, 86 Riverview Street, Murwillumbah, NSW 2484



Legend

- Site Boundary
- Buffer 150m
- Property Boundary
- Business directory records mapped to a specific premise
- Business directory records mapped to a road intersection
- Business directory records mapped to a road corridor
- Business directory records mapped to a general area

Scale: 0 60 120 180 240 Meters

Coordinate System: GDA 1994 MGA Zone 56

Date: 26 April 2021

Data Sources: Reproduced with permission of UBD and Hardie Grant Media Pty Ltd DD 01/08/2018

Historical Business Directories

Murwillumbah High School, 86 Riverview Street, Murwillumbah, NSW 2484

Business Directory Records 1950-1991
Premise or Road Intersection Matches

Universal Business Directory records from years 1991, 1982, 1970, 1961 & 1950, mapped to a premise or road intersection within the dataset buffer:

Map Id	Business Activity	Premise	Ref No.	Year	Location Confidence	Distance to Property Boundary or Road Intersection	Direction
1	CARRIERS & CARTAGE CONTRACTORS	Lange Bros. and Co., 63 Riverview St., Murwillumbah	164715	1961	Premise Match	20m	North West
	CARRIERS & CARTAGE CONTRACTORS	Lange Bros. and Co., 63 Riverview St. Murwillumbah	135754	1950	Premise Match	20m	North West
2	PAINTERS, PAPERHANGERS & DECORATORS	Undery, H., 28 Eyles Ave., Murwillumbah	605302	1970	Premise Match	66m	North West
	PAINTERS, PAPERHANGERS & DECORATORS	Undery, H., 28 Eyles Lane, Murwillumbah	165083	1961	Premise Match	66m	North West

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Business Directory Records 1950-1991
Road or Area Matches

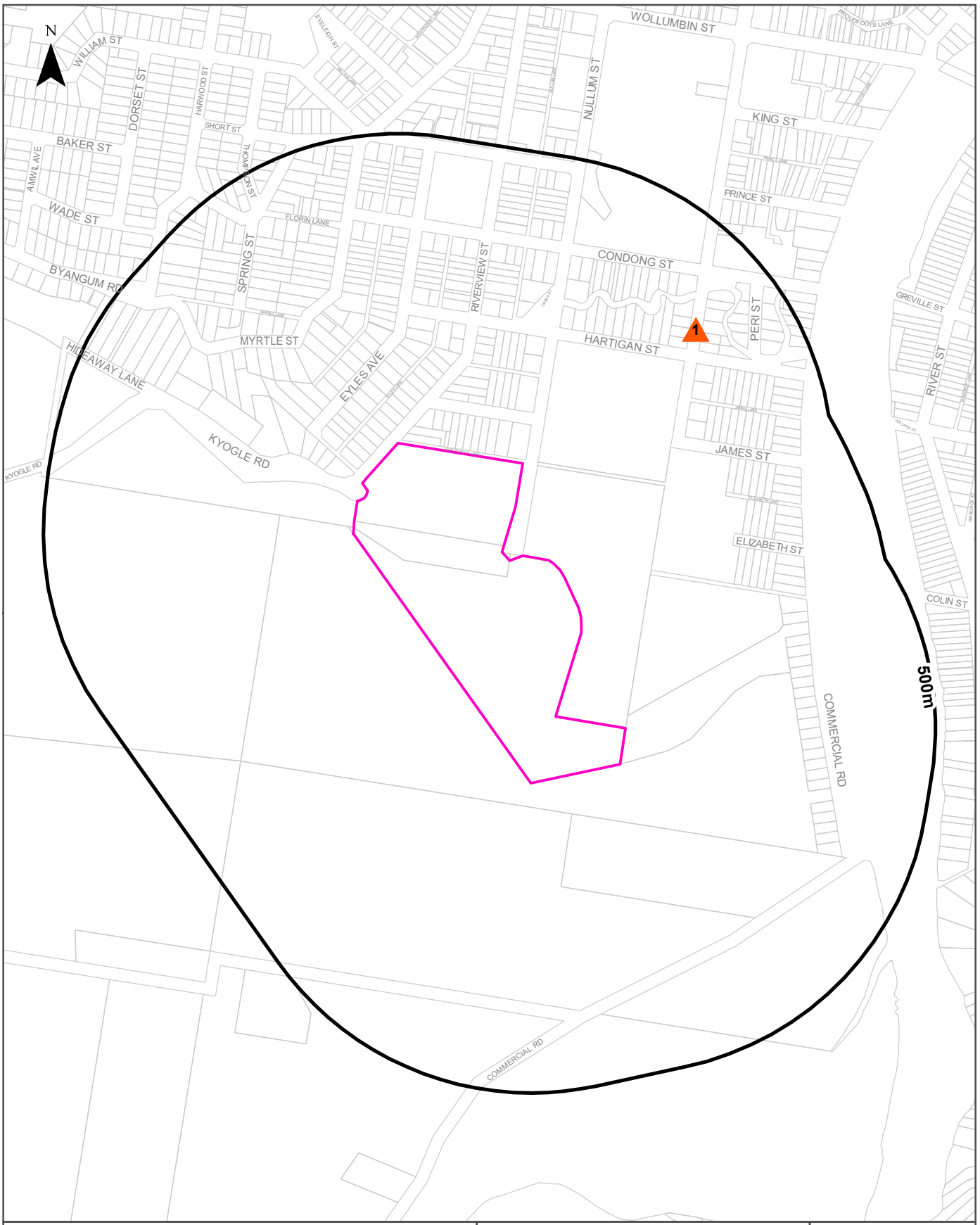
Universal Business Directory records from years 1991, 1982, 1970, 1961 & 1950, mapped to a road or an area, within the dataset buffer. Records are mapped to the road when a building number is not supplied, cannot be found, or the road has been renumbered since the directory was published:

Map Id	Business Activity	Premise	Ref No.	Year	Location Confidence	Distance to Road Corridor or Area
3	Signwriters	Halls. Gary Signs., Nullum St. Murwillumbah. 2484	190420	1991	Road Match	0m
	Squash Courts	Knox Park Squash Courts., Nullum St. Murwillumbah. 2484	190438	1991	Road Match	0m
	Office Equipment &/Or Supplies - Retail	Tweed Stationery Warehouse., Tudor Terrace. Nullum St. Murwillumbah. 2484	189137	1991	Road Match	0m
	Bus Operators	Tweed Valley Service Coaches., Nullum St. Murwillumbah. 2484	205032	1991	Road Match	0m
	SQUASH COURTS.	Knox Park Squash Courts:Nullum St., Murwillumbah	94504	1982	Road Match	0m
	BATTERY SALES &/OR SERVICE.	Sunshine Batteries, B Nullum St., Murwillumbah	93933	1982	Road Match	0m
	MOTOR BUS SERVICES.	Tweed Valley Service Coaches, Nullum St., Murwillumbah	94301	1982	Road Match	0m
4	Schools &/Or Colleges - Private &/Or Public	Murwillumbah High School., Riverview St. Murwillumbah. 2484	190387	1991	Road Match	0m
	Schools &/Or Colleges - Private &/Or Public	Murwillumbah Public School (Primary Dept)., Riverview St. Murwillumbah. 2484	190388	1991	Road Match	0m
	Associations &/Or Societies	Tweed Highland Society., Riverview St. Murwillumbah. 2484	204963	1991	Road Match	0m
	SCHOOLS &/OR COLLEGES - PRIVATE &/OR PUBLIC.	Murwillumbah High School, Riverview St., Murwillumbah	94456	1982	Road Match	0m
	SCHOOLS &/OR COLLEGES - PRIVATE &/OR PUBLIC.	Murwillumbah Public School., Riverview St., Murwillumbah	94458	1982	Road Match	0m
	ASSOCIATIONS, SOCIETIES, CLUBS &/OR SPORTING BODIES.	Tweed Highland Society, Riverview St., Murwillumbah	93904	1982	Road Match	0m
	MOTOR OIL & SPIRIT DEPOTS	Sleigh, H. C. Ltd., Riverview St., Murwillumbah	605262	1970	Road Match	0m
	ASSOCIATIONS, SOCIETIES, CLUBS & SPORTING BODIES	Tweed Highland Society, C/- A. McDonald, Riverview St., Murwillumbah	604823	1970	Road Match	0m

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Dry Cleaners, Motor Garages & Service Stations

Murwillumbah High School, 86 Riverview Street, Murwillumbah, NSW 2484



Legend

- Site Boundary
- Buffer 500m
- Property Boundary
- Business directory records mapped to a specific premise
- Business directory records mapped to a road intersection
- Business directory records mapped to a road corridor
- Business directory records mapped to a general area

Scale: 0 120 240 360 480 Meters

Coordinate System: GDA 1994 MGA Zone 56

Date: 26 April 2021

Data Sources: Reproduced with permission of UBD and Hardie Grant Media Pty Ltd DD 01/08/2018

Historical Business Directories

Murwillumbah High School, 86 Riverview Street, Murwillumbah, NSW 2484

Dry Cleaners, Motor Garages & Service Stations Premise or Road Intersection Matches

Dry Cleaners, Motor Garages & Service Stations from UBD Business Directories, mapped to a premise or road intersection, within the dataset buffer.

Map Id	Business Activity	Premise	Ref No.	Year	Location Confidence	Distance to Property Boundary or Road Intersection	Direction
N/A	No records in buffer						

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Dry Cleaners, Motor Garages & Service Stations
Road or Area Matches

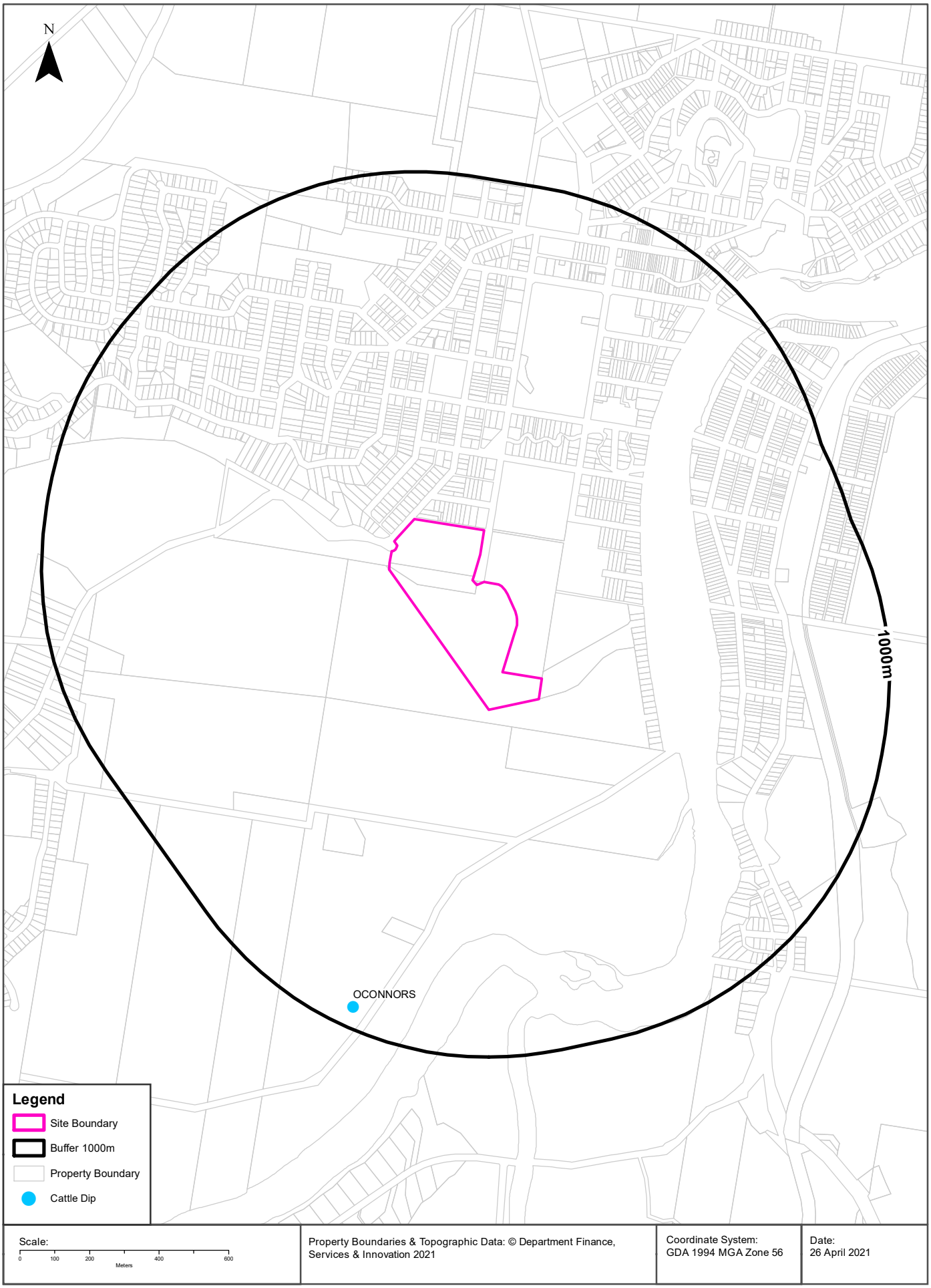
Dry Cleaners, Motor Garages & Service Stations from UBD Business Directories, mapped to a road or an area, within the dataset buffer. Records are mapped to the road when a building number is not supplied, cannot be found, or the road has been renumbered since the directory was published.

Map Id	Business Activity	Premise	Ref No.	Year	Location Confidence	Distance to Road Corridor or Area
1	MOTOR GARAGES & ENGINEERS	Partridge and Walker Pty. Ltd., Brisbane St., Murwillumbah	605252	1970	Road Match	246m
	MOTOR GARAGES & ENGINEERS	Partridge and Walker Pty. Ltd., Brisbane St., Murwillumbah	165027	1961	Road Match	246m
	MOTOR SERVICE STATIONS-PETROL, OILS, ETC.	Partridge and Walker Pty. Ltd., Brisbane St., Murwillumbah	165050	1961	Road Match	246m

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Cattle Dips of the Northern Rivers Region

Murwillumbah High School, 86 Riverview Street, Murwillumbah, NSW 2484



Cattle Dips

Murwillumbah High School, 86 Riverview Street, Murwillumbah, NSW 2484

Cattle Dips of the Northern Rivers Region

Cattle dip sites within the dataset buffer:

Dip Name	Road	Town	Dip Status	Licence / Lease Status	Licence / Lease Expiry Date	Distance	Direction
OCONNORS	COMMERCIAL ROAD	MURWILLUMBAH	LAPSED	LAPSED	30/05/2000	942m	South

Cattle dip site data provided by the NSW Department of Primary Industries.

Aerial Imagery 2021

Murwillumbah High School, 86 Riverview Street, Murwillumbah, NSW 2484



Scale:	Data Sources: Aerial Imagery: © Aerometrex Pty Ltd	Coordinate System: GDA 1994 MGA Zone 56	Date: 26 April 2021

0 50 100 150 200
Meters

Aerial Imagery 2015

Murwillumbah High School, 86 Riverview Street, Murwillumbah, NSW 2484



Scale: 0 50 100 150 200 Meters

Data Source Aerial Imagery: © 2021 Google Inc, used with permission. Google and the Google logo are registered trademarks of Google Inc.

Coordinate System: GDA 1994 MGA Zone 56

Date: 26 April 2021

Aerial Imagery 2009

Murwillumbah High School, 86 Riverview Street, Murwillumbah, NSW 2484



Scale: 0 50 100 Meters 150 200	Data Source Aerial Imagery: © 2021 Google Inc, used with permission. Google and the Google logo are registered trademarks of Google Inc.	Coordinate System: GDA 1994 MGA Zone 56	Date: 26 April 2021

Aerial Imagery 2004

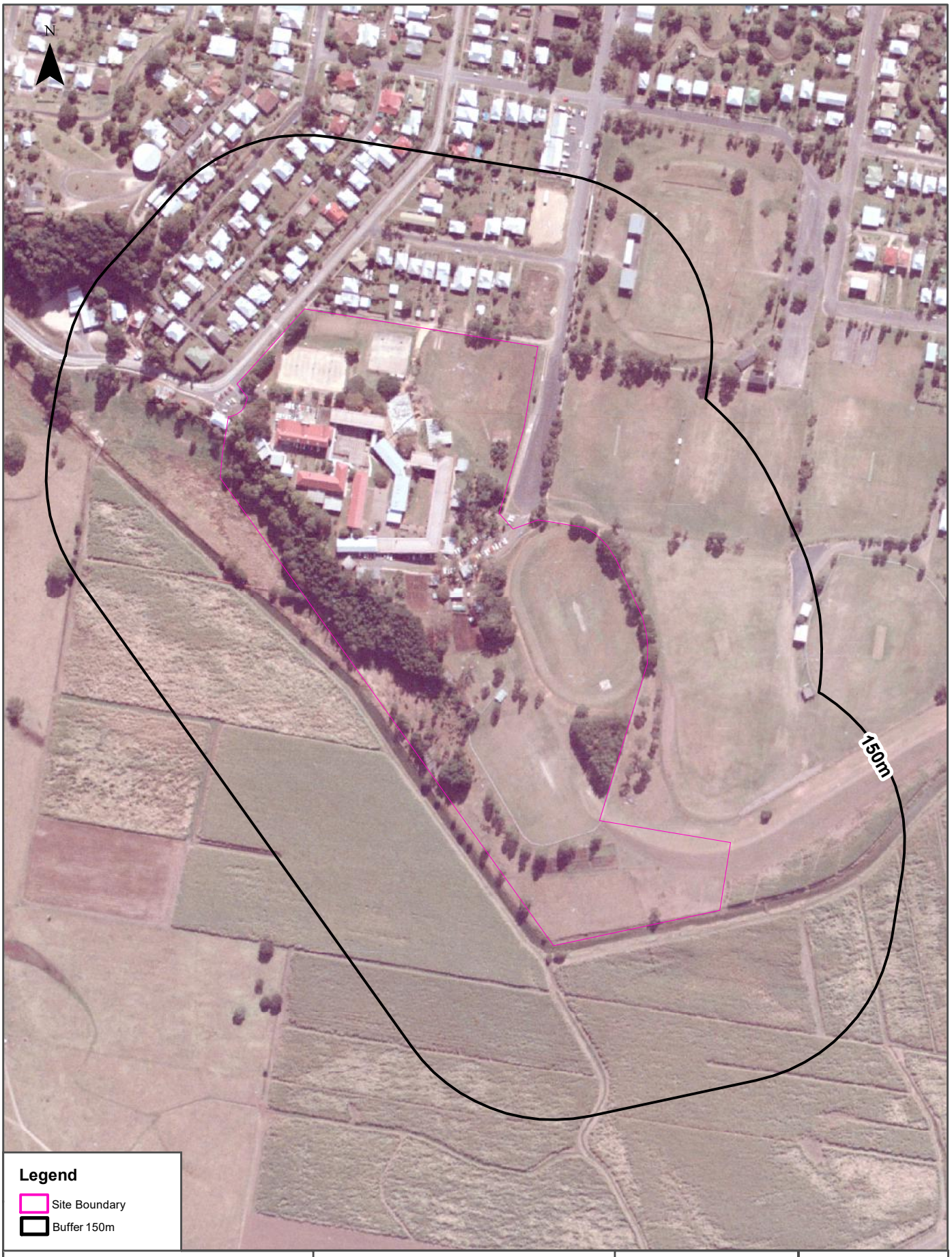
Murwillumbah High School, 86 Riverview Street, Murwillumbah, NSW 2484



Scale:	Data Source Aerial Imagery: © 2021 Google Inc, used with permission. Google and the Google logo are registered trademarks of Google Inc.	Coordinate System: GDA 1994 MGA Zone 56	Date: 26 April 2021

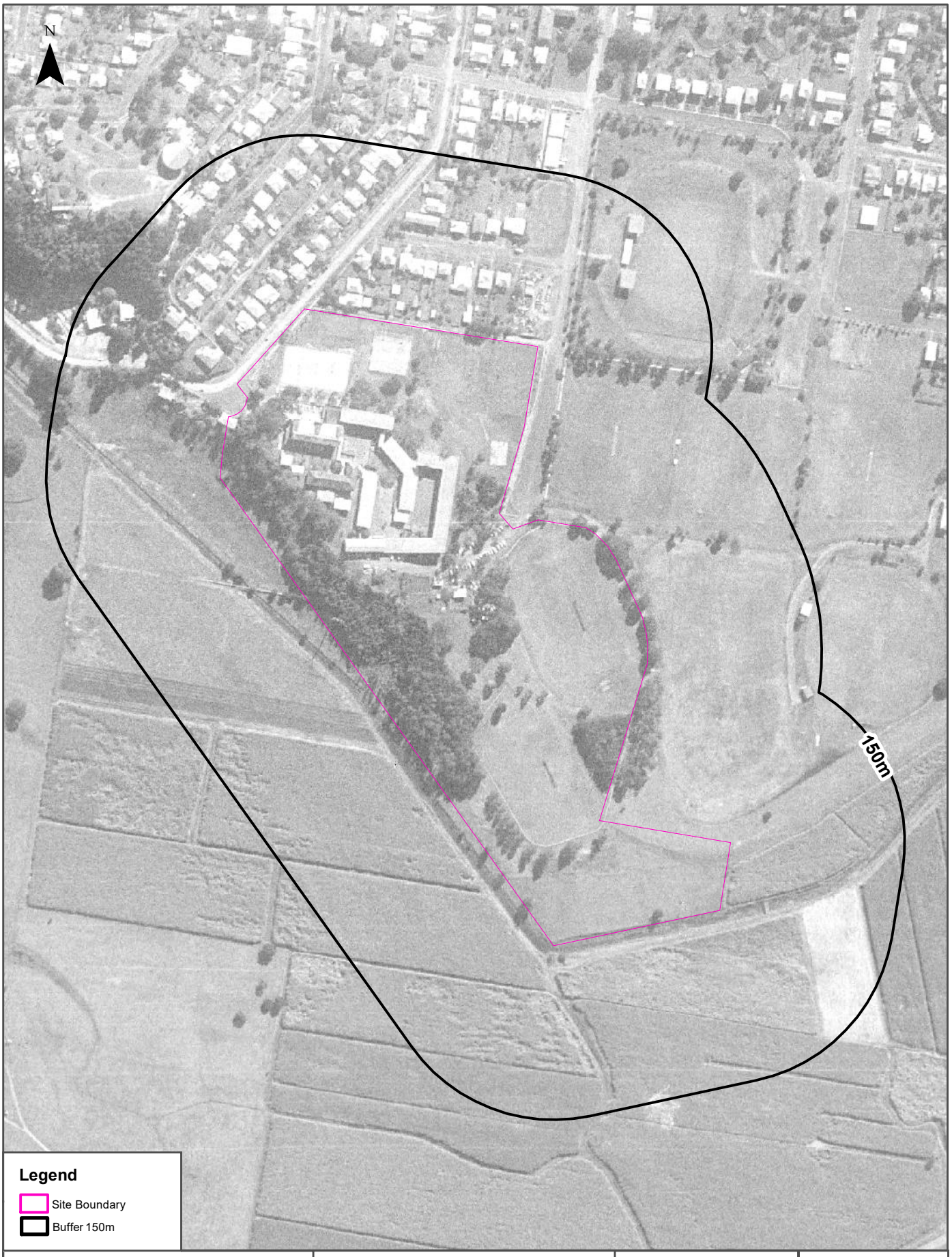
Aerial Imagery 1991

Murwillumbah High School, 86 Riverview Street, Murwillumbah, NSW 2484



Aerial Imagery 1987

Murwillumbah High School, 86 Riverview Street, Murwillumbah, NSW 2484



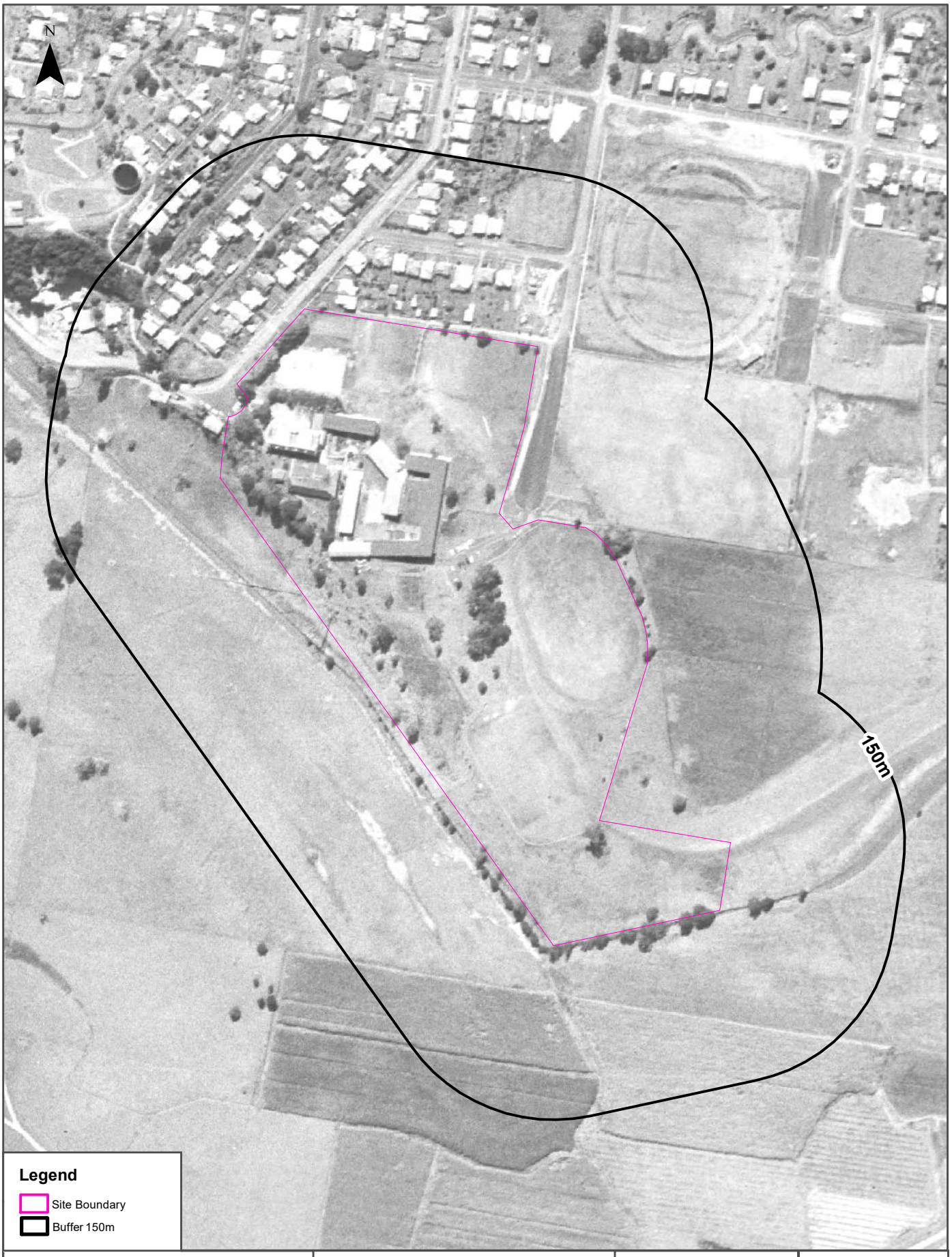
Aerial Imagery 1979

Murwillumbah High School, 86 Riverview Street, Murwillumbah, NSW 2484



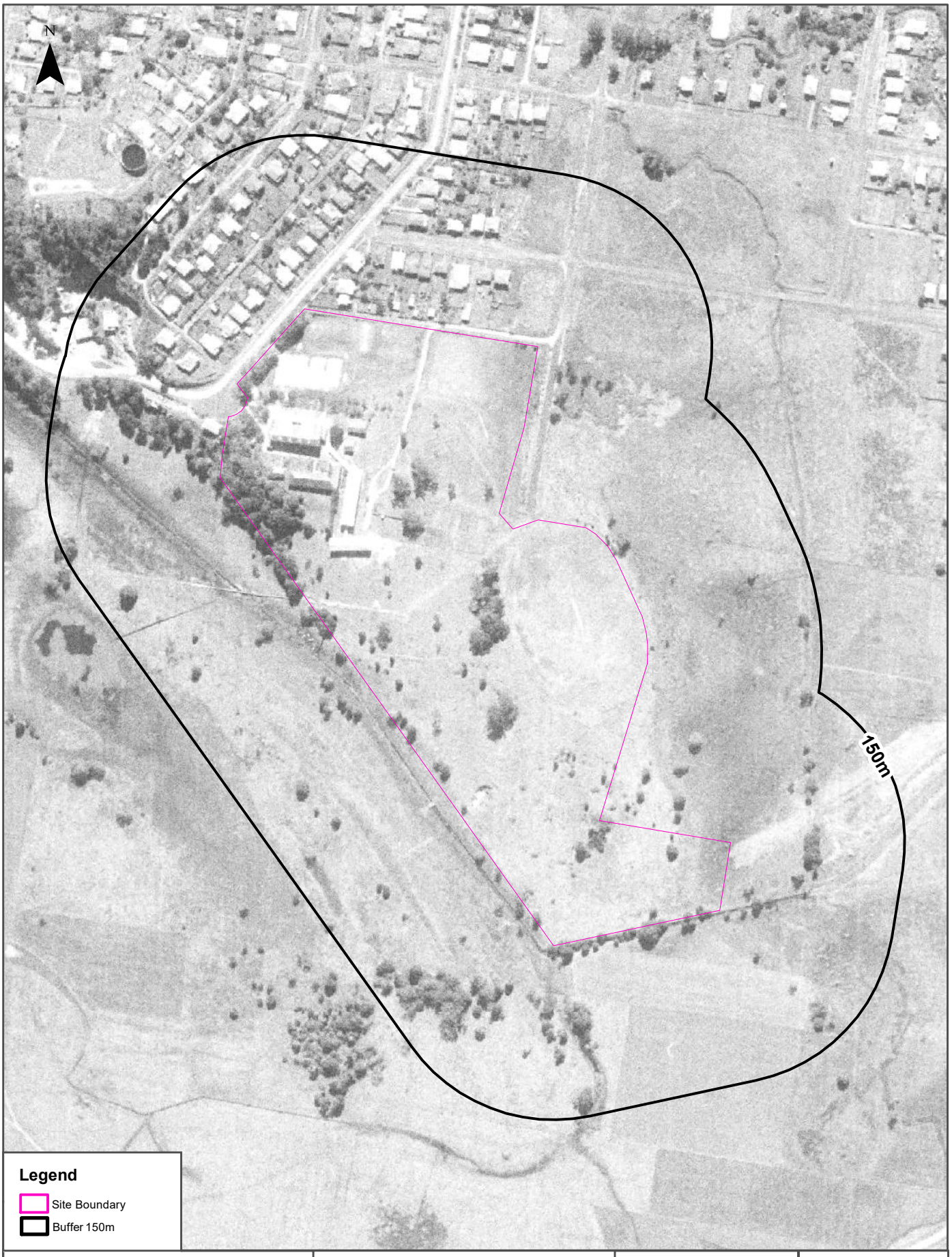
Aerial Imagery 1972

Murwillumbah High School, 86 Riverview Street, Murwillumbah, NSW 2484



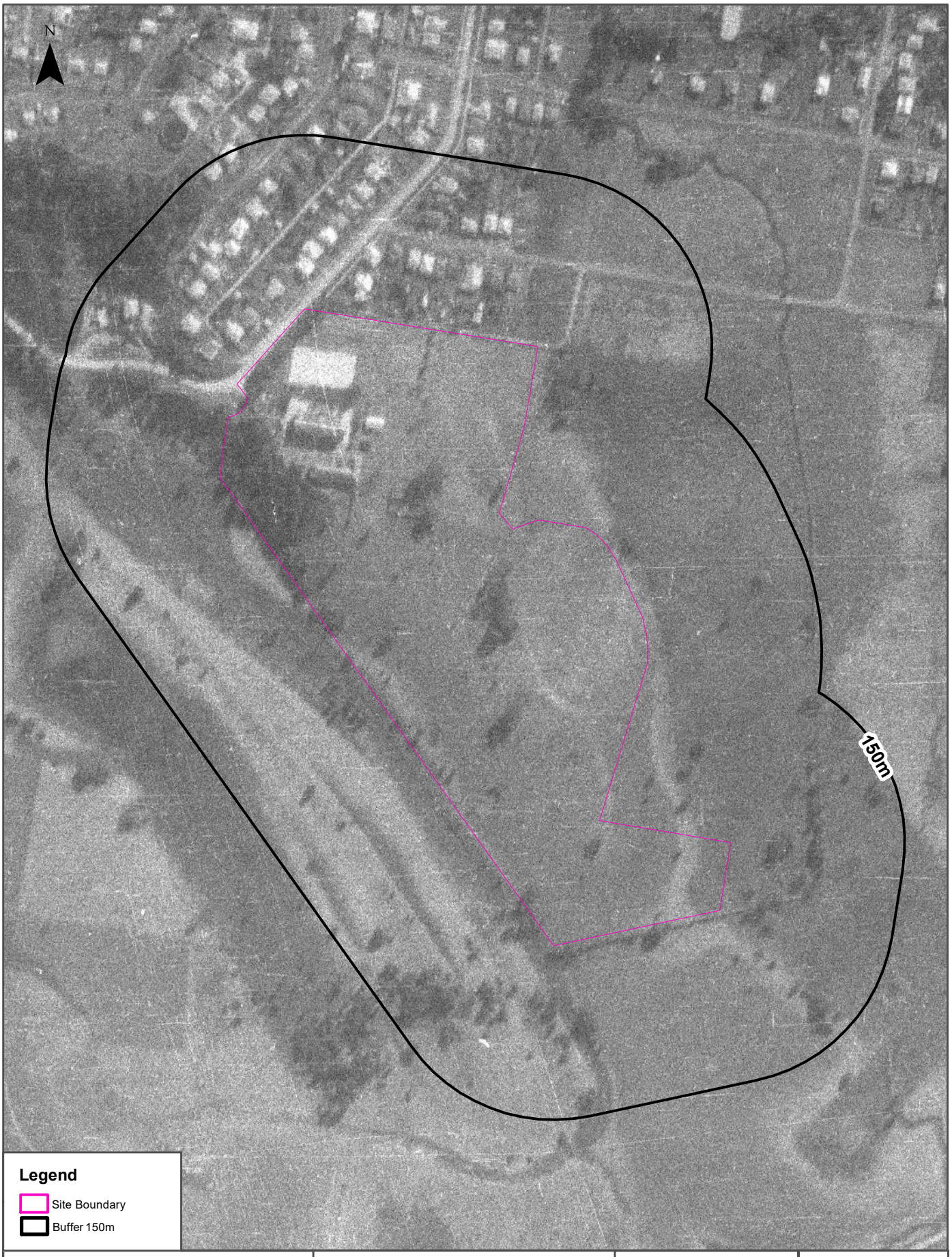
Aerial Imagery 1962

Murwillumbah High School, 86 Riverview Street, Murwillumbah, NSW 2484



Aerial Imagery 1953

Murwillumbah High School, 86 Riverview Street, Murwillumbah, NSW 2484



Topographic Map 2015

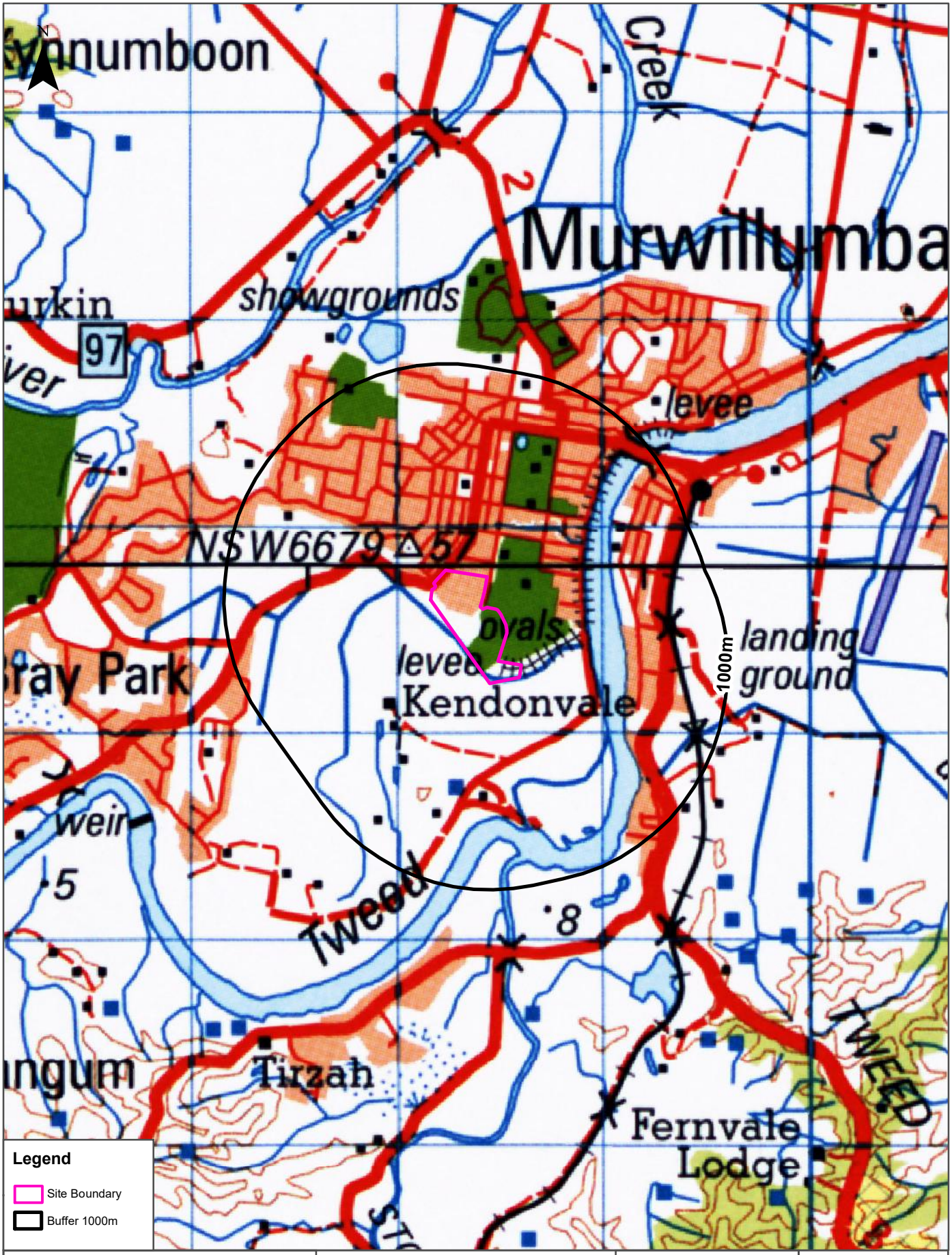
Murwillumbah High School, 86 Riverview Street, Murwillumbah, NSW 2484



Scale: 0 170 340 Meters 510 680	Data Sources: Topographic Map Data © NSW Land and Property Information	Coordinate System: GDA 1994 MGA Zone 56	Date: 26 April 2021

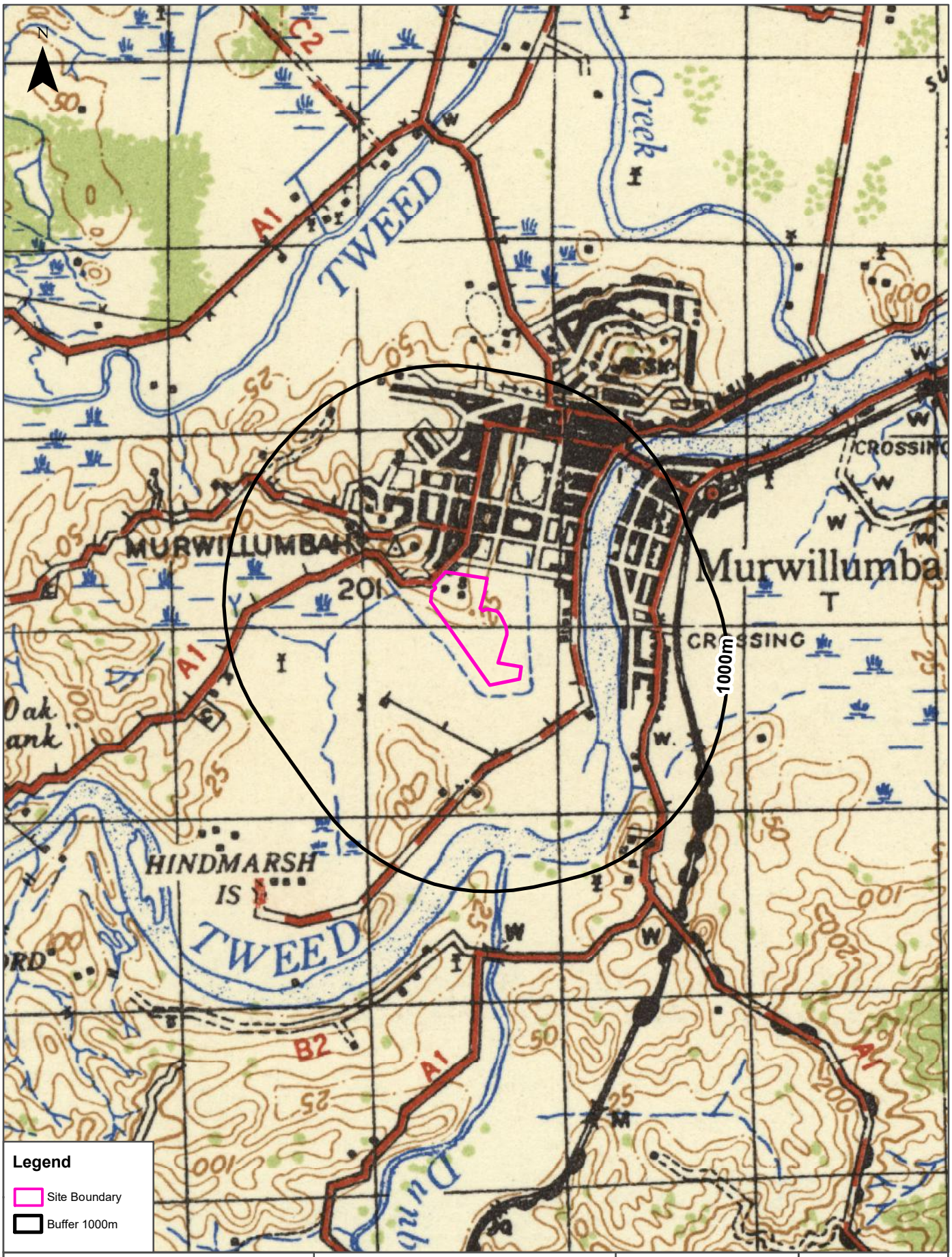
Historical Map 2005

Murwillumbah High School, 86 Riverview Street, Murwillumbah, NSW 2484



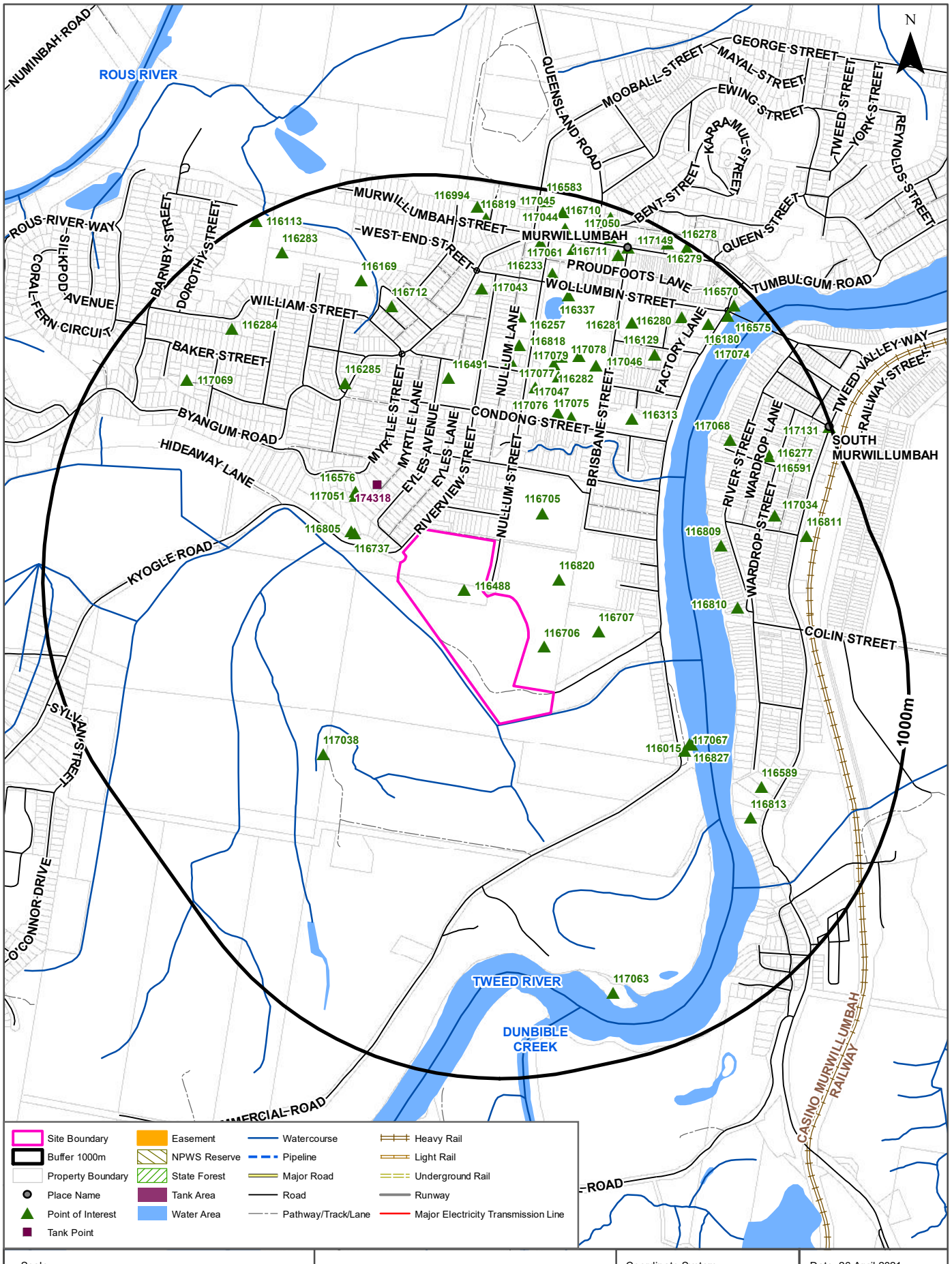
Historical Map c.1942

Murwillumbah High School, 86 Riverview Street, Murwillumbah, NSW 2484



Topographic Features

Murwillumbah High School, 86 Riverview Street, Murwillumbah, NSW 2484



Site Boundary
Buffer 1000m
Property Boundary
Place Name
Point of Interest
Tank Point
Easement
NPWS Reserve
State Forest
Tank Area
Water Area
Watercourse
Pipeline
Major Road
Road
Pathway/Track/Lane
Heavy Rail
Light Rail
Underground Rail
Runway
Major Electricity Transmission Line

Scale: 0 100 200 400 600 Meters

Data Sources: Property Boundaries & Topographic Data: © Department Finance, Services & Innovation 2021

Coordinate System: GDA 1994 MGA Zone 56

Date: 26 April 2021

Topographic Features

Murwillumbah High School, 86 Riverview Street, Murwillumbah, NSW 2484

Points of Interest

What Points of Interest exist within the dataset buffer?

Map Id	Feature Type	Label	Distance	Direction
116488	High School	MURWILLUMBAH HIGH SCHOOL	0m	On-site
116706	Sports Field	LES CAVE FIELDS	50m	East
116820	Sports Field	BARRIE SMITH HOCKEY FIELDS	135m	North East
116737	SES Facility	MURWILLUMBAH SES	147m	North West
116705	Sports Field	STAN SERCOMBE OVAL	155m	North East
116805	Firestation - Bush	MURWILLUMBAH RFB	158m	North West
116707	Sports Field	JOHN RABJONES OVAL	197m	East
117051	Lookout	Lookout	205m	North West
116576	Park	LUCAS PARK	214m	North West
117067	Park	CHARLES H LUNDBERG MEMORIAL PARK	394m	South East
116827	Boat Ramp	Boat Ramp	401m	South East
117076	Sports Court	KNOX PARK NETBALL	402m	North
116015	Wharf	Wharf	408m	South East
117075	Community Facility	MURWILLUMBAH NETBALL CLUB	409m	North East
116491	Primary School	MURWILLUMBAH PUBLIC SCHOOL	434m	North
117077	Community Facility	MURWILLUMBAH COMMUNITY CENTRE	447m	North
117038	Homestead	KENDONVALE	454m	South West
116285	Park	Park	467m	North West
117047	Sports Field	PLAYING FIELD	497m	North
117048	Place Of Worship	CHRISTIAN CHURCH	508m	North
116313	Sports Field	BOWLING GREENS	517m	North East
116282	Park	KNOX PARK	525m	North
117078	Sports Court	KNOX PARK SKATE PARK	552m	North
116818	Place Of Worship	SIKH TEMPLE	557m	North
116810	Park	Park	570m	East
117046	Sports Court	MURWILLUMBAH TENNIS COURTS	572m	North East
117079	Community Facility	MURWILLUMBAH CROQUET CLUB	573m	North
116809	Park	Park	590m	East
116589	Primary School	MURWILLUMBAH SOUTH INFANTS SCHOOL	631m	South East
116712	Place Of Worship	BAPTIST CHURCH	636m	North
116257	Combined Primary-Secondary School	SATHYA SAI COLLEGE	637m	North

Map Id	Feature Type	Label	Distance	Direction
116813	Community Home	GREENHILLS LODGE	637m	South East
116129	Primary School	THE SMALL SCHOOL	692m	North East
117043	Place Of Worship	ANGLICAN CHURCH	697m	North
117068	Park	HARTMAN PARK	722m	North East
116169	BMX Track	BMX Track	723m	North
116337	Picnic Area	Picnic Area	724m	North
116281	Shopping Centre	MURWILLUMBAH SHOPPING CENTRE	726m	North East
117034	Park	Park	762m	East
116233	Community Medical Centre	MURWILLUMBAH COMMUNITY HEALTH CENTRE	771m	North
117069	Park	AMWIL PARK	780m	North West
116284	Place Of Worship	CHURCH OF CHRIST	782m	North West
116591	Primary School	ST JOSEPH'S PRIMARY SCHOOL	807m	North East
116277	Place Of Worship	CATHOLIC CHURCH	807m	North East
117063	Park	CONNORS ISLAND	808m	South
116280	Place Of Worship	PRESBYTERIAN CHURCH	822m	North East
116811	Park	MAX BOYD PARK	826m	East
117074	Park	MCILRAITH PARK	841m	North East
116817	Place Of Worship	UNITING CHURCH	850m	North
117061	TAFE College	MURWILLUMBAH TAFE COLLEGE	852m	North
116180	Club	MURWILLUMBAH SERVICES MEMORIAL CLUB	857m	North East
116283	Sports Field	WILLWARD PARK	877m	North West
116711	Post Office	MURWILLUMBAH POST OFFICE	878m	North
116819	Monument	SETTLERS MEMORIAL	894m	North
117044	Place Of Worship	CATHOLIC CHURCH	902m	North
117149	Town	MURWILLUMBAH	907m	North East
116575	Park	CHARLES HAROLD LUNDBERG MEMORIAL PARK	912m	North East
117050	Fire Station	MURWILLUMBAH FIRE STATION	916m	North
116994	Park	SACRED PARK	924m	North
116570	Park	NEWELL PARK	946m	North East
117045	High School	MOUNT ST PATRICK COLLEGE	948m	North
116710	Museum	TWEED RIVER HISTORICAL MUSEUM	968m	North
116583	Primary School	MOUNT ST PATRICK PRIMARY SCHOOL	968m	North
116279	Police Station	MURWILLUMBAH POLICE STATION	970m	North East
116278	Court House	MURWILLUMBAH COURT HOUSE	988m	North East
116113	Club	MURWILLUMBAH LEAGUES CLUB	989m	North West
117131	Locality	SOUTH MURWILLUMBAH	996m	North East

Topographic Data Source: © Land and Property Information (2015)
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Topographic Features

Murwillumbah High School, 86 Riverview Street, Murwillumbah, NSW 2484

Tanks (Areas)

What are the Tank Areas located within the dataset buffer?
Note. The large majority of tank features provided by LPI are derived from aerial imagery & are therefore primarily above ground tanks.

Map Id	Tank Type	Status	Name	Feature Currency	Distance	Direction
N/A	No records in buffer					

Tanks (Points)

What are the Tank Points located within the dataset buffer?
Note. The large majority of tank features provided by LPI are derived from aerial imagery & are therefore primarily above ground tanks.

Map Id	Tank Type	Status	Name	Feature Currency	Distance	Direction
174318	Water	Operational		13/02/2002	180m	North West

Tanks Data Source: © Land and Property Information (2015)
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Major Easements

What Major Easements exist within the dataset buffer?
Note. Easements provided by LPI are not at the detail of local governments. They are limited to major easements such as Right of Carriageway, Electrical Lines (66kVa etc.), Easement to drain water & Significant subterranean pipelines (gas, water etc.).

Map Id	Easement Class	Easement Type	Easement Width	Distance	Direction
N/A	No records in buffer				

Easements Data Source: © Land and Property Information (2015)
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Topographic Features

Murwillumbah High School, 86 Riverview Street, Murwillumbah, NSW 2484

State Forest

What State Forest exist within the dataset buffer?

State Forest Number	State Forest Name	Distance	Direction
N/A	No records in buffer		

State Forest Data Source: © NSW Department of Finance, Services & Innovation (2018)
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National Parks and Wildlife Service Reserves

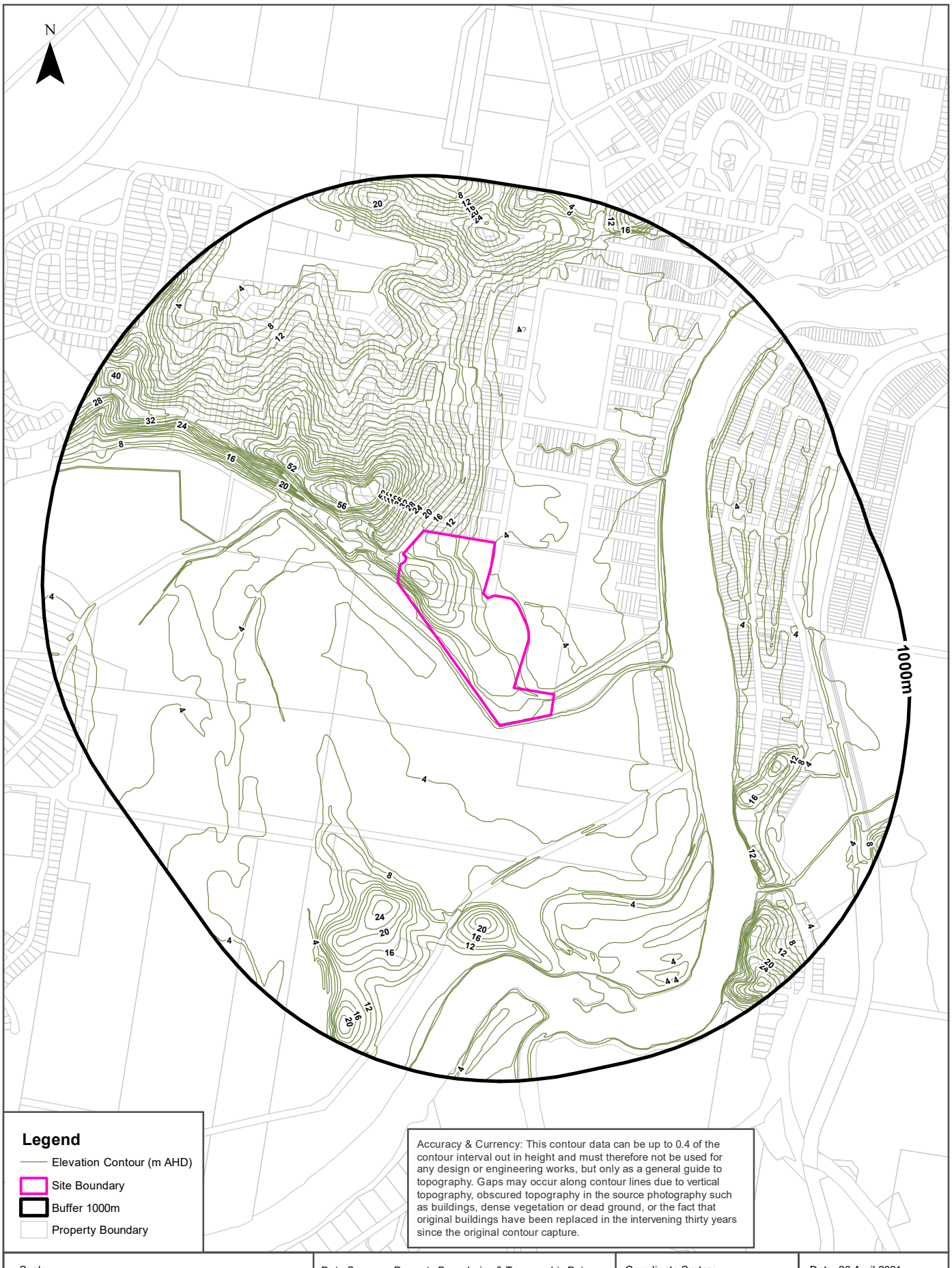
What NPWS Reserves exist within the dataset buffer?

Reserve Number	Reserve Type	Reserve Name	Gazetted Date	Distance	Direction
N/A	No records in buffer				

NPWS Data Source: © NSW Department of Finance, Services & Innovation (2018)
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Elevation Contours (m AHD)

Murwillumbah High School, 86 Riverview Street, Murwillumbah, NSW 2484



Hydrogeology & Groundwater

Murwillumbah High School, 86 Riverview Street, Murwillumbah, NSW 2484

Hydrogeology

Description of aquifers within the dataset buffer:

Description	Distance	Direction
Porous, extensive highly productive aquifers	0m	On-site

Hydrogeology Map of Australia : Commonwealth of Australia (Geoscience Australia)
Creative Commons 3.0 © Commonwealth of Australia http://creativecommons.org/licenses/by/3.0/au/deed.en

Temporary Water Restriction (Botany Sands Groundwater Source) Order 2018

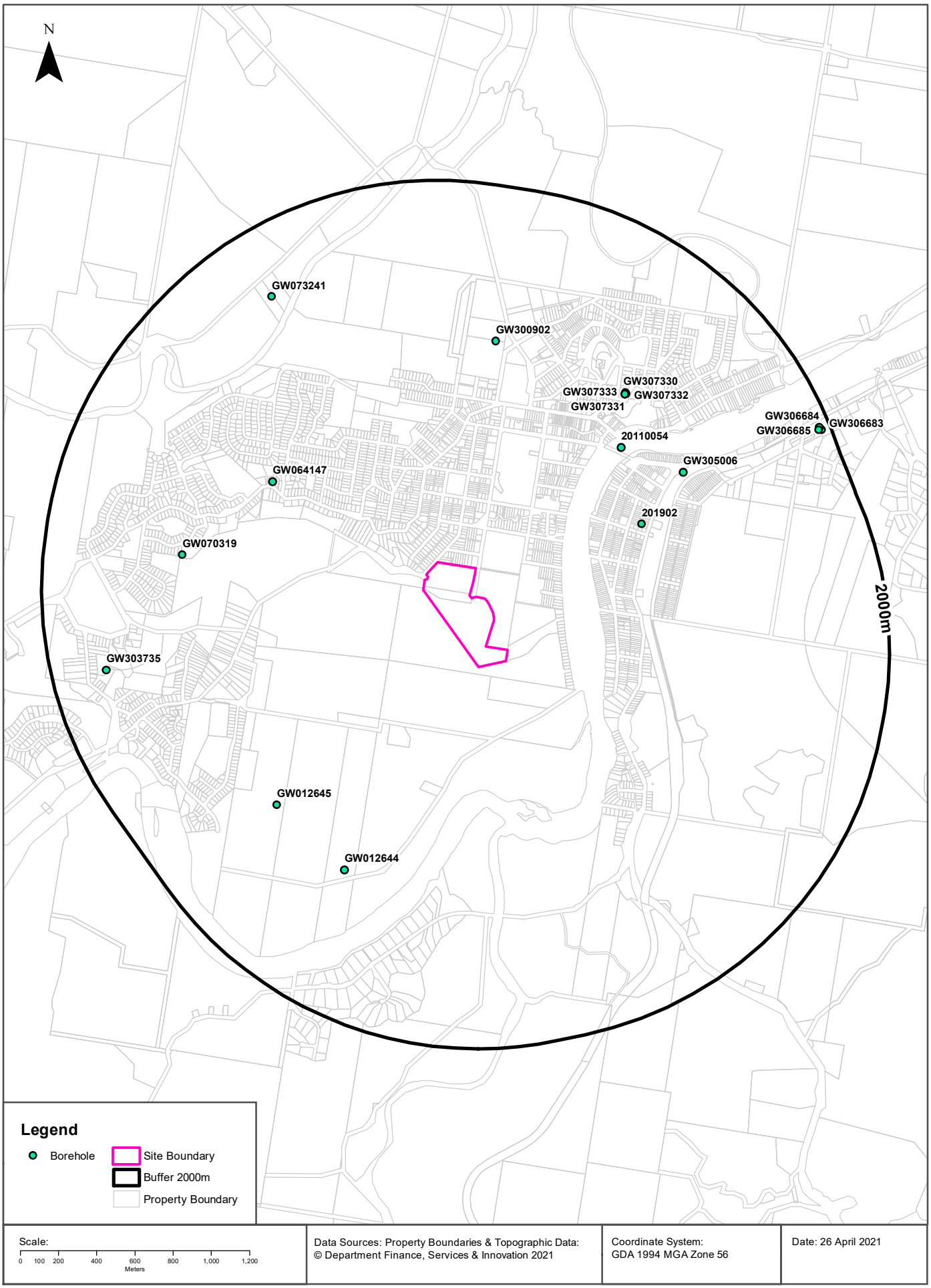
Temporary water restrictions relating to the Botany Sands aquifer within the dataset buffer:

Prohibition Area No.	Prohibition	Distance	Direction
N/A	No records in buffer		

Temporary Water Restriction (Botany Sands Groundwater Source) Order 2018 Data Source : NSW Department of Primary Industries

Groundwater Boreholes

Murwillumbah High School, 86 Riverview Street, Murwillumbah, NSW 2484



Hydrogeology & Groundwater

Murwillumbah High School, 86 Riverview Street, Murwillumbah, NSW 2484

Groundwater Boreholes

Boreholes within the dataset buffer:

GW No.	Licence No	Work Type	Owner Type	Authorised Purpose	Intended Purpose	Name	Complete Date	Final Depth (m)	Drilled Depth (m)	Salinity (mg/L)	SWL (m bgl)	Yield (L/s)	Elev (AHD)	Dist	Dir
201902					UNK								6.49	901m	North East
GW064147	30BL135660	Bore	Private	Domestic, Stock	Domestic		01/12/1986	42.00						938m	North West
20110054					UNK								7.67	991m	North East
GW300902	30BL177476, 30WA306831	Bore		Domestic	Test Bore		30/10/1997	9.00	9.00	Good	3.00	0.236		1191m	North
GW305006	30BL179769	Bore		Monitoring Bore	Monitoring Bore		11/07/2002	5.50	5.50		5.00			1197m	North East
GW307331	30BL185781	Bore	Other Govt	Monitoring Bore	Monitoring Bore	Ambulance Service NSW	21/09/2011	13.00	13.00	300	8.00	0.100		1201m	North East
GW307333	30BL185781	Bore	Other Govt	Monitoring Bore	Monitoring Bore	Ambulance Service NSW	21/09/2011	13.00	13.00	300	8.00	0.100		1201m	North East
GW307332	30BL185781	Bore	Other Govt	Monitoring Bore	Monitoring Bore	Ambulance Service NSW	21/09/2011	13.00	13.00	300	8.00	0.100		1206m	North East
GW307330	30BL185781	Bore	Other Govt	Monitoring Bore	Monitoring Bore	Ambulance Service NSW	21/09/2011	13.00	13.00	300	8.00			1209m	North East
GW070319	30BL150970	Bore	Private	Domestic	Domestic		09/11/1992	24.00	24.00					1273m	West
GW012644	30BL005684, 30WA306816	Well	Private	Stock	Stock			4.90						1273m	South West
GW012645	30BL005683	Well	Private	Irrigation, Stock	Irrigation			3.40						1277m	South West
GW073241	30BL176326, 30WA306826	Bore	Private	Domestic	Domestic		07/11/1994	16.50	16.50	Good	10.00	3.543		1638m	North West
GW303735	30BL180374	Bore		Domestic	Domestic		05/10/2002	26.00	26.00		4.20	0.800		1713m	West
GW306685	30BL185682, 30WA306846	Bore	Local Govt	Groundwater Investigation	Monitoring Bore		10/09/2010	6.00	6.00		3.90			1937m	North East
GW306684	30BL185682, 30WA306846	Bore	Local Govt	Groundwater Investigation	Monitoring Bore		10/09/2010	6.00	6.00		3.90			1945m	North East
GW306683	30BL185682, 30WA306846	Bore	Local Govt	Groundwater Investigation	Monitoring Bore		10/09/2010	6.00	6.00		3.90			1951m	North East

Borehole Data Source : NSW Department of Primary Industries - Office of Water / Water Administration Ministerial Corporation for all bores prefixed with GW. All other bores © Commonwealth of Australia (Bureau of Meteorology) 2015. Creative Commons 3.0 © Commonwealth of Australia http://creativecommons.org/licenses/by/3.0/au/deed.en

Hydrogeology & Groundwater

Murwillumbah High School, 86 Riverview Street, Murwillumbah, NSW 2484

Driller's Logs

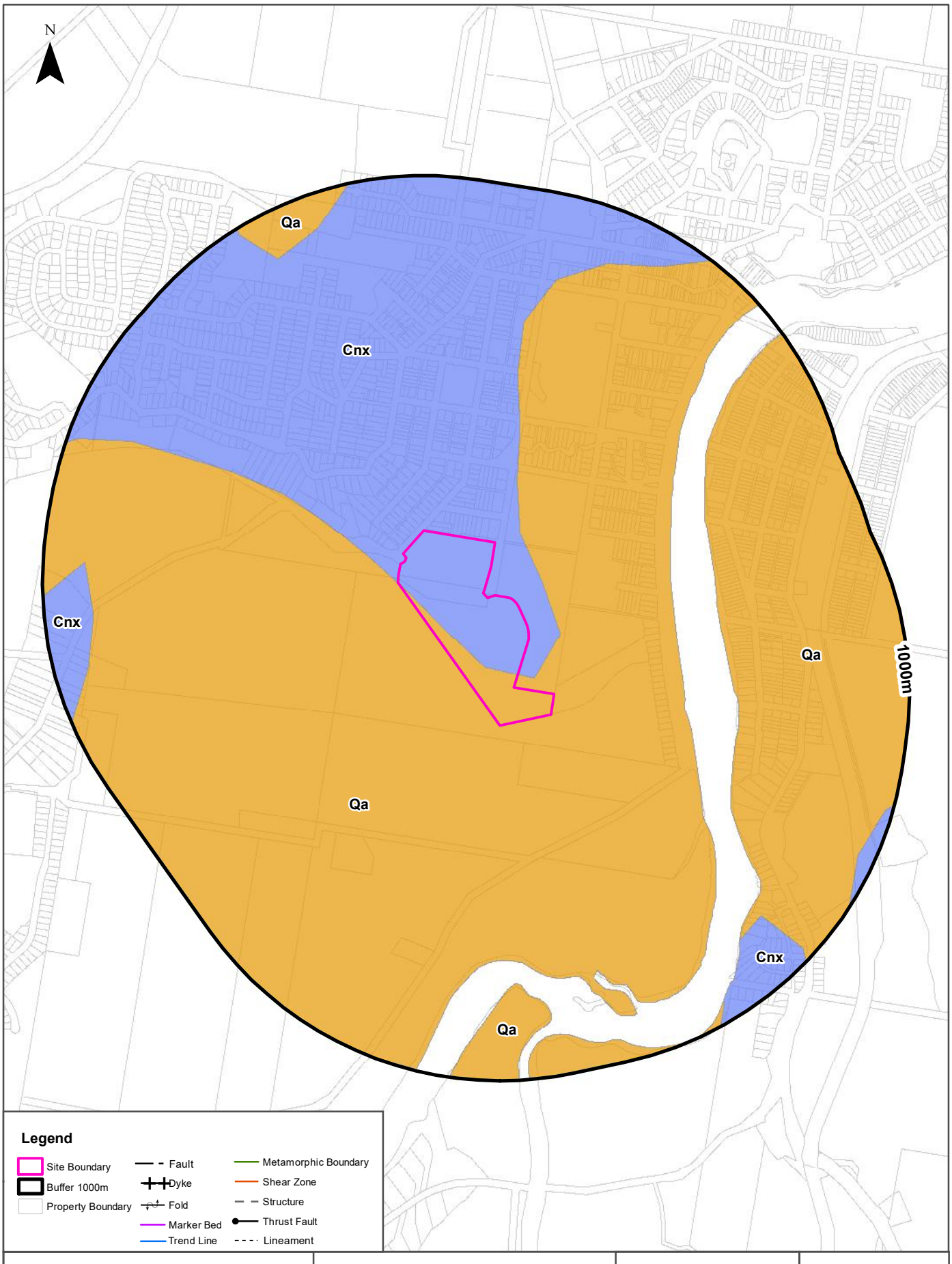
Drill log data relevant to the boreholes within the dataset buffer:

Groundwater No	Drillers Log	Distance	Direction
GW300902	0.00m-3.00m Clay 3.00m-9.00m Sand	1191m	North
GW305006	0.00m-1.00m fill: gravey silty clay 1.00m-1.50m alluvium clay 1.50m-5.00m alluvium sandy clay 5.00m-5.50m alluvium sand	1197m	North East
GW307331	0.00m-0.10m ASPHALT 0.10m-2.00m FILL 2.00m-6.00m SILTY CLAY 6.00m-8.00m SILTY CLAY,MOT.RED BROWN 8.00m-9.00m SILTY CLAY BROWN 9.00m-13.00m SILTY CLAY GREY BROWN	1201m	North East
GW307333	0.00m-0.10m ASPHALT 0.10m-4.00m FILL,SILT SAND AND GRAVEL 4.00m-7.00m SILTY CLAY 7.00m-13.00m SILTY CLAY MOTTLED RED BROWN AND BROWN	1201m	North East
GW307332	0.00m-0.10m ASPHALT 0.10m-3.00m FILL,ROAD BASE 3.00m-6.00m SILTY CLAY 6.00m-8.00m SILTY CLAY MOTTLED BROWN 8.00m-9.00m SILTY CLAY MOIST 9.00m-13.00m SILTY CLAY MOT. BROWN AND YELLOW	1206m	North East
GW307330	0.00m-0.10m ASPHALT 0.10m-2.50m FILL,SILT SAND AND GRAVEL 2.50m-6.00m SILTY CLAY 6.00m-13.00m SILTY CLAY BROWN SOME WHITE MOTTLING	1209m	North East
GW070319	0.00m-24.00m Clay, Weathered Shale & Quartz	1273m	West
GW073241	0.00m-0.50m Topsoil 0.50m-3.00m Cllay 3.00m-13.00m Grey Clay 13.00m-16.50m River Gravel	1638m	North West
GW303735	0.00m-1.20m SOIL 1.20m-8.50m CLAY 8.50m-17.60m DEC SHALE 17.60m-26.00m BROKEN GREY SHALE	1713m	West
GW306685	0.00m-0.80m FILL,SANDY SILTY GRAVEL,L/BROWN,LOOSE 0.80m-1.50m SANDY CLAY,DARK GREY,SOFT,M/PLASTICITY 1.50m-3.00m SANDY SILTY CLAY,BROWN,STIFF,L/PLASTICITY 3.00m-3.50m SANDY SILTY CLAY,BROWN, STIFF 3.50m-6.00m SANDY CLAY,BROWN,SOFT,L/PLASTICITY	1937m	North East
GW306684	0.00m-0.50m FILL,SANDY SILTY GRAVEL 0.50m-3.00m SANDY SILTY CLAY,DARK BROWN 3.00m-3.50m CLAY SANDY SILTY,STIFF,LOW PLASTICITY 3.50m-6.00m CLAY SANDY,BROWN,GREY,SOFT,LOW PLAST.	1945m	North East
GW306683	0.00m-0.80m FILL,SILTY GRAVEL,LIGHT BROWN LOOSE 0.80m-3.00m SILTY CLAY DARK BROWN 3.00m-3.90m SILTY CLAY, LOW PLASTICITY,SAND 3.90m-6.00m SANDY CLAY,BROWN/GREY,SOFT	1951m	North East

Drill Log Data Source: NSW Department of Primary Industries - Office of Water / Water Administration Ministerial Corp
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Geology

Murwillumbah High School, 86 Riverview Street, Murwillumbah, NSW 2484



Data Sources: Property Boundaries & Topographic Data: © Department Finance, Services & Innovation 2021

Coordinate System: GDA 1994 MGA Zone 56

Date: 26 April 2021

Geology

Murwillumbah High School, 86 Riverview Street, Murwillumbah, NSW 2484

Geological Units 1:250,000

What are the Geological Units within the dataset buffer?

Symbol	Description	Unit Name	Group	Sub Group	Age	Dist	Dir
Cnx	Feldspathic & lithic meta-arenite, metaSiltstone, chert, jasper, basic meta- volcanics, conglomerate. They are a thick sequence of proximal to distal turbidites with structurally intercalated or stratigraphically underlying chert, jasper & metabasalt	Neranleigh-Fernvale beds				0m	On-site
Qa	Undifferentiated alluvial deposits; sand, silt, clay and gravel; some residual and colluvial deposits. Includes some channel, levee, lacustrine, flooplain and swamp deposits. May include some higher level Tertiary terraces				Cainozoic	0m	On-site

Geological Structures 1:250,000

What are the Geological Structures within the dataset buffer?

Feature	Name	Description	Map Sheet	Distance	Direction
N/A	No records in buffer				

Geological Data Source : NSW Department of Industry, Resources & Energy
© State of New South Wales through the NSW Department of Industry, Resources & Energy

Naturally Occurring Asbestos Potential

Murwillumbah High School, 86 Riverview Street, Murwillumbah, NSW 2484

Naturally Occurring Asbestos Potential

Naturally Occurring Asbestos Potential within the dataset buffer:

Potential	Sym	Strat Name	Group	Formation	Scale	Min Age	Max Age	Rock Type	Dom Lith	Description	Dist	Dir
No records in buffer												

Naturally Occurring Asbestos Potential Data Source: © State of New South Wales through NSW Department of Industry, Resources & Energy

Atlas of Australian Soils

Murwillumbah High School, 86 Riverview Street, Murwillumbah, NSW 2484



Soils

Murwillumbah High School, 86 Riverview Street, Murwillumbah, NSW 2484

Atlas of Australian Soils

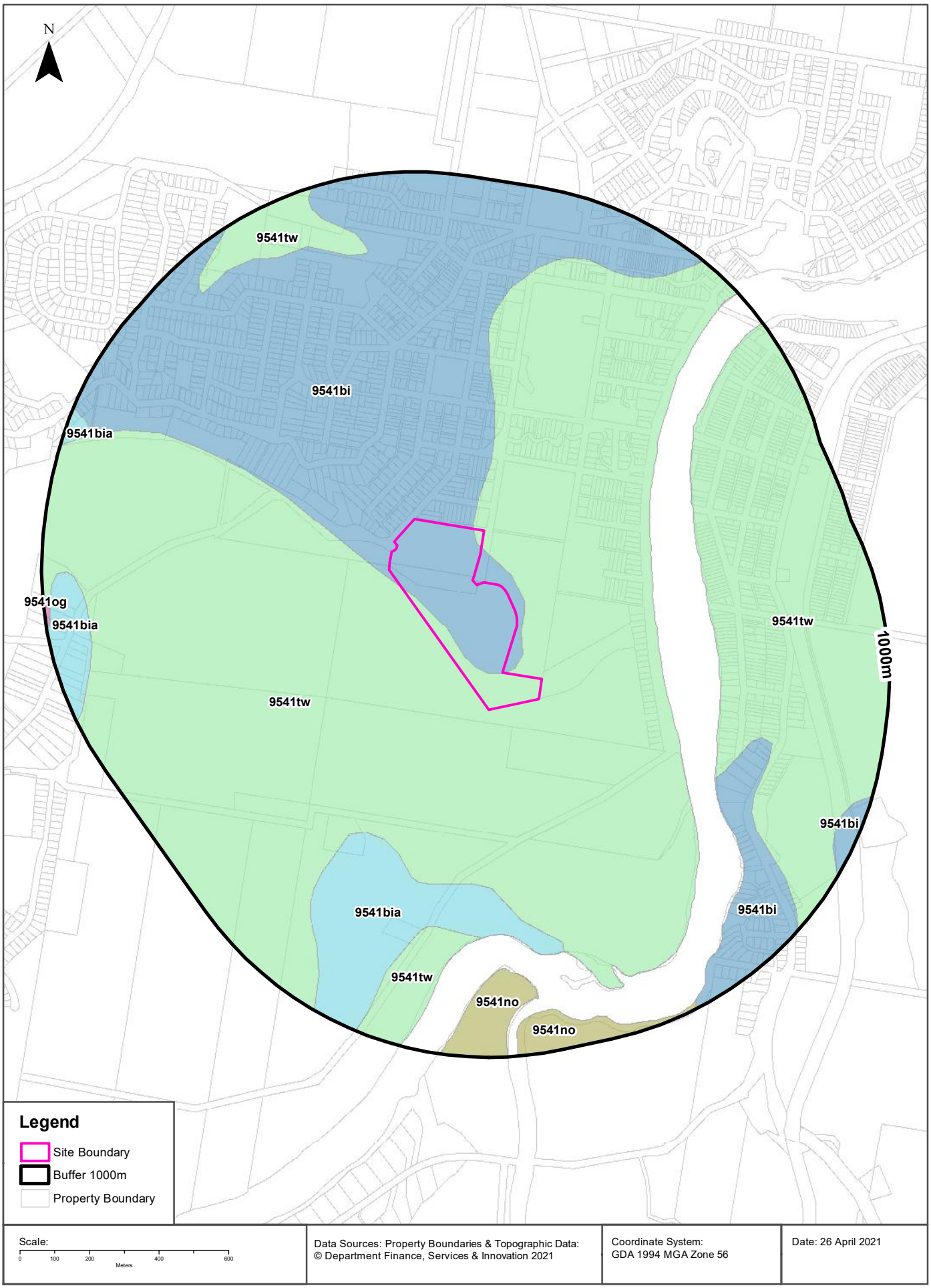
Soil mapping units and Australian Soil Classification orders within the dataset buffer:

Map Unit Code	Soil Order	Map Unit Description	Distance	Direction
NY1	Hydrosol	Coastal plains, generally low lying, poorly drained, and subject to flooding (lower and middle reaches of river flood-plains, swamps, estuarine areas, and tidal marshes): chief soils seem to be friable acidic gley soils (Dg4.11), (Dg4.41), and (Dg4.81); friable acidic yellow mottled soils (Dy5.11); leached sand soils (Uc2.2) and/or (Uc2.3); and sandy acidic yellow mottled soils (Dy5.61), (Dy5.41), and (Dy5.81) in a complex and not well-known pattern, generally as follows: (i) flat to gently sloping areas of (Dg4.11), (Dg4.41), and (Dg4.81) or (Dy5.11), and/or (Ug5.16) and (Ug5.4), with some (Dd3.11) and (Uf6.41); (ii) sandy flats and swamps of (Uc2.2), and/or (Uc2.3), and/or acid peats (0); and (iii) slightly raised sandy areas of (Dy5.61), (Dy5.41), and (Dy5.81) with (Uc2.2) and (Uc4.2). Small areas of units NY2 (Sheet 3) and B9 are included.	0m	On-site
Mf5	Dermosol	Hilly to steep hilly with narrow valleys along the streams: moderate to steep slopes of yellow leached friable earths (Gn3.74) and (Gn3.84) with red friable earths (Gn3.14) often codominant. Associated are: shallow soils such as (Um4.1 and Um4.2), and (Uc4.1) on hill crests and upper slopes; (Dr2.21), (Dy3.21), and related soils on the drier more exposed mid to lower slopes; and some areas of (Gn2.14) soils and minor occurrences of other undescribed soils. The whole area is traversed by narrow valleys or variable soils, largely undescribed but including (Um6.11) on terraces and (Dg4) and (Dy5) on flood-plains.	355m	South

Atlas of Australian Soils Data Source: CSIRO
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Soil Landscapes of Central and Eastern NSW

Murwillumbah High School, 86 Riverview Street, Murwillumbah, NSW 2484



Soils

Murwillumbah High School, 86 Riverview Street, Murwillumbah, NSW 2484

Soil Landscapes of Central and Eastern NSW

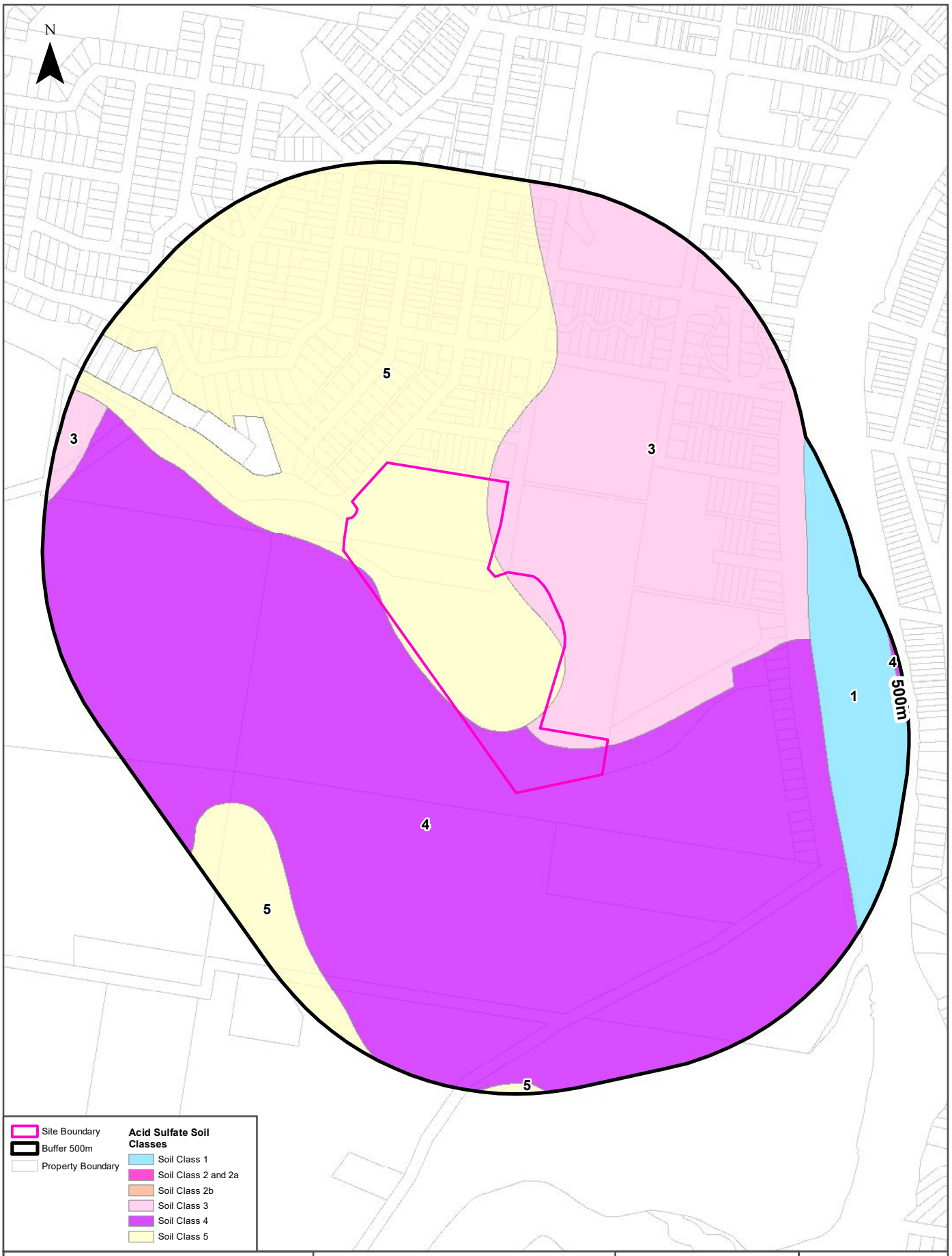
Soil Landscapes of Central and Eastern NSW within the dataset buffer:

Soil Code	Name	Distance	Direction
9541bi	Billinudgel	0m	On-site
9541tw	Tweed	0m	On-site
9541bia	Billinudgel variant a	481m	South
9541no	Nobbys Creek	745m	South
9541og	Ophir Glen	979m	West

Soil Landscapes of Central and Eastern NSW: NSW Department of Planning, Industry and Environment
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Acid Sulfate Soils

Murwillumbah High School, 86 Riverview Street, Murwillumbah, NSW 2484



Scale: 0 100 200 400 Meters	Data Sources: Property Boundaries & Topographic Data: © Department Finance, Services & Innovation 2021	Coordinate System: GDA 1994 MGA Zone 56	Date: 26 April 2021

Acid Sulfate Soils

Murwillumbah High School, 86 Riverview Street, Murwillumbah, NSW 2484

Environmental Planning Instrument - Acid Sulfate Soils

What is the on-site Acid Sulfate Soil Plan Class that presents the largest environmental risk?

Soil Class	Description	EPI Name
3	Works more than 1 metre below natural ground surface present an environmental risk; Works by which the watertable is likely to be lowered more than 1 metre below natural ground surface, present an environmental risk	Tweed Local Environmental Plan 2014

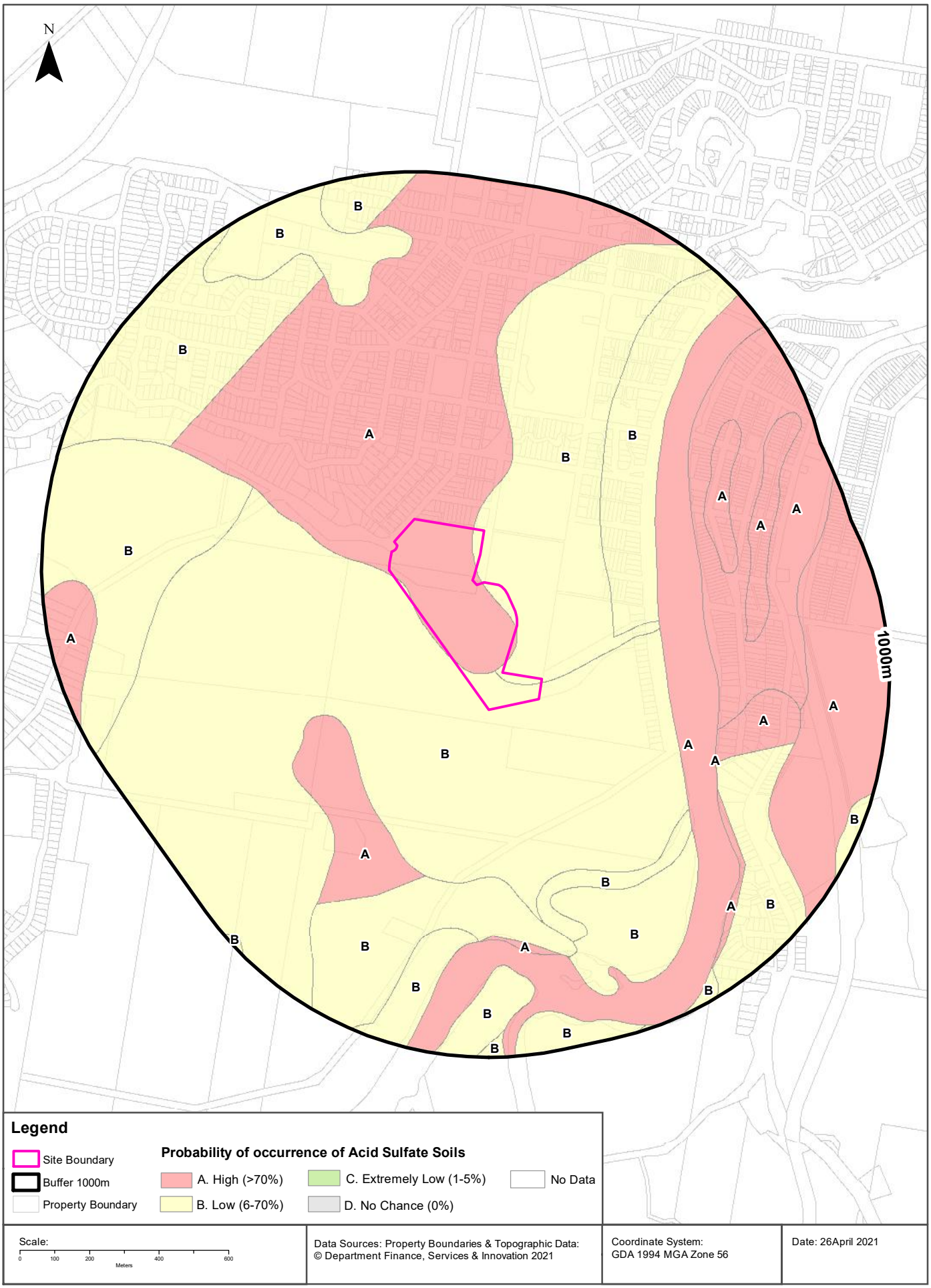
If the on-site Soil Class is 5, what other soil classes exist within 500m?

Soil Class	Description	EPI Name	Distance	Direction
N/A				

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Atlas of Australian Acid Sulfate Soils

Murwillumbah High School, 86 Riverview Street, Murwillumbah, NSW 2484



Acid Sulfate Soils

Murwillumbah High School, 86 Riverview Street, Murwillumbah, NSW 2484

Atlas of Australian Acid Sulfate Soils

Atlas of Australian Acid Sulfate Soil categories within the dataset buffer:

Class	Description	Distance	Direction
A	High Probability of occurrence. >70% chance of occurrence.	0m	On-site
B	Low Probability of occurrence. 6-70% chance of occurrence.	0m	On-site

Atlas of Australian Acid Sulfate Soils Data Source: CSIRO
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Dryland Salinity

Murwillumbah High School, 86 Riverview Street, Murwillumbah, NSW 2484

Dryland Salinity - National Assessment

Is there Dryland Salinity - National Assessment data onsite?

No

Is there Dryland Salinity - National Assessment data within the dataset buffer?

No

What Dryland Salinity assessments are given?

Assessment 2000	Assessment 2020	Assessment 2050	Distance	Direction
N/A	N/A	N/A		

Dryland Salinity Data Source : National Land and Water Resources Audit
The Commonwealth and all suppliers of source data used to derive the maps of "Australia, Forecast Areas Containing Land of High Hazard or Risk of Dryland Salinity from 2000 to 2050" do not warrant the accuracy or completeness of information in this product. Any person using or relying upon such information does so on the basis that the Commonwealth and data suppliers shall bear no responsibility or liability whatsoever for any errors, faults, defects or omissions in the information. Any persons using this information do so at their own risk.
In many cases where a high risk is indicated, less than 100% of the area will have a high hazard or risk.

Mining

Murwillumbah High School, 86 Riverview Street, Murwillumbah, NSW 2484

Mining Subsidence Districts

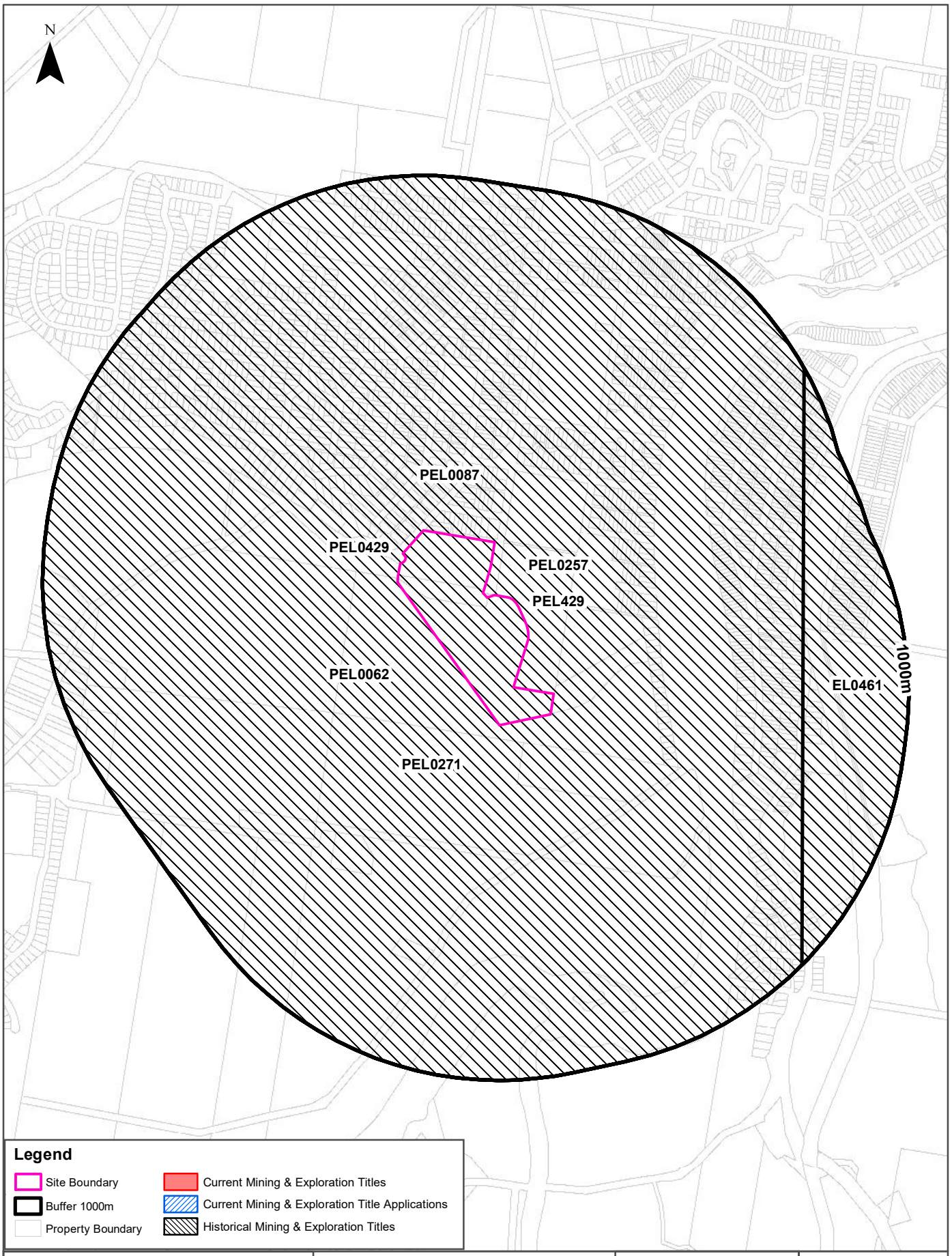
Mining Subsidence Districts within the dataset buffer:

District	Distance	Direction
There are no Mining Subsidence Districts within the report buffer		

Mining Subsidence District Data Source: © Land and Property Information (2016)
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Mining & Exploration Titles

Murwillumbah High School, 86 Riverview Street, Murwillumbah, NSW 2484



Mining

Murwillumbah High School, 86 Riverview Street, Murwillumbah, NSW 2484

Current Mining & Exploration Titles

Current Mining & Exploration Titles within the dataset buffer:

Title Ref	Holder	Grant Date	Expiry Date	Last Renewed	Operation	Resource	Minerals	Dist	Dir
N/A	No records in buffer								

Current Mining & Exploration Titles Data Source: © State of New South Wales through NSW Department of Industry

Current Mining & Exploration Title Applications

Current Mining & Exploration Title Applications within the dataset buffer:

Application Ref	Applicant	Application Date	Operation	Resource	Minerals	Dist	Dir
N/A	No records in buffer						

Current Mining & Exploration Title Applications Data Source: © State of New South Wales through NSW Department of Industry

Mining

Murwillumbah High School, 86 Riverview Street, Murwillumbah, NSW 2484

Historical Mining & Exploration Titles

Historical Mining & Exploration Titles within the dataset buffer:

Title Ref	Holder	Start Date	End Date	Resource	Minerals	Dist	Dir
PEL0257	OIL AND MINERALS QUEST NL	3/12/1980		PETROLEUM	Petroleum	0m	On-site
PEL0087	NATIONAL OIL HOLDINGS LTD, ALLIANCE OIL DEVELOPMENT AUSTRALIA NL			PETROLEUM	Petroleum	0m	On-site
PEL0429	SUNOCO INC	26/10/1999	13/11/2002	PETROLEUM	Petroleum	0m	On-site
PEL0062	MID-EASTERN OIL			PETROLEUM	Petroleum	0m	On-site
PEL0271	BASE RESOURCES LTD, EDGEWORTH MINERALS LTD	10/05/1984	9/05/1986	PETROLEUM	Petroleum	0m	On-site
PEL429	SUNOCO INC.			MINERALS		0m	On-site
EL0461	PLANET METALS LIMITED	01 Jun 1971	01 Dec 1972	MINERALS	Ti Fe Th Heavy mineral sands Zircon	701m	East

Historical Mining & Exploration Titles Data Source: © State of New South Wales through NSW Department of Industry

State Environmental Planning Policy

Murwillumbah High School, 86 Riverview Street, Murwillumbah, NSW 2484

State Significant Precincts

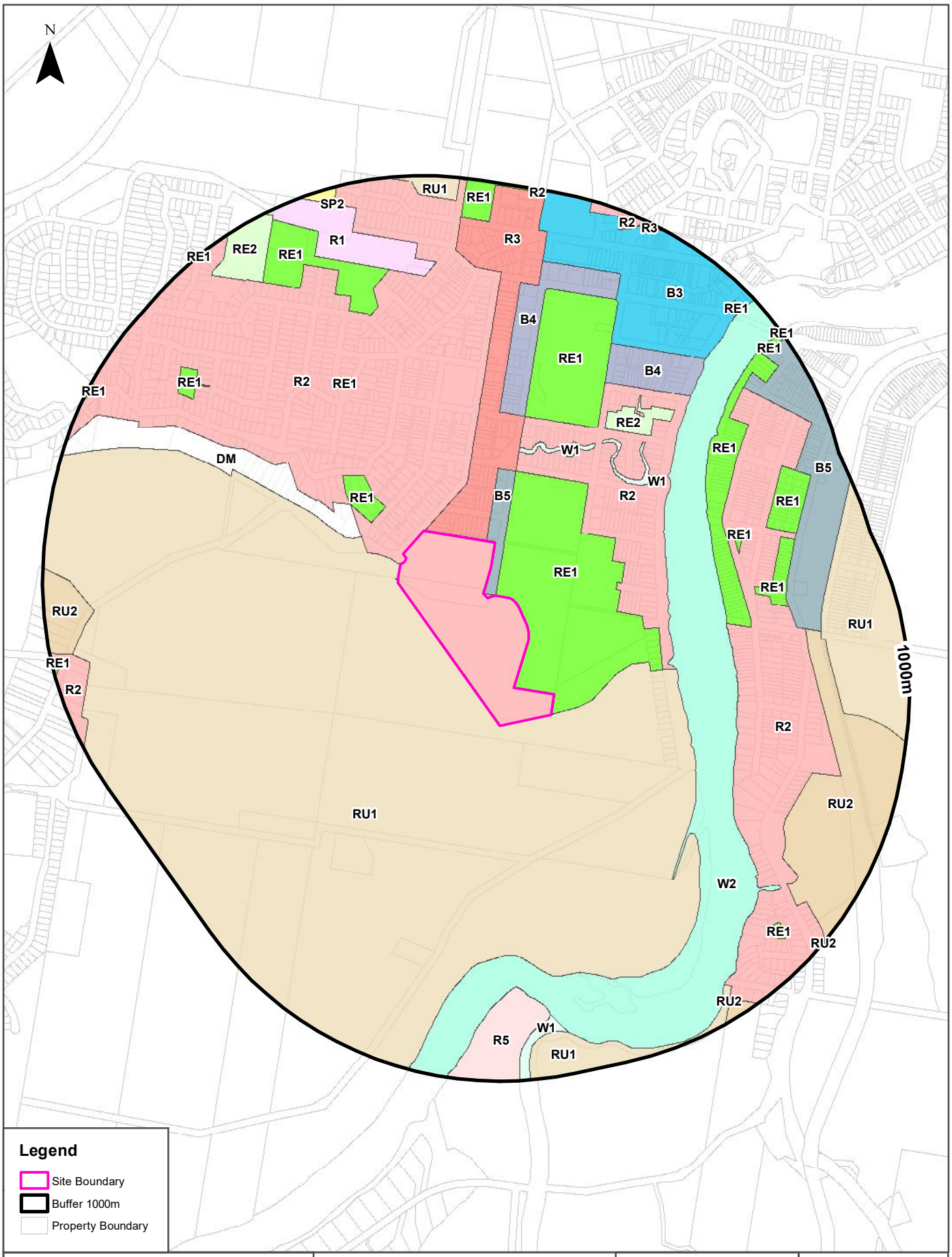
What SEPP State Significant Precincts exist within the dataset buffer?

Map Id	Precinct	EPI Name	Published Date	Commenced Date	Currency Date	Amendment	Distance	Direction
N/A	No records in buffer							

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EPI Planning Zones

Murwillumbah High School, 86 Riverview Street, Murwillumbah, NSW 2484



Environmental Planning Instrument

Murwillumbah High School, 86 Riverview Street, Murwillumbah, NSW 2484

Land Zoning

What EPI Land Zones exist within the dataset buffer?

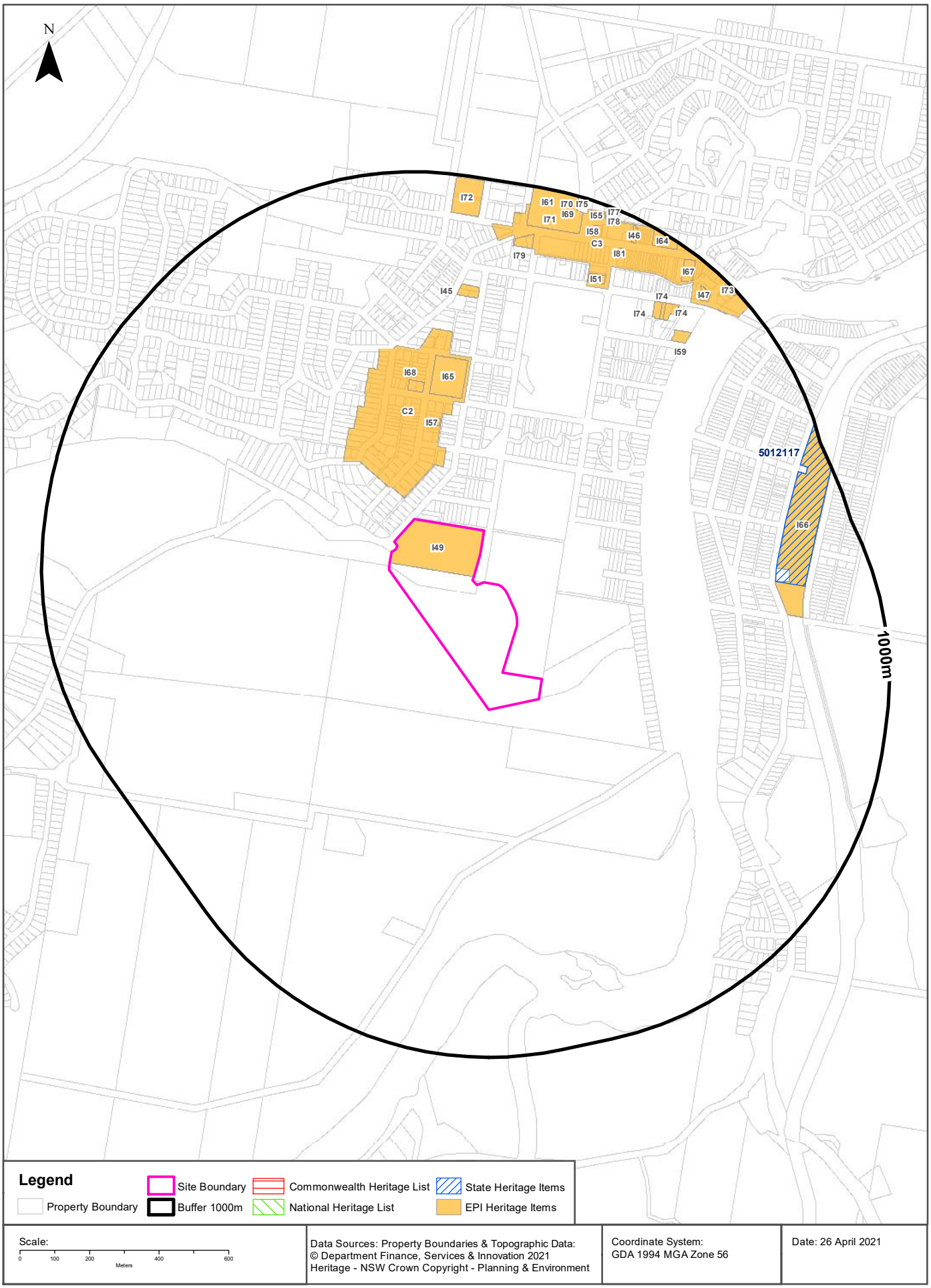
Zone	Description	Purpose	EPI Name	Published Date	Commenced Date	Currency Date	Amendment	Distance	Direction
R2	Low Density Residential		Tweed Local Environmental Plan 2014	13/05/2016	13/05/2016	19/02/2021	Amendment No 13	0m	On-site
R3	Medium Density Residential		Tweed Local Environmental Plan 2014	04/04/2014	04/04/2014	19/02/2021		0m	North
RE1	Public Recreation		Tweed Local Environmental Plan 2014	04/04/2014	04/04/2014	19/02/2021		0m	East
B5	Business Development		Tweed Local Environmental Plan 2014	04/04/2014	04/04/2014	19/02/2021		0m	North
RU1	Primary Production		Tweed Local Environmental Plan 2014	04/04/2014	04/04/2014	19/02/2021		0m	South West
RE1	Public Recreation		Tweed Local Environmental Plan 2014	04/04/2014	04/04/2014	19/02/2021		126m	North West
DM	Deferred Matter		Tweed Local Environmental Plan 2014	04/04/2014	04/04/2014	19/02/2021		128m	North West
R2	Low Density Residential		Tweed Local Environmental Plan 2014	04/04/2014	04/04/2014	19/02/2021		207m	North East
W1	Natural Waterways		Tweed Local Environmental Plan 2014	04/04/2014	04/04/2014	19/02/2021		263m	North East
W2	Recreational Waterways		Tweed Local Environmental Plan 2014	04/04/2014	04/04/2014	19/02/2021		331m	South East
B4	Mixed Use		Tweed Local Environmental Plan 2014	04/04/2014	04/04/2014	19/02/2021		364m	North
RE1	Public Recreation		Tweed Local Environmental Plan 2014	04/04/2014	04/04/2014	19/02/2021		365m	North
W1	Natural Waterways		Tweed Local Environmental Plan 2014	04/04/2014	04/04/2014	19/02/2021		386m	North East
RE2	Private Recreation		Tweed Local Environmental Plan 2014	04/04/2014	04/04/2014	19/02/2021		442m	North East
RE1	Public Recreation		Tweed Local Environmental Plan 2014	04/04/2014	04/04/2014	19/02/2021		460m	North West
R2	Low Density Residential		Tweed Local Environmental Plan 2014	04/04/2014	04/04/2014	19/02/2021		513m	East
RE1	Public Recreation		Tweed Local Environmental Plan 2014	18/01/2019	18/01/2019	19/02/2021	Amendment No 10	524m	North East
B4	Mixed Use		Tweed Local Environmental Plan 2014	04/04/2014	04/04/2014	19/02/2021		545m	North East
RE1	Public Recreation		Tweed Local Environmental Plan 2014	04/04/2014	04/04/2014	19/02/2021		624m	North West
RE1	Public Recreation		Tweed Local Environmental Plan 2014	04/04/2014	04/04/2014	19/02/2021		628m	East
RE1	Public Recreation		Tweed Local Environmental Plan 2014	04/04/2014	04/04/2014	19/02/2021		631m	East
B3	Commercial Core		Tweed Local Environmental Plan 2014	04/04/2014	04/04/2014	19/02/2021		645m	North East
B5	Business Development		Tweed Local Environmental Plan 2014	18/01/2019	18/01/2019	19/02/2021	Amendment No 10	704m	East
R1	General Residential		Tweed Local Environmental Plan 2014	04/04/2014	04/04/2014	19/02/2021		717m	North
RE1	Public Recreation		Tweed Local Environmental Plan 2014	04/04/2014	04/04/2014	19/02/2021		720m	North West
RU2	Rural Landscape		Tweed Local Environmental Plan 2014	23/08/2019	23/08/2019	19/02/2021	Amendment No 23	721m	South East
RE1	Public Recreation		Tweed Local Environmental Plan 2014	04/04/2014	04/04/2014	19/02/2021		725m	East
R5	Large Lot Residential		Tweed Local Environmental Plan 2014	04/04/2014	04/04/2014	19/02/2021		737m	South

Zone	Description	Purpose	EPI Name	Published Date	Commenced Date	Currency Date	Amendment	Distance	Direction
RU1	Primary Production		Tweed Local Environmental Plan 2014	04/04/2014	04/04/2014	19/02/2021		767m	East
W1	Natural Waterways		Tweed Local Environmental Plan 2014	04/04/2014	04/04/2014	19/02/2021		824m	South
RE2	Private Recreation		Tweed Local Environmental Plan 2014	04/04/2014	04/04/2014	19/02/2021		835m	North West
RU2	Rural Landscape		Tweed Local Environmental Plan 2014	04/04/2014	04/04/2014	19/02/2021		859m	West
RE1	Public Recreation		Tweed Local Environmental Plan 2014	04/04/2014	04/04/2014	19/02/2021		860m	South East
RU1	Primary Production		Tweed Local Environmental Plan 2014	04/04/2014	04/04/2014	19/02/2021		874m	South
RE1	Public Recreation		Tweed Local Environmental Plan 2014	04/04/2014	04/04/2014	19/02/2021		886m	North
RU1	Primary Production		Tweed Local Environmental Plan 2014	04/04/2014	04/04/2014	19/02/2021		934m	North
RE1	Public Recreation		Tweed Local Environmental Plan 2014	04/04/2014	04/04/2014	19/02/2021		934m	North East
RE1	Public Recreation		Tweed Local Environmental Plan 2014	04/04/2014	04/04/2014	19/02/2021		939m	North East
R2	Low Density Residential		Tweed Local Environmental Plan 2014	04/04/2014	04/04/2014	19/02/2021		944m	North
SP2	Infrastructure	Sewerage System	Tweed Local Environmental Plan 2014	04/04/2014	04/04/2014	19/02/2021		954m	North
RE1	Public Recreation		Tweed Local Environmental Plan 2014	04/04/2014	04/04/2014	19/02/2021		973m	West
R3	Medium Density Residential		Tweed Local Environmental Plan 2014	04/04/2014	04/04/2014	19/02/2021		973m	North East
RE1	Public Recreation		Tweed Local Environmental Plan 2014	04/04/2014	04/04/2014	19/02/2021		979m	North West
RE1	Public Recreation		Tweed Local Environmental Plan 2014	04/04/2014	04/04/2014	19/02/2021		995m	North East
RE1	Public Recreation		Tweed Local Environmental Plan 2014	04/04/2014	04/04/2014	19/02/2021		999m	North West

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Heritage Items

Murwillumbah High School, 86 Riverview Street, Murwillumbah, NSW 2484



Heritage

Murwillumbah High School, 86 Riverview Street, Murwillumbah, NSW 2484

Commonwealth Heritage List

What are the Commonwealth Heritage List Items located within the dataset buffer?

Place Id	Name	Address	Place File No	Class	Status	Register Date	Distance	Direction
N/A	No records in buffer							

Heritage Data Source: Australian Government Department of the Environment and Energy - Heritage Branch
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National Heritage List

What are the National Heritage List Items located within the dataset buffer?
Note. Please click on Place Id to activate a hyperlink to online website.

Place Id	Name	Address	Place File No	Class	Status	Register Date	Distance	Direction
N/A	No records in buffer							

Heritage Data Source: Australian Government Department of the Environment and Energy - Heritage Branch
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State Heritage Register - Curtilages

What are the State Heritage Register Items located within the dataset buffer?

Map Id	Name	Address	LGA	Listing Date	Listing No	Plan No	Distance	Direction
5012117	Murwillumbah Railway Station & yard Group	Casino-Murwillumbah railway, Murwillumbah	TWEED	02/04/1999	01206	2771	728m	East

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Environmental Planning Instrument - Heritage

What are the EPI Heritage Items located within the dataset buffer?

Map Id	Name	Classification	Significance	EPI Name	Published Date	Commenced Date	Currency Date	Distance	Direction
I49	Murwillumbah High School (Block A)	Item - General	Local	Tweed Local Environmental Plan 2014	04/04/2014	04/04/2014	04/04/2014	0m	On-site
C2	Hartigans Hill Conservation Area - Murwillumbah	Conservation Area - General	Local	Tweed Local Environmental Plan 2014	04/04/2014	04/04/2014	04/04/2014	68m	North
I57	'Goldsborough' Residence	Item - General	Local	Tweed Local Environmental Plan 2014	04/04/2014	04/04/2014	04/04/2014	274m	North

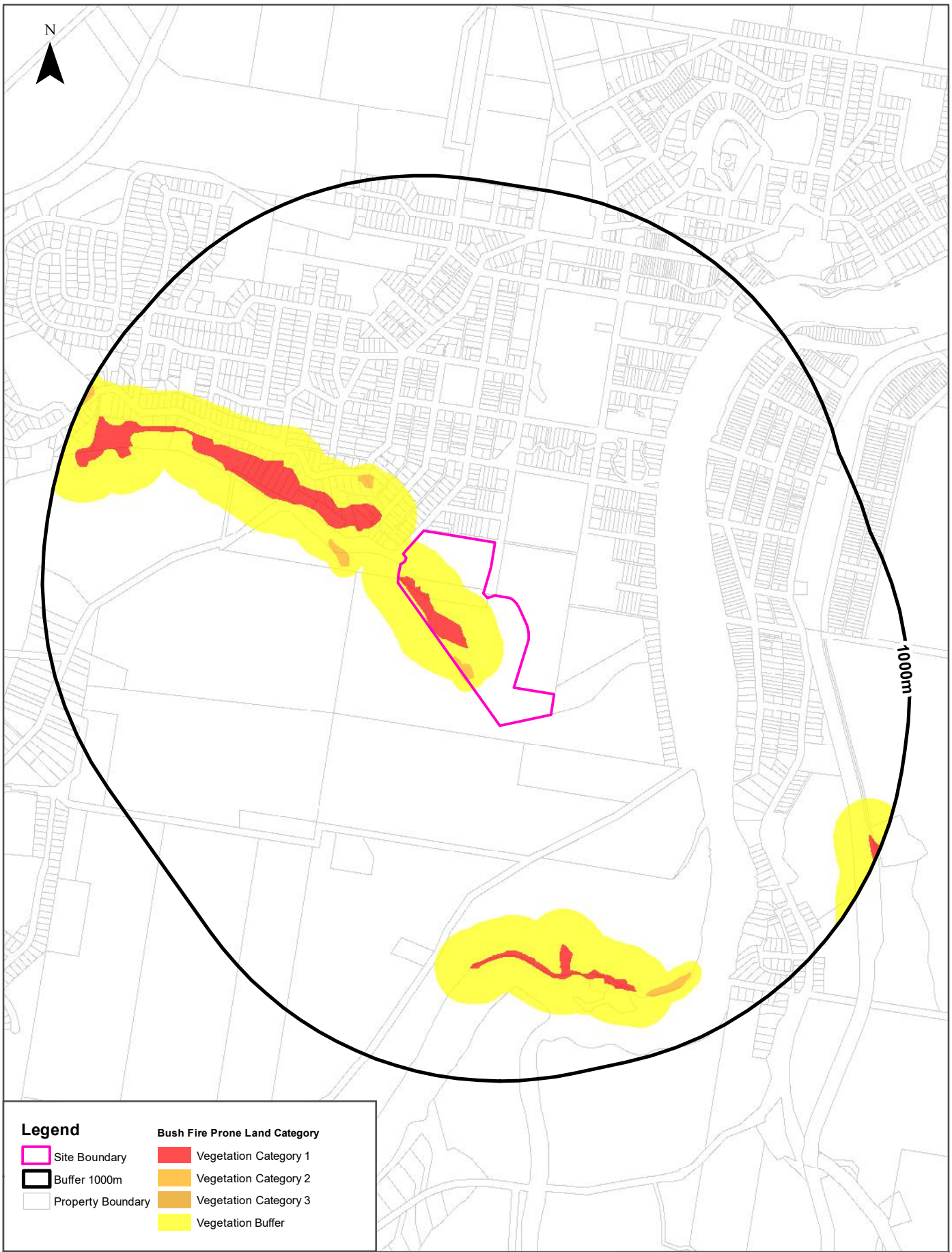
Map Id	Name	Classification	Significance	EPI Name	Published Date	Commenced Date	Currency Date	Distance	Direction
I65	Murwillumbah Public School 1911 Block	Item - General	Local	Tweed Local Environmental Plan 2014	04/04/2014	04/04/2014	04/04/2014	364m	North
I68	Residence	Item - General	Local	Tweed Local Environmental Plan 2014	04/04/2014	04/04/2014	04/04/2014	366m	North
I45	All Saints Anglican Church	Item - General	Local	Tweed Local Environmental Plan 2014	04/04/2014	04/04/2014	04/04/2014	657m	North
I66	Murwillumbah Railway Station and Yard Group	Item - General	State	Tweed Local Environmental Plan 2014	04/04/2014	04/04/2014	04/04/2014	724m	East
C3	Murwillumbah Main Street Conservation Area	Conservation Area - General	Local	Tweed Local Environmental Plan 2014	04/04/2014	04/04/2014	04/04/2014	762m	North East
I59	Kingsford Flats	Item - General	Local	Tweed Local Environmental Plan 2014	04/04/2014	04/04/2014	04/04/2014	764m	North East
I51	Commercial Premises former Regent Theatre	Item - General	Local	Tweed Local Environmental Plan 2014	04/04/2014	04/04/2014	04/04/2014	774m	North
I74	St Andrew's Presbyterian Church and Hall	Item - General	Local	Tweed Local Environmental Plan 2014	04/04/2014	04/04/2014	04/04/2014	780m	North East
I74	St Andrew's Presbyterian Church and Hall	Item - General	Local	Tweed Local Environmental Plan 2014	04/04/2014	04/04/2014	04/04/2014	788m	North East
I74	St Andrew's Presbyterian Church and Hall	Item - General	Local	Tweed Local Environmental Plan 2014	04/04/2014	04/04/2014	04/04/2014	793m	North East
I79	Uniting Church and Hall	Item - General	Local	Tweed Local Environmental Plan 2014	04/04/2014	04/04/2014	04/04/2014	820m	North
I81	Westpac Bank	Item - General	Local	Tweed Local Environmental Plan 2014	04/04/2014	04/04/2014	04/04/2014	874m	North East
I70	Sacred Heart Roman Catholic Church Group	Item - General	Local	Tweed Local Environmental Plan 2014	04/04/2014	04/04/2014	04/04/2014	885m	North
I71	Sacred Heart Roman Catholic Convent	Item - General	Local	Tweed Local Environmental Plan 2014	04/04/2014	04/04/2014	04/04/2014	885m	North
I69	Roman Catholic Presbytery	Item - General	Local	Tweed Local Environmental Plan 2014	04/04/2014	04/04/2014	04/04/2014	885m	North
I61	Mt St Patrick's Roman Catholic Church	Item - General	Local	Tweed Local Environmental Plan 2014	04/04/2014	04/04/2014	04/04/2014	885m	North
I72	Sacred Park Memorial	Item - General	Local	Tweed Local Environmental Plan 2014	04/04/2014	04/04/2014	04/04/2014	886m	North
I58	Government Offices	Item - General	Local	Tweed Local Environmental Plan 2014	04/04/2014	04/04/2014	04/04/2014	901m	North
I47	Austral Building	Item - General	Local	Tweed Local Environmental Plan 2014	04/04/2014	04/04/2014	04/04/2014	906m	North East
I67	National Australia Bank Building	Item - General	Local	Tweed Local Environmental Plan 2014	04/04/2014	04/04/2014	04/04/2014	911m	North East
I46	ANZ Bank	Item - General	Local	Tweed Local Environmental Plan 2014	04/04/2014	04/04/2014	04/04/2014	930m	North East
I55	Eungella War Memorial Roll	Item - General	Local	Tweed Local Environmental Plan 2014	04/04/2014	04/04/2014	04/04/2014	944m	North
I78	Tweed Shire Council Chambers (Former)	Item - General	Local	Tweed Local Environmental Plan 2014	04/04/2014	04/04/2014	04/04/2014	944m	North
I77	Tweed River Museum	Item - General	Local	Tweed Local Environmental Plan 2014	04/04/2014	04/04/2014	04/04/2014	944m	North

Map Id	Name	Classification	Significance	EPI Name	Published Date	Commenced Date	Currency Date	Distance	Direction
I75	Steam Engine	Item - General	Local	Tweed Local Environmental Plan 2014	04/04/2014	04/04/2014	04/04/2014	944m	North
I64	Murwillumbah Police Station and Courthouse Group (Including all trees and spaces between, and in fro	Item - General	Local	Tweed Local Environmental Plan 2014	04/04/2014	04/04/2014	04/04/2014	950m	North East
I73	Southern Cross Credit Union	Item - General	Local	Tweed Local Environmental Plan 2014	04/04/2014	04/04/2014	04/04/2014	983m	North East

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Natural Hazards - Bush Fire Prone Land

Murwillumbah High School, 86 Riverview Street, Murwillumbah, NSW 2484



Data Sources: Bush Fire Prone Land: © NSW Rural Fire Service 2021. Property Boundaries: © Department Finance, Services & Innovation 2021

Coordinate System: GDA 1994 MGA Zone 56

Date: 26 April 2021

Natural Hazards

Murwillumbah High School, 86 Riverview Street, Murwillumbah, NSW 2484

Bush Fire Prone Land

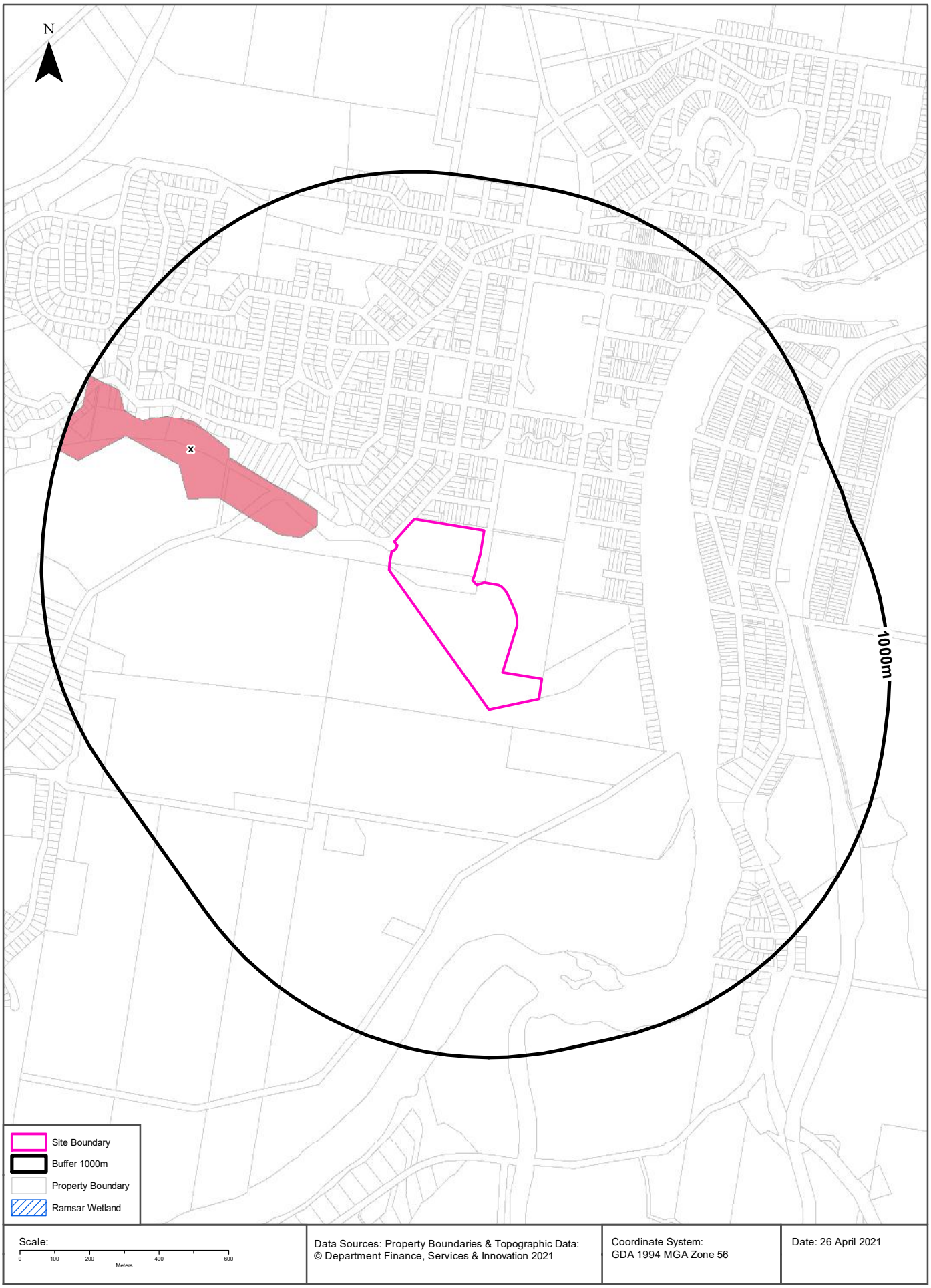
What are the nearest Bush Fire Prone Land Categories that exist within the dataset buffer?

Bush Fire Prone Land Category	Distance	Direction
Vegetation Category 1	0m	On-site
Vegetation Category 2	0m	On-site
Vegetation Buffer	0m	On-site

NSW Bush Fire Prone Land - © NSW Rural Fire Service under Creative Commons 4.0 International Licence

Ecological Constraints - Vegetation & Ramsar Wetlands

Murwillumbah High School, 86 Riverview Street, Murwillumbah, NSW 2484



Ecological Constraints

Murwillumbah High School, 86 Riverview Street, Murwillumbah, NSW 2484

Vegetation - Eastern Bushland Database (North Region)

What Vegetation exists within the dataset buffer?

Veg Code	Veg Desc	NVISCode	NVISDesc	Distance	Direction
x	disturbed forest woodland	23	Disturbed bushland	228m	North West

Vegetation Eastern Bushland Database Data Source: NSW Office of Environment and Heritage
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Ramsar Wetlands

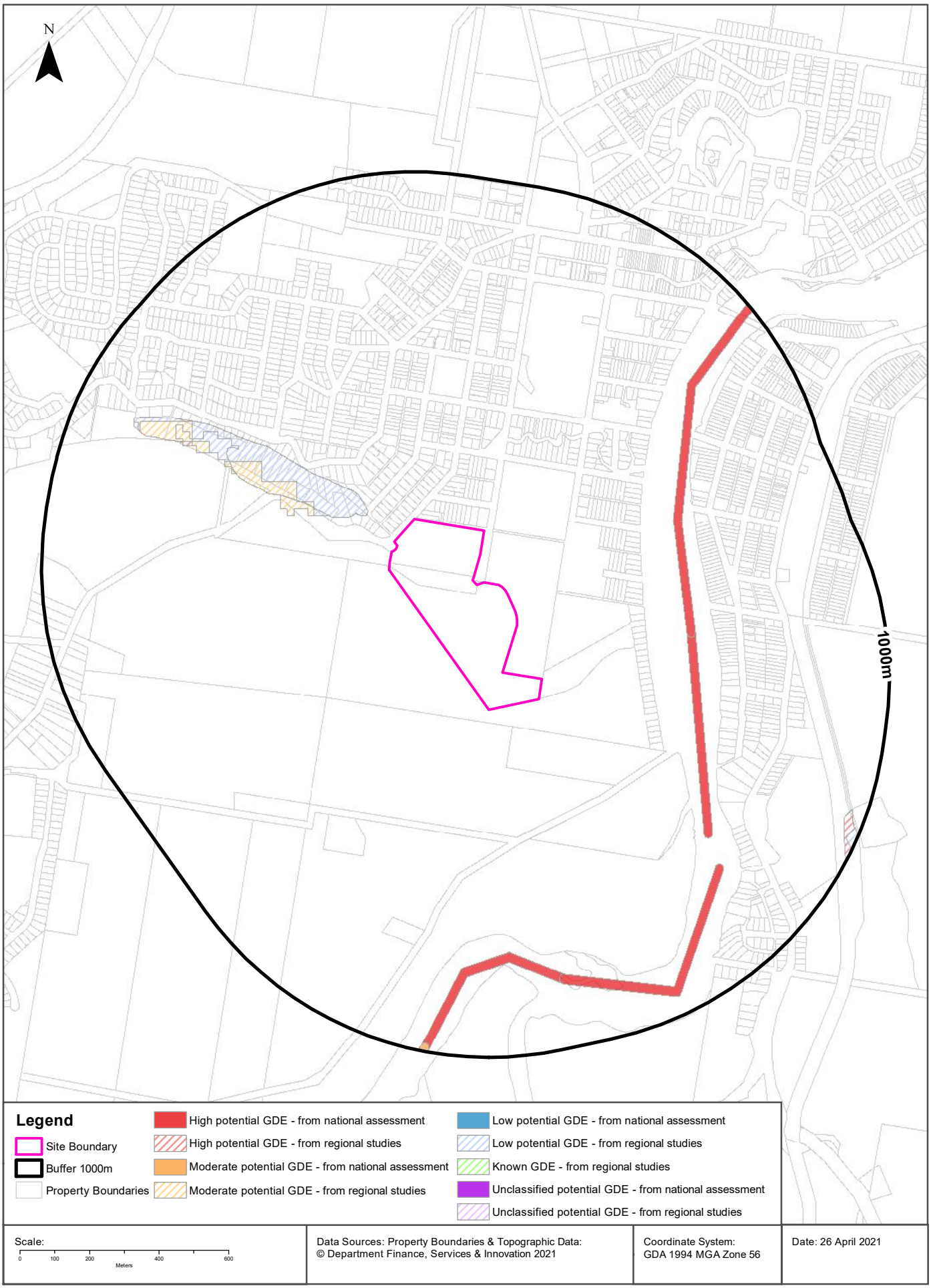
What Ramsar Wetland areas exist within the dataset buffer?

Map Id	Ramsar Name	Wetland Name	Designation Date	Source	Distance	Direction
N/A	No records in buffer					

Ramsar Wetlands Data Source: © Commonwealth of Australia - Department of Agriculture, Water and the Environment

Ecological Constraints - Groundwater Dependent Ecosystems Atlas

Murwillumbah High School, 86 Riverview Street, Murwillumbah, NSW 2484



Ecological Constraints

Murwillumbah High School, 86 Riverview Street, Murwillumbah, NSW 2484

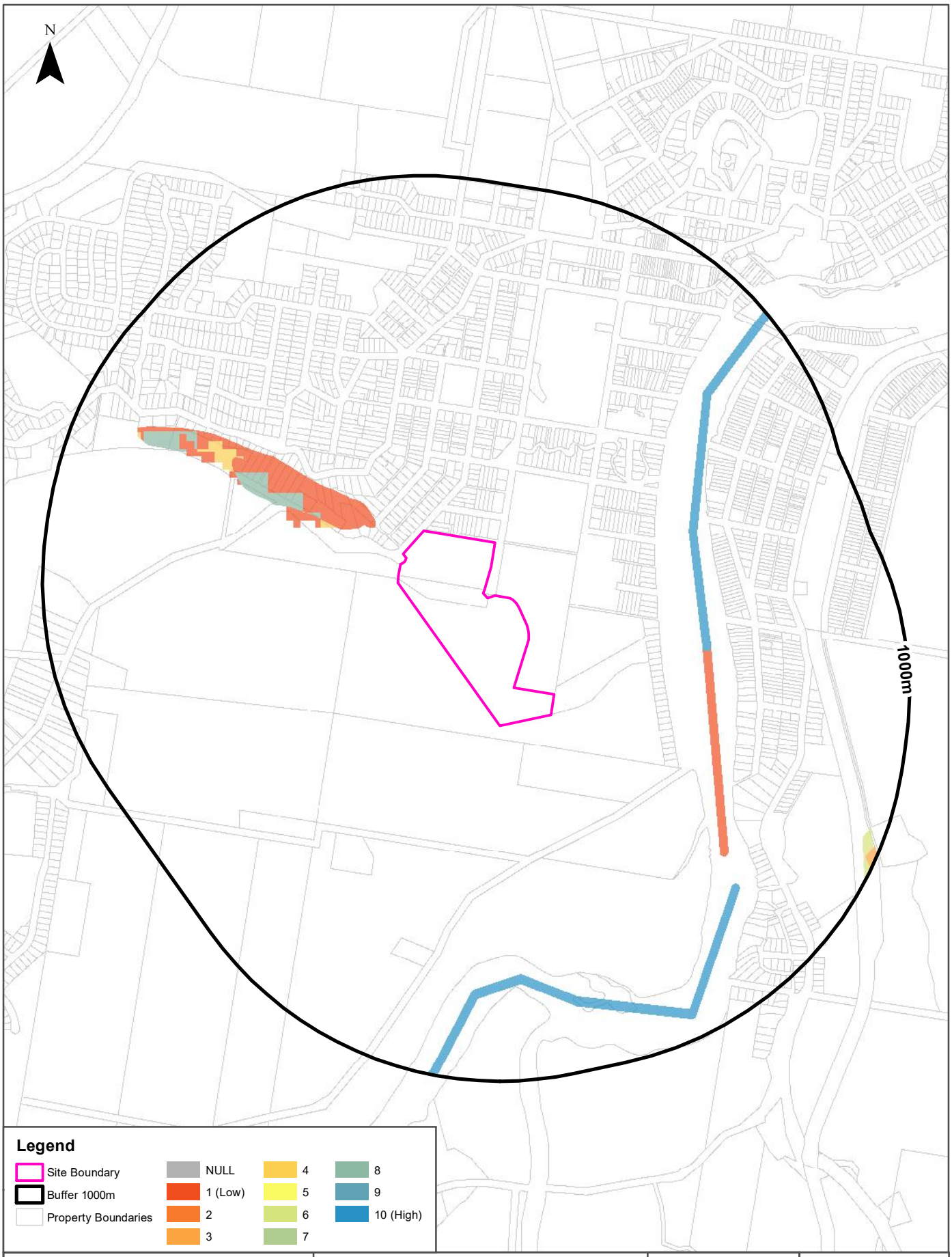
Groundwater Dependent Ecosystems Atlas

Type	GDE Potential	Geomorphology	Ecosystem Type	Aquifer Geology	Distance	Direction
Terrestrial	Low potential GDE - from regional studies	Baslatic plateau terminating southeast in dissected volcanic pile (Mount Warning).	Vegetation		111m	North West
Terrestrial	Moderate potential GDE - from regional studies	Baslatic plateau terminating southeast in dissected volcanic pile (Mount Warning).	Vegetation		244m	North West
Terrestrial	Moderate potential GDE - from regional studies	Undulating granitic plateau with higher residuals including basalt cappings.	Vegetation		252m	North West
Aquatic	High potential GDE - from national assessment	Baslatic plateau terminating southeast in dissected volcanic pile (Mount Warning).	River		426m	South East
Terrestrial	High potential GDE - from regional studies	Baslatic plateau terminating southeast in dissected volcanic pile (Mount Warning).	Vegetation		643m	North West
Aquatic	Moderate potential GDE - from national assessment	Baslatic plateau terminating southeast in dissected volcanic pile (Mount Warning).	River		978m	South

Groundwater Dependent Ecosystems Atlas Data Source: The Bureau of Meteorology
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Ecological Constraints - Inflow Dependent Ecosystems Likelihood

Murwillumbah High School, 86 Riverview Street, Murwillumbah, NSW 2484



Ecological Constraints

Murwillumbah High School, 86 Riverview Street, Murwillumbah, NSW 2484

Inflow Dependent Ecosystems Likelihood

Type	IDE Likelihood	Geomorphology	Ecosystem Type	Aquifer Geology	Distance	Direction
Terrestrial	1	Baslatic plateau terminating southeast in dissected volcanic pile (Mount Warning).	Vegetation		111m	North West
Terrestrial	4	Baslatic plateau terminating southeast in dissected volcanic pile (Mount Warning).	Vegetation		200m	North West
Terrestrial	8	Undulating granitic plateau with higher residuals including basalt cappings.	Vegetation		252m	North West
Aquatic	1	Baslatic plateau terminating southeast in dissected volcanic pile (Mount Warning).	River		426m	South East
Aquatic	10	Baslatic plateau terminating southeast in dissected volcanic pile (Mount Warning).	River		436m	North East
Terrestrial	6	Baslatic plateau terminating southeast in dissected volcanic pile (Mount Warning).	Vegetation		673m	South East
Terrestrial	3	Baslatic plateau terminating southeast in dissected volcanic pile (Mount Warning).	Vegetation		968m	South East

Inflow Dependent Ecosystems Likelihood Data Source: The Bureau of Meteorology

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Ecological Constraints

Murwillumbah High School, 86 Riverview Street, Murwillumbah, NSW 2484

NSW BioNet Atlas

Species on the NSW BioNet Atlas that have a NSW or federal conservation status, a NSW sensitivity status, or are listed under a migratory species agreement, and are within 10km of the site?

Kingdom	Class	Scientific	Common	NSW Conservation Status	NSW Sensitivity Class	Federal Conservation Status	Migratory Species Agreements
Animalia	Amphibia	Assa darlingtoni	Pouched Frog	Vulnerable	Not Sensitive	Not Listed	
Animalia	Amphibia	Mixophyes iteratus	Giant Barred Frog	Endangered	Category 2	Endangered	
Animalia	Aves	Amaurornis moluccana	Pale-vented Bush-hen	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Ardenna pacifica	Wedge-tailed Shearwater	Not Listed	Not Sensitive	Not Listed	JAMBA
Animalia	Aves	Burhinus grallarius	Bush Stone-curlew	Endangered	Not Sensitive	Not Listed	
Animalia	Aves	Calyptorhynchus banksii banksii	Red-tailed Black-Cockatoo (coastal subspecies)	Critically Endangered	Category 2	Not Listed	
Animalia	Aves	Calyptorhynchus lathami	Glossy Black-Cockatoo	Vulnerable	Category 2	Not Listed	
Animalia	Aves	Carterornis leucotis	White-eared Monarch	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Circus assimilis	Spotted Harrier	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Coracina lineata	Barred Cuckoo-shrike	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Cuculus optatus	Oriental Cuckoo	Not Listed	Not Sensitive	Not Listed	ROKAMBA;CAMBA; JAMBA
Animalia	Aves	Cyclopsitta diophthalma coxeni	Coxen's Fig-Parrot	Critically Endangered	Category 2	Endangered	
Animalia	Aves	Dasyornis brachypterus	Eastern Bristlebird	Endangered	Category 2	Endangered	
Animalia	Aves	Ephippiorhynchus asiaticus	Black-necked Stork	Endangered	Not Sensitive	Not Listed	
Animalia	Aves	Erythrotriorchis radiatus	Red Goshawk	Critically Endangered	Category 2	Vulnerable	
Animalia	Aves	Esacus magnirostris	Beach Stone-curlew	Critically Endangered	Not Sensitive	Not Listed	
Animalia	Aves	Gallinago hardwickii	Latham's Snipe	Not Listed	Not Sensitive	Not Listed	ROKAMBA;JAMBA
Animalia	Aves	Haliaeetus leucogaster	White-bellied Sea-Eagle	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Hieraaetus morphnoides	Little Eagle	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Hirundapus caudacutus	White-throated Needletail	Not Listed	Not Sensitive	Vulnerable	ROKAMBA;CAMBA; JAMBA
Animalia	Aves	Irediparra gallinacea	Comb-crested Jacana	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Ixobrychus flavicollis	Black Bittern	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Lichenostomus fasciogularis	Mangrove Honeyeater	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Menura alberti	Albert's Lyrebird	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Ninox strenua	Powerful Owl	Vulnerable	Category 3	Not Listed	
Animalia	Aves	Numenius madagascariensis	Eastern Curlew	Not Listed	Not Sensitive	Critically Endangered	ROKAMBA;CAMBA; JAMBA
Animalia	Aves	Oxyura australis	Blue-billed Duck	Vulnerable	Not Sensitive	Not Listed	

Kingdom	Class	Scientific	Common	NSW Conservation Status	NSW Sensitivity Class	Federal Conservation Status	Migratory Species Agreements
Animalia	Aves	Pachycephala olivacea	Olive Whistler	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Pandion cristatus	Eastern Osprey	Vulnerable	Category 3	Not Listed	
Animalia	Aves	Petroica phoenicea	Flame Robin	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Podargus ocellatus	Marbled Frogmouth	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Ptilinopus magnificus	Wompoo Fruit-Dove	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Ptilinopus regina	Rose-crowned Fruit-Dove	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Ptilinopus superbus	Superb Fruit-Dove	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Thalasseus bergii	Crested Tern	Not Listed	Not Sensitive	Not Listed	JAMBA
Animalia	Aves	Turnix maculosus	Red-backed Button-quail	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Tyto novaehollandiae	Masked Owl	Vulnerable	Category 3	Not Listed	
Animalia	Aves	Tyto tenebricosa	Sooty Owl	Vulnerable	Category 3	Not Listed	
Animalia	Gastropoda	Thersites mitchellae	Mitchell's Rainforest Snail	Endangered	Not Sensitive	Critically Endangered	
Animalia	Insecta	Argynnis hyperbius	Laced Fritillary	Endangered	Not Sensitive	Critically Endangered	
Animalia	Insecta	Phyllodes imperialis southern subspecies	Southern Pink Underwing Moth	Endangered	Not Sensitive	Endangered	
Animalia	Mammalia	Dasyurus maculatus	Spotted-tailed Quoll	Vulnerable	Not Sensitive	Endangered	
Animalia	Mammalia	Micronomus norfolkensis	Eastern Coastal Free-tailed Bat	Vulnerable	Not Sensitive	Not Listed	
Animalia	Mammalia	Miniopterus australis	Little Bent-winged Bat	Vulnerable	Not Sensitive	Not Listed	
Animalia	Mammalia	Miniopterus orianae oceanensis	Large Bent-winged Bat	Vulnerable	Not Sensitive	Not Listed	
Animalia	Mammalia	Nyctimene robinsoni	Eastern Tube-nosed Bat	Vulnerable	Not Sensitive	Not Listed	
Animalia	Mammalia	Nyctophilus bifax	Eastern Long-eared Bat	Vulnerable	Not Sensitive	Not Listed	
Animalia	Mammalia	Petauroides volans	Greater Glider	Not Listed	Not Sensitive	Vulnerable	
Animalia	Mammalia	Petaurus australis	Yellow-bellied Glider	Vulnerable	Not Sensitive	Not Listed	
Animalia	Mammalia	Petaurus norfolcensis	Squirrel Glider	Vulnerable	Not Sensitive	Not Listed	
Animalia	Mammalia	Phascolarctos cinereus	Koala	Vulnerable	Not Sensitive	Vulnerable	
Animalia	Mammalia	Potorous tridactylus	Long-nosed Potoroo	Endangered Population, Vulnerable	Not Sensitive	Vulnerable	
Animalia	Mammalia	Pteropus poliocephalus	Grey-headed Flying-fox	Vulnerable	Not Sensitive	Vulnerable	
Animalia	Mammalia	Scoteanax rueppellii	Greater Broad-nosed Bat	Vulnerable	Not Sensitive	Not Listed	
Animalia	Mammalia	Syconycteris australis	Common Blossom-bat	Vulnerable	Not Sensitive	Not Listed	
Animalia	Mammalia	Thylogale stigmatica	Red-legged Pademelon	Vulnerable	Not Sensitive	Not Listed	
Animalia	Reptilia	Cacophis harriettae	White-crowned Snake	Vulnerable	Not Sensitive	Not Listed	
Animalia	Reptilia	Hoplocephalus stephensii	Stephens' Banded Snake	Vulnerable	Not Sensitive	Not Listed	
Plantae	Flora	Acacia bakeri	Marblewood	Vulnerable	Not Sensitive	Not Listed	
Plantae	Flora	Angiopteris evecta	Giant Fern	Endangered	Category 2	Not Listed	

Kingdom	Class	Scientific	Common	NSW Conservation Status	NSW Sensitivity Class	Federal Conservation Status	Migratory Species Agreements
Plantae	Flora	Archidendron hendersonii	White Lace Flower	Vulnerable	Not Sensitive	Not Listed	
Plantae	Flora	Bosistoa transversa	Yellow Satinheart	Vulnerable	Not Sensitive	Vulnerable	
Plantae	Flora	Caesalpinia bonduc	Knicker Nut	Endangered	Not Sensitive	Not Listed	
Plantae	Flora	Cassia marksiana		Endangered	Not Sensitive	Not Listed	
Plantae	Flora	Corokia whiteana	Corokia	Vulnerable	Not Sensitive	Vulnerable	
Plantae	Flora	Cryptocarya foetida	Stinking Cryptocarya	Vulnerable	Not Sensitive	Vulnerable	
Plantae	Flora	Cupaniopsis serrata	Smooth Tuckeroo	Endangered	Not Sensitive	Not Listed	
Plantae	Flora	Cyperus semifertilis	Missionary Nutgrass	Endangered	Not Sensitive	Vulnerable	
Plantae	Flora	Davidsonia jerseyana	Davidson's Plum	Endangered	Category 2	Endangered	
Plantae	Flora	Davidsonia johnsonii	Smooth Davidson's Plum	Endangered	Not Sensitive	Endangered	
Plantae	Flora	Dendrocnide moroides	Gympie Stinger	Endangered	Not Sensitive	Not Listed	
Plantae	Flora	Desmodium acanthocladum	Thorny Pea	Vulnerable	Not Sensitive	Vulnerable	
Plantae	Flora	Diospyros mabacea	Red-fruited Ebony	Endangered	Not Sensitive	Endangered	
Plantae	Flora	Diospyros yandina	Shiny-leaved Ebony	Endangered	Not Sensitive	Not Listed	
Plantae	Flora	Diploglottis campbellii	Small-leaved Tamarind	Endangered	Category 2	Endangered	
Plantae	Flora	Doryanthes palmeri	Giant Spear Lily	Vulnerable	Not Sensitive	Not Listed	
Plantae	Flora	Drynaria rigidula	Basket Fern	Endangered	Category 3	Not Listed	
Plantae	Flora	Elaeocarpus sedentarius	Minyon Quandong	Endangered	Category 3	Endangered	
Plantae	Flora	Eleocharis tetraquetra	Square-stemmed Spike-rush	Endangered	Not Sensitive	Not Listed	
Plantae	Flora	Endiandra floydii	Crystal Creek Walnut	Endangered	Not Sensitive	Endangered	
Plantae	Flora	Endiandra hayesii	Rusty Rose Walnut	Vulnerable	Not Sensitive	Vulnerable	
Plantae	Flora	Endiandra muelleri subsp. bracteata	Green-leaved Rose Walnut	Endangered	Not Sensitive	Not Listed	
Plantae	Flora	Floydia praealta	Ball Nut	Vulnerable	Not Sensitive	Vulnerable	
Plantae	Flora	Grevillea hilliana	White Yiel Yiel	Endangered	Not Sensitive	Not Listed	
Plantae	Flora	Hicksbeachia pinnatifolia	Red Boppel Nut	Vulnerable	Not Sensitive	Vulnerable	
Plantae	Flora	Isoglossa eranthemoides	Isoglossa	Endangered	Not Sensitive	Endangered	
Plantae	Flora	Lepiderema pulchella	Fine-leaved Tuckeroo	Vulnerable	Not Sensitive	Not Listed	
Plantae	Flora	Macadamia integrifolia	Macadamia Nut	Not Listed	Not Sensitive	Vulnerable	
Plantae	Flora	Macadamia tetraphylla	Rough-shelled Bush Nut	Vulnerable	Not Sensitive	Vulnerable	
Plantae	Flora	Maundia triglochinoides		Vulnerable	Not Sensitive	Not Listed	
Plantae	Flora	Ochrosia moorei	Southern Ochrosia	Endangered	Not Sensitive	Endangered	
Plantae	Flora	Owenia cepiodora	Onion Cedar	Vulnerable	Not Sensitive	Vulnerable	
Plantae	Flora	Ozothamnus vagans	Wollumbin Dogwood	Endangered	Not Sensitive	Vulnerable	
Plantae	Flora	Peristeranthus hillii	Brown Fairy-chain Orchid	Vulnerable	Category 2	Not Listed	

Kingdom	Class	Scientific	Common	NSW Conservation Status	NSW Sensitivity Class	Federal Conservation Status	Migratory Species Agreements
Plantae	Flora	Phyllanthus microcladus	Brush Sauropus	Endangered	Not Sensitive	Not Listed	
Plantae	Flora	Randia moorei	Spiny Gardenia	Endangered	Not Sensitive	Endangered	
Plantae	Flora	Rhodamnia rubescens	Scrub Turpentine	Critically Endangered	Not Sensitive	Not Listed	
Plantae	Flora	Rhodomyrtus psidioides	Native Guava	Critically Endangered	Not Sensitive	Not Listed	
Plantae	Flora	Rhynchosia acuminatissima	Pointed Trefoil	Vulnerable	Not Sensitive	Not Listed	
Plantae	Flora	Sarcochilus fitzgeraldii	Ravine Orchid	Vulnerable	Category 2	Vulnerable	
Plantae	Flora	Symplocos baeuerlenii	Small-leaved Hazelwood	Vulnerable	Not Sensitive	Vulnerable	
Plantae	Flora	Syzygium hodgkinsoniae	Red Lilly Pilly	Vulnerable	Not Sensitive	Vulnerable	
Plantae	Flora	Syzygium moorei	Durobby	Vulnerable	Not Sensitive	Vulnerable	
Plantae	Flora	Tinospora tinosporoides	Arrow-head Vine	Vulnerable	Not Sensitive	Not Listed	
Plantae	Flora	Triflorensia cameronii	Cameron's Tarenna	Endangered	Not Sensitive	Not Listed	

Data does not include NSW category 1 sensitive species.

NSW BioNet: © State of NSW and Office of Environment and Heritage

Location Confidences

Where Lotsearch has had to georeference features from supplied addresses, a location confidence has been assigned to the data record. This indicates a confidence to the positional accuracy of the feature. Where applicable, a code is given under the field heading “LC” or “LocConf”. These codes lookup to the following location confidences:

LC Code	Location Confidence
Premise Match	Georeferenced to the site location / premise or part of site
Area Match	Georeferenced to an approximate or general area
Road Match	Georeferenced to a road or rail corridor
Road Intersection	Georeferenced to a road intersection
Buffered Point	A point feature buffered to x metres
Adjacent Match	Land adjacent to a georeferenced feature
Network of Features	Georeferenced to a network of features
Suburb Match	Georeferenced to a suburb boundary
As Supplied	Spatial data supplied by provider

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    (b) any loss of profit, loss of revenue, loss of interest, loss of data, loss of goodwill or loss of business opportunities, business interruption arising directly or indirectly out of or in relation to the Report or these Terms,

    irrespective of how that liability arises including in contract or tort, liability under indemnity or for any other common law, equitable or statutory cause of action or otherwise.
12. These Terms are subject to New South Wales law.

Appendix F

S10.7 Planning Certificates

Customer Service | 1300 292 872 | (02) 6670 2400
PO Box 816 Murwillumbah NSW 2484
Fax (02) 6670 2429 | ABN 90 178 732 496
tsc@tweed.nsw.gov.au | www.tweed.nsw.gov.au

TWEED SHIRE COUNCIL

Planning Certificate under Section 10.7

(formerly Section 149)

Environmental Planning and Assessment Act, 1979

Land No. 30358

Applicant: Lotsearch Pty Ltd
Level 3, 68 Alfred Street
MILSONS POINT NSW 2061

Certificate No: ePlanCer21/1386
Date of Issue: 26/04/2021
Fee Paid: $133.00
Receipt No:

Your Reference:
eCustomer Reference: **LS019934 Lot 5 DP820602**
Property Description: Lot 5 DP 820602; No. 86 Riverview Street MURWILLUMBAH

In accordance with the requirements of section 10.7 of the Environmental Planning and Assessment Act 1979 (as amended), the following prescribed matters relate to the land at the date of this certificate.

ITEM 1

Names of relevant planning instruments and DCPs

(1)	*The name of each environmental planning instrument that applies to the carrying out of development on the land.*
(2)	*The name of each proposed environmental planning instrument that will apply to the carrying out of development on the land and that is or has been the subject of community consultation or on public exhibition under the Act (unless the Secretary has notified the council that the making of the proposed instrument has been deferred indefinitely or has not been approved).*
(3)	*The name of each development control plan that applies to the carrying out of development on the land.*
(4)	*In this clause, proposed environmental planning instrument includes a planning proposal for a LEP or a draft environmental planning instrument.*

Item 1(1)

The following local environmental planning instrument applies to the carrying out of development on the land:

Tweed Shire LEP 2014

The following State environmental planning policies (SEPPs) apply to the carrying out of development on the land.

State Environmental Planning Policy (Affordable Rental Housing) 2009

State Environmental Planning Policy (Building Sustainability Index: BASIX) 2004

State Environmental Planning Policy (Educational Establishments and Child Care Facilities) 2017

State Environmental Planning Policy (Exempt and Complying Development Codes) 2008

State Environmental Planning Policy (Integration and Repeals) 2016

State Environmental Planning Policy (Koala Habitat Protection) 2019

State Environmental Planning Policy (State Significant Precincts) 2005

State Environmental Planning Policy (Primary Production and Rural Development) 2019

State Environmental Planning Policy No. 21 - Caravan Parks

State Environmental Planning Policy No. 33 - Hazardous and Offensive Development

State Environmental Planning Policy No. 36 - Manufactured Homes Estate

State Environmental Planning Policy No. 50 - Canal Estate Development

State Environmental Planning Policy No. 55 - Remediation of Land

State Environmental Planning Policy No. 64 - Advertising and Signage

State Environmental Planning Policy No. 65 - Design Quality of Residential Flat Development

State Environmental Planning Policy (Infrastructure) 2007

State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007

State Environmental Planning Policy (Housing for Seniors or People with a Disability) 2004

State Environmental Planning Policy (Vegetation in Non-Rural Areas) 2017

State Environmental Planning Policy (State and Regional Development) 2011

State Environmental Planning Policy (Miscellaneous Consent Provisions) 2007

Item 1(2)

The following draft local environmental plan(s) and draft planning proposal(s) have been placed on public exhibition and apply to the carrying out of development on the land:

There are no draft Local Environmental Plans currently applying to the subject land.

Item 1(3)

The following development control plan(s) that have been prepared apply to the carrying out of development on the land:

Section A1 - Residential and Tourist Development Code

Section A2 - Site Access and Parking Code

Section A3 - Development of Flood Liable Land

Section A4 - Advertising Signs Code

Section A5 - Subdivision Manual

Section A6 - Biting Midge and Mosquito Control

Section A7 - Child Care Centres

Section A8 - Brothels Policy

Section A9 - Energy Smart Homes Policy

Section A10 - Exempt and Complying Development

Section A13 - Socio Economic Impact Assessment

Section A15 - Waste Minimisation and Management

Section A16 - Preservation of Trees or Vegetation

Section A17 - Business, Enterprise Corridor and General Industrial Zones

Section A18 - Heritage

Section A19 - Biodiversity and Habitat Management

ITEM 2

Zoning and land use under relevant LEPs

For each environmental planning instrument or proposed instrument referred to in clause 1 (other than a SEPP or proposed SEPP) that includes the land in any zone (however described):

(a)	*the identity of the zone, whether by reference to a name (such as "Residential Zone" or "Heritage Area") or by reference to a number (such as "Zone No 2 (a)"),*
(b)	*the purposes for which the instrument provides that development may be carried out within the zone without the need for development consent,*
(c)	*the purposes for which the instrument provides that development may not be carried out within the zone except with development consent,*
(d)	*the purposes for which the instrument provides that development is prohibited within the zone,*
(e)	*whether any development standards applying to the land fix minimum land dimensions for the erection of a dwelling-house on the land and, if so, the minimum land dimensions so fixed,*
(f)	*whether the land includes or comprises critical habitat,*
(g)	*whether the land is in a conservation area (however described),*
(h)	*whether an item of environmental heritage (however described) is situated on the land.*

Item 2(a-d)

The subject land is within the following zone(s) and is affected by the following landuse table:

Zone R2 Low Density Residential

1 Objectives of zone

- To provide for the housing needs of the community within a low density residential environment.
- To enable other land uses that provide facilities or services to meet the day to day needs of residents.

2 Permitted without consent

Environmental facilities; Environmental protection works; Home occupations

3 Permitted with consent

Bed and breakfast accommodation; Boarding houses; Dwelling houses; Group homes; Home industries; Roads; Any other development not specified in item 2 or 4

4 Prohibited

Agriculture; Air transport facilities; Airstrips; Amusement centres; Animal boarding or training establishments; Boat building and repair facilities; Camping grounds; Caravan parks; Cemeteries; Charter and tourism boating facilities; Commercial premises; Correctional centres; Crematoria; Depots; Eco-tourist facilities; Entertainment facilities; Exhibition homes; Exhibition villages; Extractive industries; Farm buildings; Forestry; Freight transport facilities; Function centres; Heavy industrial storage establishments; Highway service centres; Home occupations (sex services); Hostels; Industrial retail outlets; Industrial training facilities; Industries; Information and education facilities; Marinas; Moorings; Mortuaries; Open cut mining; Passenger transport facilities; Public administration buildings; Recreation facilities (major); Registered clubs; Research stations; Residential flat buildings; Restricted premises; Rural industries; Rural workers' dwellings; Service stations; Sex services premises; Shop top housing; Storage premises; Tourist and visitor accommodation; Transport depots; Truck depots; Vehicle body repair workshops; Vehicle repair stations; Veterinary hospitals; Warehouse or distribution centres; Wharf or boating facilities; Wholesale supplies

[End of Zone R2 Table]

Item 2(e) - Minimum Standards for the Erection of a Dwelling-House:

See relevant Tweed Local Environmental Plan(s) applicable to this land as referenced in Item 1(1) above.

Item 2(f) - Critical Habitat:

The subject land is not identified as including or comprising critical habitat as prescribed in the Biodiversity Conservation Act 2016 or (subject to section 5c) Part 7A of the Fisheries Management Act 1994.

Item 2(g) - Conservation Area:

The subject land is not within a heritage conservation area identified within the applicable Tweed Local Environmental Plan.

Item 2(h) - Item of Environmental Heritage:

The subject land does not contain nor constitute an item of environmental heritage as listed in the applicable Tweed Local Environmental Plan.

Other Clauses under Tweed Local Environmental Plan 2000 (if this Plan applies)

The subject land is not affected by any special clauses in Tweed Local Environmental Plan 2000.

ITEM 3

Complying Development

Extract from Clause 47 of the Environmental Planning and Assessment (Complying Development and Fire Safety) Regulation 2013 - Schedule 1 - Amendment of Environmental Planning and Assessment Regulation 2000

"Schedule 4 Planning certificates

(1) The extent to which the land is land on which complying development may be carried out under each of the codes for complying development because of the provisions of clauses 1.17A (1) (c) to (e), (2), (3) and (4), 1.18(1)(c3) and 1.19 of State Environmental Planning Policy (Exempt and Complying Development Codes) 2008.

(2) The extent to which complying development may not be carried out on that land because of the provisions of clauses 1.17A (1) (c) to (e), (2), (3) and (4), 1.18(1)(c3) and 1.19 of that Policy and the reasons why it may not be carried out under those clauses.

(3) If the council does not have sufficient information to ascertain the extent to which complying development may or may not be carried out on the land, a statement that a restriction applies to the land, but it may not apply to all of the land, and that council does not have sufficient information to ascertain the extent to which complying development may or may not be carried out on the land."

Subdivisions Code (Strata Subdivision)

Yes. Complying Development under the Subdivisions (Strata Subdivisions) Code may be carried out on this land subject to an assessment of compliance with the requirements of the SEPP.

Demolition Code

Yes. Complying Development under the Demolition Code may be carried out on this land subject to an assessment of compliance with the requirements of the SEPP.

Commercial and Industrial Alterations Code

Yes. Complying Development under the Commercial and Industrial Alterations Code may be carried out on this land subject to an assessment of compliance with the requirements of the SEPP.

General Housing and Rural Housing Code

Yes. Complying Development under the General Housing Code and Rural Housing Code may be carried out on this land subject to an assessment of compliance with the requirements of the SEPP.

Housing Alterations Code and General Development Code

Yes. Complying Development under the Housing Alterations Code and General Development Code may be carried out on this land subject to an assessment of compliance with the requirements of the SEPP.

Commercial and Industrial (New Buildings and Additions) Code

Yes. Complying Development under the Commercial and Industrial (New Buildings and Additions) Code may be carried out on this land subject to an assessment of compliance with the requirements of the SEPP.

Qualifying Statement on Council Data Affecting this Item

Tweed Shire Council does not have sufficient information to ascertain the extent to which complying development may or may not be carried out on the land, however this restriction may not apply to all of the land.

EXPLANATORY NOTE FOR ITEM 3 COMPLYING DEVELOPMENT

Please note that Council has updated its Section 10.7(2) Planning Certificate information to reflect the statutory changes introduced by the NSW State Government relating to amendments to the State Environmental Planning Policy (Exempt and Complying Development Codes) 2008, via the Amendment (Commercial and Industrial Development and Other

Matters) 2013, and the Environmental Planning and Assessment Regulation 2000, via the Amendment (Complying Development and Fire Safety) 2013, which all take full effect from 22 February 2014.

To assist with the introduction of these SEPP amendments, the NSW Department of Planning and Infrastructure (DPI) has provided a series of information sheets on its web site www.planning.nsw.gov.au

The DPI also issued Circulars PS13-004 and PS13-005 on 23 December 2013 which explains what steps local councils need to undertake to implement the commencement of these new controls.

The DPI have stated the following rationale for the new Amendments:

> *"The amending Regulation makes important changes to the lodgement and determination of applications for a complying development certificate (CDC). This includes new requirements to provide advice and notification of complying development to neighbours. There are also additional requirements for information to be lodged with an application for a CDC and for conditions to be imposed on a CDC approval.*
>
> *The SEPP has been amended to include new complying development codes, development standards and other requirements. These amendments will require changes to the information provided in section 10.7 planning certificates. The new development types also include a number of prerequisites for certain proposals to be complying development. These and other related matters are specified in the Regulation."*

It is strongly suggested that you review this information before proceeding with the lodgement of a Complying Development Certificate application to either Council or a private certifier.

For any further clarification of these matters, please contact Council's Development Assessment or Building Units.

ITEM 4 - REPEALED

ITEM 4A - REPEALED

ITEM 4B

Annual Charges under Local Government Act 1993 for coastal protection services that relate to existing coastal protection works

In relation to a coastal council - whether the owner (or any previous owner) of the land has consented in writing to the land being subject to annual charges under section 496B of the Local Government Act 1993 for coastal protection services that relate to existing coastal protection works (within the meaning of section 553B of that Act).

Note. "Existing coastal protection works" are works to reduce the impact of coastal hazards on land (such as seawalls, revetments, groynes and beach nourishment) that existed before the commencement of section 553B of the Local Government Act 1993.

No

ITEM 5

Mine Subsidence:

Whether or not the land is proclaimed to be a mine subsidence district within the meaning of the Coal Mine Subsidence Compensation Act 2017.

No

ITEM 6

Road Widening and Road Realignment:

Whether or not the land is affected by any road widening or road realignment under:

(a) Division 2 of Part 3 of the Roads Act 1993 , or

(b) any environmental planning instrument, or

(c) any resolution of the council.

Item 6(a-c)

The subject land is not affected by any road widening or realignment proposal under either Division 2 or Part 3 of the Roads Act, 1993, any environmental planning instrument or any resolution of the Council.

ITEM 7

Council and other public authority policies on hazard risk restrictions

Whether or not the land is affected by a policy:

(a) adopted by the council, or

(b) adopted by any other public authority and notified to the council for the express purpose of its adoption by that authority being referred to in planning certificates issued by the council,

that restricts the development of the land because of the likelihood of land slip, bushfire, tidal inundation, subsidence, acid sulphate soils or any other risk (other than flooding).

Item 7(a-b)

Land Slip:

The council has not adopted a policy to restrict development of the subject land because of the likelihood of land slip. Geotechnical investigations may be required prior to development of some sites, depending upon the characteristics of the site and the nature of development proposed.

Bushfire:

The Council has adopted a policy to restrict development of the subject land because of the likelihood of bushfire hazard (see Item 11 below).

Tidal Inundation:

Council has no records that indicate that the land is affected by tidal inundation. Accordingly, the Council has not adopted a policy to restrict development of the land in respect of tidal inundation.

Subsidence:

Council records do not indicate that the land is affected by subsidence. Accordingly, the Council has not adopted a policy to restrict development of the land in respect to subsidence.

Acid Sulfate Soils:

The subject land is identified as Class 5 on Councils "Acid Sulfate Soil Planning Map" under the relevant Tweed Local Environmental Plan.

Any Other Risk:

Council has adopted a policy to restrict development of the subject land due to the following other identified risk:

- ***Cattle Tick Dip Sites:***

  Council records do not indicate that the land is or has been used as a Cattle Tick Dip Site.

- ***Contamination:***

  Council has not by resolution, adopted a policy which may restrict development of the subject land in respect of potential contamination of that land.

  Due to the historical nature of land uses in the Tweed Shire, there is a possibility that land previously used for such purposes as agriculture, industrial, residential, commercial or similar uses would contain contamination. Enquiries should be made at the Council for any information held in their files and enquiries should also be made with all other relevant authorities. Tweed Shire Council has not yet prepared any detailed information as to whether this land is contaminated land.

- ***Coastal Hazards:***

  This property is not affected.

ITEM 7A

Flood related development controls information

(1)	*Whether or not development on that land or part of the land for the purposes of dwelling houses, dual occupancies, multi dwelling housing or residential flat buildings (not including development for the purposes of group homes or seniors housing) is subject to flood related development controls.*
(2)	*Whether or not development on that land or part of the land for any other purpose is subject to flood related development controls.*
(3)	*Words and expressions in this clause have the same meanings as in the instrument.*

Item 7A(1-3)

(1) Council is aware that the land is flood prone, as defined by Development Control Plan Section A3 - Development of Flood Liable Land. The land is a flood control lot and development of this land shall be subject to the relevant controls in the plan.

The land is a flood control lot. Flood planning levels, such as minimum fill and floor levels apply to land in this area, as prescribed by Development Control Plan Section A3 - Development of Flood Liable Land. In this area Council adopted a design flood level of RL 7.8m AHD and requires new residential dwellings to be constructed with a minimum floor level of RL 8.3m AHD. Council also has an adopted policy for extensions to existing residential dwellings below the adopted design floor level. Flood planning levels are subject to change as new information is obtained. Greenfield residential subdivisions are subject to climate change affected flood planning levels.

Floodplain Risk Management Study

The subject land is situated within the high flow area under the Tweed Valley Floodplain Risk Management Study (and Draft Plan) 2005 - Part 2 Planning Controls for High Flow Areas dated August 2006.

The subject land is situated within the low flow area under the Tweed Valley Floodplain Risk Management Study (and Draft Plan) 2005 - Part 2 Planning Controls for High Flow Areas dated August 2006.

(2) Council is aware that the land is in an area which may be susceptible to flooding. Consequently Council has adopted Development Control Plan A3 – Development of Flood Liable Land, which establishes minimum standards for development not referred to in (1)

ITEM 8

Land Reserved for Acquisition:

Whether or not any environmental planning instrument or proposed environmental planning instrument, referred to in clause 1 makes provision in relation to the acquisition of the land by a public authority, as referred to in section 3.15 of the Act.

The subject land is not identified as being subject to acquisition by a public authority (as referred to in section 27 of the EP&A Act 1979) under the provisions of any environmental planning instrument deemed or draft environmental planning instrument.

ITEM 9

Contributions Plans:

The name of each contributions plan applying to the land.

The following contributions plan(s) apply (or may apply depending upon proposed future development) to the

subject land:

Section 94 Plan No 4 - Tweed Road Contribution Plan

Section 94 Plan No 5 - Open Space Contributions

Section 94 Plan No 11 - Tweed Shire Library Facilities

Section 94 Plan No 12 - Bus Shelters

Section 94 Plan No 13 - Eviron Cemetery

Section 94 Plan No 15 - Developer Contributions for Community Facilities

Section 94 Plan No 18 - Council Administration Offices and Technical Support Facilities

Section 94 Plan No 22 - Cycleways

Section 94 Plan No 26 - Shirewide/Regional Open Space

ITEM 9A

Biodiversity Certified Land:

If the land is biodiversity certified land under Part 8 of the Biodiversity Conservation Act 2016, a statement to that effect.

Note. *Biodiversity certified land includes land certified under Part 7AA of the Threatened Species Conservation Act 1995 that is taken to be certified under Part 8 of the Biodiversity Conservation Act 2016.*

Council has not received any biodiversity certifications.

ITEM 10

Biodiversity Stewardship Sites:

If the land is a biodiversity stewardship site under a biodiversity stewardship agreement under Part 5 of the Biodiversity Conservation Act 2016, a statement to that effect (but only if the council has been notified of the existence of the agreement by the Chief Executive of the Office of Environment and Heritage).

Note. *Biodiversity stewardship agreements include biobanking agreements under Part 7A of the Threatened Species Conservation Act 1995 that are taken to be biodiversity stewardship agreements under Part 5 of the Biodiversity Conservation Act 2016.*

Council has not been notified of the existence of any biodiversity stewardship agreements by the Chief Executive of the Office of Environment and Heritage.

ITEM 10A

Native Vegetation Clearing Set Asides

If the land contains a set aside area under section 60ZC of the Local Land Services Act 2013, a statement to that effect (but only if the council has been notified of the existence of the set aside area by Local Land Services or it is registered in the public register under that section).

Council has not been notified of the existence of a set aside area.

ITEM 11

Bush Fire Prone Land

If any of the land is bush fire prone land (as defined in the Act), a statement that all or, as the case may be, some of the land is bush fire prone land.

If none of the land is bush fire prone land, a statement to that effect.

The subject land is identified as bush fire prone land in accordance with the Bush Fire Prone Land map certified in accordance with Section 146(2) of the Environmental Planning and Assessment Act 1979, as amended.

ITEM 12

Property Vegetation Plans

If the land is land to which a property vegetation plan approved under Part 4 of the Native Vegetation Act 2003 (and that continues in force) applies, a statement to that effect (but only if the council has been notified of the existence of the plan by the person or body that approved the plan under that Act).

The subject land is not affected by a Property Vegetation Plan under the Native Vegetation Act 2003.

ITEM 13

Orders under Trees (Disputes between Neighbours) Act 2006

Whether an order has been made under the Trees (Disputes Between Neighbours) Act 2006 to carry out work in relation to a tree on the land (but only if the council has been notified of the order).

Council has not been notified of any Order made under the Trees (Disputes between Neighbours) Act 2006 to carry out work in relation to a tree on the land.

ITEM 14

Directions under Part 3A

If there is a direction by the Minister in force under section 75P (2) (c1) of the Act that a provision of an environmental planning instrument prohibiting or restricting the carrying out of a project or a stage of a project on the land under Part 4 of the Act does not have effect, a statement to that effect identifying the provision that does not have effect.

There are no Directions under Part 3A affecting this land.

ITEM 15

Site compatibility certificates and conditions for seniors housing

If the land is land to which State Environmental Planning Policy (Housing for Seniors or People with a Disability) 2004 applies:

(a) a statement of whether there is a current site compatibility certificate (seniors housing), of which the council is aware, in respect of proposed development on the land and, if there is a certificate, the statement is to include:

(i) the period for which the certificate is current, and

(ii) that a copy may be obtained from the head office of the Department, and

(b) a statement setting out any terms of a kind referred to in clause 18 (2) of that Policy that have been imposed as a condition of consent to a development application granted after 11 October 2007 in respect of the land.

There are no site compatibility certificates and conditions affecting seniors housing on the land.

ITEM 16

Site compatibility certificates for infrastructure, schools or TAFE establishments

A statement of whether there is a valid site compatibility certificate (infrastructure), or site compatibility certificate (schools or TAFE establishments), of which the council is aware, in respect of proposed development on the land and, if there is a certificate, the statement is to include:

(a) the period for which the certificate is valid, and

(b) that a copy may be obtained from the head office of the Department

There are no site compatibility certificates for infrastructure on the land.

ITEM 17

Site compatibility certificates and conditions for affordable rental housing

(1) A statement of whether there is a current site compatibility certificate (affordable rental housing), of which the council is aware, in respect of proposed development on the land and, if there is a certificate, the statement is to include:

(a) the period for which the certificate is current, and

(b) that a copy may be obtained from the head office of the Department.

(2) A statement setting out any terms of a kind referred to in clause 17 (1) or 38 (1) of State Environmental Planning Policy (Affordable Rental Housing) 2009 that have been imposed as a condition of consent to a development application in respect of the land.

There are no site compatibility certificates and conditions for affordable rental housing on the land.

ITEM 18

Paper subdivision information

(1) The name of any development plan adopted by a relevant authority that applies to the land or that is proposed to be subject to a consent ballot.

(2) The date of any subdivision order that applies to the land.

(3) Words and expressions used in this clause have the same meaning as they have in Part 16C of this Regulation.

There is no paper subdivision information relating to this land.

ITEM 19

Site verification certificates

A statement of whether there is a current site verification certificate, of which the council is aware, in respect of the land, if there is a certificate, the statement is to include:

(a) the matter certified by the certificate, and

Note. *A site verification certificate sets out the Secretary's opinion as to whether the land concerned is or is not biophysical strategic agricultural land or critical industry cluster land - see Division 3 of Part 4AA of State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries 2007.*

(b) the date on which the certificate ceases to be current (if any), and

(c) that a copy may be obtained from the head office of the Department.

There are no site verification certificates relating to this land.

ITEM 20

Loose-fill asbestos insulation

If the land includes any residential premises (within the meaning of Division 1A of Part 8 of the Home Building Act 1989) that are listed on the register that is required to be maintained under that Division, a statement to that effect.

The land is not affected or listed on the register.

ITEM 21

Affected building notices and building product rectification orders

(1) A statement of whether there is any affected building notice of which the council is aware that is in force in respect of the land.

(2) A statement of:

(a) whether there is any building product rectification order of which the council is aware that is in force in respect of the land and has not been fully complied with, and

(b) whether any notice of intention to make a building product rectification order of which the council is aware has been given in respect of the land and is outstanding.

(3) In this clause:

affected building notice *has the same meaning as in Part 4 of the Building Products (Safety) Act 2017.*

building product rectification order *has the same meaning as in the Building Products (Safety) Act 2017.*

The land is not affected by any building notice.

Prescribed matters in accordance with the Contaminated Land Management Act 1997

The following matters are prescribed by section 59(2) of the Contaminated Land Management Act 1997 as additional matters to be specified in a planning certificate:

(a) that the land to which the certificate relates is significantly contaminated land within the meaning of that Act – if the land (or part of the land) is significantly contaminated land at the date when the certificate is issued,

(b) that the land to which the certificate relates is subject to a management order within the meaning of that Act – if it is subject to such an order at the date when the certificate is issued,

(c) that the land to which the certificate relates is the subject of an approved voluntary management proposal within the meaning of that Act – if it is the subject of such an approved proposal at the date when the certificate is issued,

(d) that the land to which the certificate relates is subject to an ongoing maintenance order within the meaning of that Act – if it is subject to such an order at the date when the certificate is issued,

(e) that the land to which the certificate relates is the subject of a site audit statement within the meaning of that Act – if a copy of such a statement has been provided at any time to the local authority issuing the certificate.

(a) Significantly Contaminated Land

As at the date of this certificate, Council has not been notified by the Environment Protection Authority (EPA) that the land is significantly contaminated land within the meaning of the Contaminated Land Management Act 1997.

(b) Management Order

As at the date of this certificate, Council has not been notified by the Environment Protection Authority (EPA) that the land is the subject of a management order within the meaning of the Contaminated Land Management Act 1997.

(c) Approved Voluntary Management Proposal

As at the date of this certificate, Council has not been notified by the Environment Protection Authority (EPA) that the land is the subject of an approved voluntary management proposal within the meaning of the Contaminated Land Management Act 1997.

(d) Ongoing Maintenance Order

As at the date of this certificate, Council has not been notified by the Environment Protection Authority (EPA) that the land is the subject of an ongoing maintenance order within the meaning of the Contaminated Land Management Act 1997.

(e) Site Audit Statement

As at the date of this certificate, Council has not been notified that the land is the subject of a site audit statement within the meaning of Part 4 of the Contaminated Land Management Act 1997. Council has not been notified/provided with a copy of any site audit statement pertaining to the subject land.

Additional Information Pursuant to Section 10.7(5) of the Environmental Planning and Assessment Act, 1979

Development Approval/s

No development consents have been issued within the last five (5) years.

Draft Environmental Planning Instruments

Council has resolved to prepare a Draft Local Environmental Plan Amendment (Environmentally Sensitive Land - Clause to clarify the meaning of Sensitive Environmental Land with respect of Aboriginal cultural heritage - PP20/0001) relating to the subject land.

Tree Preservation Orders

The subject land is not affected by Council's Tree Preservation Orders.

Height under either Tweed Local Environmental Plan 2000, Tweed City Centre Local Environmental Plan 2012 or Tweed Local Environmental Plan 2014

The land is restricted to a 9 metre height limit under Tweed Local Environmental Plan 2014

Aircraft Noise

The subject site does not lie within an Australian Noise Exposure Forecast (ANEF) zone surrounding Gold Coast Airport. Additional information on aircraft noise and the ANEF can be obtained from Gold Coast Airport on (07) 5589 1100 or by visiting their website at http://www.goldcoastairport.com.au/.

Future Road Corridor

The subject land is not identified as being subject to future road corridor as identified in Tweed Road Contribution Plan No. 4 (as referred to in Section 26 of the EP&A Act 1979).

Future Road Widening

The subject land is not identified as being subject to future road widening as identified in Tweed Road Contribution Plan No. 4 (as referred to in Section 26 of the EP&A Act 1979).

Farmland Protection

The subject land is not affected by any Farmland Protection.

Tweed Coast Comprehensive Koala Plan of Management

The subject land is not affected by the Tweed Coast Comprehensive Koala Plan of Management.

Residential Living Within and Near Rural Zones

Residential living within and near rural zones may be exposed to noise and impacts from existing and future neighbouring farming activities.

The following “Living and Working in Rural Areas” handbook published by DPI NSW provides a more detailed explanation of these impacts:

https://www.dpi.nsw.gov.au/__data/assets/pdf_file/0010/234001/Living-and-working-in-rural-areas-complete.pdf

NOTE: *The information contained in this certificate needs to be read in conjunction with the provisions of the Environmental Planning and Assessment Act 1979 and Environmental Planning and Assessment Regulation 2000.*

Information provided under Section 10.7(2) is in accordance with the matters prescribed under Schedule 4 of the Environmental Planning and Assessment Regulation 2000.

When information pursuant to Section 10.7(5) is requested, the Council is under no obligation to furnish any particular information pursuant to that Section. The absence of any reference to any matters affecting the land shall not imply that the land is not affected by any matter not referred to in this Certificate.

In addition to the above information you may wish to obtain advice on additional matters affecting the site. A certificate under Section 10.7(5) of the Environmental Planning and Assessment Act 1979 would provide advice on the following additional matters:

- *Development Approval/s issued within the last five years;*
- *Draft Environmental Planning Instruments;*
- *Tree Preservation Orders;*
- *Further Information Regarding Contamination;*
- *Height under Tweed Local Environmental Plan 2000; Tweed City Centre Local Environmental Plan 2012 and Tweed Local Environmental Plan 2014*
- *Aircraft Noise;*
- *Future Road Corridor;*
- *Future Road Widening; and*
- *Farmland Protection*

Council draws your attention to Section 10.7(6) which states that a Council shall not incur any liability in respect of any advice provided in good faith pursuant to subsection (5).

Please contact the Development Assessment Unit for further information about any instruments or affectations referred to in the Certificate.

TROY GREEN
GENERAL MANAGER

Per ……..

Customer Service | 1300 292 872 | (02) 6670 2400
PO Box 816 Murwillumbah NSW 2484
Fax (02) 6670 2429 | ABN 90 178 732 496
tsc@tweed.nsw.gov.au | www.tweed.nsw.gov.au

TWEED SHIRE COUNCIL

Planning Certificate under Section 10.7

(formerly Section 149)

Environmental Planning and Assessment Act, 1979

Land No. 30357

Applicant: Lotsearch Pty Ltd
Level 3, 68 Alfred Street
MILSONS POINT NSW 2061

Certificate No: ePlanCer21/1387
Date of Issue: 26/04/2021
Fee Paid: $133.00
Receipt No:

Your Reference:
eCustomer Reference: **LS019934 Lot 6 DP820602**
Property Description: Lot 6 DP 820602; Kyogle Road MURWILLUMBAH

In accordance with the requirements of section 10.7 of the Environmental Planning and Assessment Act 1979 (as amended), the following prescribed matters relate to the land at the date of this certificate.

ITEM 1

Names of relevant planning instruments and DCPs

(1)	*The name of each environmental planning instrument that applies to the carrying out of development on the land.*
(2)	*The name of each proposed environmental planning instrument that will apply to the carrying out of development on the land and that is or has been the subject of community consultation or on public exhibition under the Act (unless the Secretary has notified the council that the making of the proposed instrument has been deferred indefinitely or has not been approved).*
(3)	*The name of each development control plan that applies to the carrying out of development on the land.*
(4)	*In this clause, proposed environmental planning instrument includes a planning proposal for a LEP or a draft environmental planning instrument.*

Item 1(1)

The following local environmental planning instrument applies to the carrying out of development on the land:

Tweed Shire LEP 2014

The following State environmental planning policies (SEPPs) apply to the carrying out of development on the land.

State Environmental Planning Policy (Affordable Rental Housing) 2009

State Environmental Planning Policy (Building Sustainability Index: BASIX) 2004

State Environmental Planning Policy (Educational Establishments and Child Care Facilities) 2017

State Environmental Planning Policy (Exempt and Complying Development Codes) 2008

State Environmental Planning Policy (Integration and Repeals) 2016

State Environmental Planning Policy (Koala Habitat Protection) 2019

State Environmental Planning Policy (State Significant Precincts) 2005

State Environmental Planning Policy (Primary Production and Rural Development) 2019

State Environmental Planning Policy (Coastal Management) 2018

State Environmental Planning Policy No. 21 - Caravan Parks

State Environmental Planning Policy No. 33 - Hazardous and Offensive Development

State Environmental Planning Policy No. 36 - Manufactured Homes Estate

State Environmental Planning Policy No. 50 - Canal Estate Development

State Environmental Planning Policy No. 55 - Remediation of Land

State Environmental Planning Policy No. 64 - Advertising and Signage

State Environmental Planning Policy No. 65 - Design Quality of Residential Flat Development

State Environmental Planning Policy (Infrastructure) 2007

State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007

State Environmental Planning Policy (Housing for Seniors or People with a Disability) 2004

State Environmental Planning Policy (Vegetation in Non-Rural Areas) 2017

State Environmental Planning Policy (State and Regional Development) 2011

State Environmental Planning Policy (Miscellaneous Consent Provisions) 2007

Item 1(2)

The following draft local environmental plan(s) and draft planning proposal(s) have been placed on public exhibition and apply to the carrying out of development on the land:

There are no draft Local Environmental Plans currently applying to the subject land.

Item 1(3)

The following development control plan(s) that have been prepared apply to the carrying out of development on the land:

Section A1 - Residential and Tourist Development Code

Section A2 - Site Access and Parking Code

Section A3 - Development of Flood Liable Land

Section A4 - Advertising Signs Code

Section A5 - Subdivision Manual

Section A6 - Biting Midge and Mosquito Control

Section A7 - Child Care Centres

Section A8 - Brothels Policy

Section A9 - Energy Smart Homes Policy

Section A10 - Exempt and Complying Development

Section A13 - Socio Economic Impact Assessment

Section A15 - Waste Minimisation and Management

Section A16 - Preservation of Trees or Vegetation

Section A17 - Business, Enterprise Corridor and General Industrial Zones

Section A18 - Heritage

Section A19 - Biodiversity and Habitat Management

ITEM 2

Zoning and land use under relevant LEPs

For each environmental planning instrument or proposed instrument referred to in clause 1 (other than a SEPP or proposed SEPP) that includes the land in any zone (however described):

(a) the identity of the zone, whether by reference to a name (such as "Residential Zone" or "Heritage Area") or by reference to a number (such as "Zone No 2 (a)"),

(b) the purposes for which the instrument provides that development may be carried out within the zone without the need for development consent,

(c) the purposes for which the instrument provides that development may not be carried out within the zone except with development consent,

(d) the purposes for which the instrument provides that development is prohibited within the zone,

(e) whether any development standards applying to the land fix minimum land dimensions for the erection of a dwelling-house on the land and, if so, the minimum land dimensions so fixed,

(f) whether the land includes or comprises critical habitat,

(g) whether the land is in a conservation area (however described),

(h) whether an item of environmental heritage (however described) is situated on the land.

Item 2(a-d)

The subject land is within the following zone(s) and is affected by the following landuse table:

Zone R2 Low Density Residential

1 Objectives of zone

- To provide for the housing needs of the community within a low density residential environment.
- To enable other land uses that provide facilities or services to meet the day to day needs of residents.

2 Permitted without consent

Environmental facilities; Environmental protection works; Home occupations

3 Permitted with consent

Bed and breakfast accommodation; Boarding houses; Dwelling houses; Group homes; Home industries; Roads; Any other development not specified in item 2 or 4

4 Prohibited

Agriculture; Air transport facilities; Airstrips; Amusement centres; Animal boarding or training establishments; Boat building and repair facilities; Camping grounds; Caravan parks; Cemeteries; Charter and tourism boating facilities; Commercial premises; Correctional centres; Crematoria; Depots; Eco-tourist facilities; Entertainment facilities; Exhibition homes; Exhibition villages; Extractive industries; Farm buildings; Forestry; Freight transport facilities; Function centres; Heavy industrial storage establishments; Highway service centres; Home occupations (sex services); Hostels; Industrial retail outlets; Industrial training facilities; Industries; Information and education facilities; Marinas; Moorings; Mortuaries; Open cut mining; Passenger transport facilities; Public administration buildings; Recreation facilities (major); Registered clubs; Research stations; Residential flat buildings; Restricted premises; Rural industries; Rural workers' dwellings; Service stations; Sex services premises; Shop top housing; Storage premises; Tourist and visitor accommodation; Transport depots; Truck depots; Vehicle body repair workshops; Vehicle repair stations; Veterinary hospitals; Warehouse or distribution centres; Wharf or boating facilities; Wholesale supplies

[End of Zone R2 Table]

Item 2(e) - Minimum Standards for the Erection of a Dwelling-House:

See relevant Tweed Local Environmental Plan(s) applicable to this land as referenced in Item 1(1) above.

Item 2(f) - Critical Habitat:

The subject land is not identified as including or comprising critical habitat as prescribed in the Biodiversity Conservation Act 2016 or (subject to section 5c) Part 7A of the Fisheries Management Act 1994.

Item 2(g) - Conservation Area:

The subject land is not within a heritage conservation area identified within the applicable Tweed Local Environmental Plan.

Item 2(h) - Item of Environmental Heritage:

The subject land contains a heritage item as listed in Schedule 5 of Tweed Local Environmental Plan 2014.

The subject land does contain an item of environmental heritage as listed in Schedule 5 of TLEP2014.

Other Clauses under Tweed Local Environmental Plan 2000 (if this Plan applies)

The subject land is not affected by any special clauses in Tweed Local Environmental Plan 2000.

ITEM 3

Complying Development

Extract from Clause 47 of the Environmental Planning and Assessment (Complying Development and Fire Safety) Regulation 2013 - Schedule 1 - Amendment of Environmental Planning and Assessment Regulation 2000

"Schedule 4 Planning certificates

(1) The extent to which the land is land on which complying development may be carried out under each of the codes for complying development because of the provisions of clauses 1.17A (1) (c) to (e), (2), (3) and (4), 1.18(1)(c3) and 1.19 of State Environmental Planning Policy (Exempt and Complying Development Codes) 2008.

(2) The extent to which complying development may not be carried out on that land because of the provisions of clauses 1.17A (1) (c) to (e), (2), (3) and (4), 1.18(1)(c3) and 1.19 of that Policy and the reasons why it may not be carried out under those clauses.

(3) If the council does not have sufficient information to ascertain the extent to which complying development may or may not be carried out on the land, a statement that a restriction applies to the land, but it may not apply to all of the land, and that council does not have sufficient information to ascertain the extent to which complying development may or may not be carried out on the land."

Subdivisions Code (Strata Subdivision)

Yes. Complying Development under the Subdivisions (Strata Subdivisions) Code may be carried out on this land subject to an assessment of compliance with the requirements of the SEPP.

Demolition Code

Yes. Complying Development under the Demolition Code may be carried out on this land subject to an assessment of compliance with the requirements of the SEPP.

Commercial and Industrial Alterations Code

Yes. Complying Development under the Commercial and Industrial Alterations Code may be carried out on this land subject to an assessment of compliance with the requirements of the SEPP.

General Housing and Rural Housing Code

No. Complying Development under the General Housing Code and Rural Housing Code may not be carried out on this land. The land is affected by specific land exemptions:

The land is affected by the specific land exclusions:

(c) *be on land that is, or is part of, a wilderness area (within the meaning of the Wilderness Act 1987), or*

(d) be carried out on land that:

(i) comprises an item that is listed on the State Heritage Register under the Heritage Act 1977 or on which such an item is located, or

(ii) is subject to an interim heritage order under that Act or on which is located an item that is so subject, or

(iii) is identified as an item of environmental heritage or a heritage item by an environmental planning instrument or on which is located an item that is so identified, or

(e) except as otherwise provided by this Policy, be on land that is within an environmentally sensitive area.

NB. Complying Development may still be possible if excluded through Clause 1.17A (1)(d), if it satisfies Clauses 1.17A (2), (3) or (4), as outlined below:

(2) Despite subclause (1) (d), if development meets the requirements and standards specified by this Policy and that development:

(a) has been granted an exemption under section 57 (2) of the Heritage Act 1977, or

(b) is subject to an exemption under section 57 (1A) or (3) of that Act, the development is complying development under this Policy.

(3) If an item listed on the State Heritage Register is not located on, or does not comprise, the whole of the relevant land, subclause (1) (d) applies only to the part of the land that is described and mapped on that register.

(4) If an item not listed on the State Heritage Register but identified as an item of environmental heritage in an environmental planning instrument does not comprise, or is not located on, the whole of the relevant land, subclause (1) (d) applies only to the part of the land that is described and mapped on that instrument.

Housing Alterations Code and General Development Code

No. Complying Development under the Housing Alterations Code and General Development Code may not be carried out on this land. The land is affected by specific land exemptions:

The land is affected by the specific land exclusions:

(c) *be on land that is, or is part of, a wilderness area (within the meaning of the Wilderness Act 1987), or*

(d) be carried out on land that:

(i) comprises an item that is listed on the State Heritage Register under the Heritage Act 1977 or on which such an item is located, or

(ii) is subject to an interim heritage order under that Act or on which is located an item that is so subject, or

(iii) is identified as an item of environmental heritage or a heritage item by an environmental planning instrument or on which is located an item that is so identified, or

(e) except as otherwise provided by this Policy, be on land that is within an environmentally sensitive area.

NB. Complying Development may still be possible if excluded through Clause 1.17A (1)(d), if it satisfies Clauses 1.17A (2), (3) or (4), as outlined below:

(2) Despite subclause (1) (d), if development meets the requirements and standards specified by this Policy and that development:

(a) has been granted an exemption under section 57 (2) of the Heritage Act 1977, or

(b) is subject to an exemption under section 57 (1A) or (3) of that Act, the development is complying development under this Policy.

(3) If an item listed on the State Heritage Register is not located on, or does not comprise, the whole of the relevant land, subclause (1) (d) applies only to the part of the land that is described and mapped on that register.

(4) If an item not listed on the State Heritage Register but identified as an item of environmental heritage in an environmental planning instrument does not comprise, or is not located on, the whole of the relevant land, subclause (1) (d) applies only to the part of the land that is described and mapped on that instrument.

Commercial and Industrial (New Buildings and Additions) Code

No. Complying Development under the Commercial and Industrial (New Buildings and Additions) Code may not be carried out on this land. The land is affected by specific land exemptions:

The land is affected by the specific land exclusions:

(c) *be on land that is, or is part of, a wilderness area (within the meaning of the Wilderness Act 1987), or*

(d) be carried out on land that:

(i) comprises an item that is listed on the State Heritage Register under the Heritage Act 1977 or on

which such an item is located, or

(ii) is subject to an interim heritage order under that Act or on which is located an item that is so subject, or

(iii) is identified as an item of environmental heritage or a heritage item by an environmental planning instrument or on which is located an item that is so identified, or

(e) except as otherwise provided by this Policy, be on land that is within an environmentally sensitive area.

NB. Complying Development may still be possible if excluded through Clause 1.17A (1)(d), if it satisfies Clauses 1.17A (2), (3) or (4), as outlined below:

(2) Despite subclause (1) (d), if development meets the requirements and standards specified by this Policy and that development:

(a) has been granted an exemption under section 57 (2) of the Heritage Act 1977, or

(b) is subject to an exemption under section 57 (1A) or (3) of that Act, the development is complying development under this Policy.

(3) If an item listed on the State Heritage Register is not located on, or does not comprise, the whole of the relevant land, subclause (1) (d) applies only to the part of the land that is described and mapped on that register.

(4) If an item not listed on the State Heritage Register but identified as an item of environmental heritage in an environmental planning instrument does not comprise, or is not located on, the whole of the relevant land, subclause (1) (d) applies only to the part of the land that is described and mapped on that instrument.

Qualifying Statement on Council Data Affecting this Item

Tweed Shire Council does not have sufficient information to ascertain the extent to which complying development may or may not be carried out on the land, however this restriction may not apply to all of the land.

EXPLANATORY NOTE FOR ITEM 3 COMPLYING DEVELOPMENT

Please note that Council has updated its Section 10.7(2) Planning Certificate information to reflect the statutory changes introduced by the NSW State Government relating to amendments to the State Environmental Planning Policy (Exempt and Complying Development Codes) 2008, via the Amendment (Commercial and Industrial Development and Other Matters) 2013, and the Environmental Planning and Assessment Regulation 2000, via the Amendment (Complying Development and Fire Safety) 2013, which all take full effect from 22 February 2014.

To assist with the introduction of these SEPP amendments, the NSW Department of Planning and Infrastructure (DPI) has provided a series of information sheets on its web site www.planning.nsw.gov.au

The DPI also issued Circulars PS13-004 and PS13-005 on 23 December 2013 which explains what steps local councils need to undertake to implement the commencement of these new controls.

The DPI have stated the following rationale for the new Amendments:

> *"The amending Regulation makes important changes to the lodgement and determination of applications for a complying development certificate (CDC). This includes new requirements to provide advice and notification of complying development to neighbours. There are also additional requirements for information to be lodged with an application for a CDC and for conditions to be imposed on a CDC approval.*
>
> *The SEPP has been amended to include new complying development codes, development standards and other requirements. These amendments will require changes to the information provided in section 10.7 planning certificates. The new development types also include a number of prerequisites for certain proposals to be complying development. These and other related matters are specified in the Regulation."*

It is strongly suggested that you review this information before proceeding with the lodgement of a Complying Development Certificate application to either Council or a private certifier.

For any further clarification of these matters, please contact Council's Development Assessment or Building Units.

ITEM 4 - REPEALED

ITEM 4A - REPEALED

ITEM 4B

Annual Charges under Local Government Act 1993 for coastal protection services that relate to existing coastal protection works

In relation to a coastal council - whether the owner (or any previous owner) of the land has consented in writing to the land being subject to annual charges under section 496B of the Local Government Act 1993 for coastal protection services that relate to existing coastal protection works (within the meaning of section 553B of that Act).

Note. "Existing coastal protection works" are works to reduce the impact of coastal hazards on land (such as seawalls, revetments, groynes and beach nourishment) that existed before the commencement of section 553B of the Local Government Act 1993.

No

ITEM 5

Mine Subsidence:

Whether or not the land is proclaimed to be a mine subsidence district within the meaning of the Coal Mine Subsidence Compensation Act 2017.

No

ITEM 6

Road Widening and Road Realignment:

Whether or not the land is affected by any road widening or road realignment under:

(a) Division 2 of Part 3 of the Roads Act 1993 , or

(b) any environmental planning instrument, or

(c) any resolution of the council.

Item 6(a-c)

The subject land is not affected by any road widening or realignment proposal under either Division 2 or Part 3 of the Roads Act, 1993, any environmental planning instrument or any resolution of the Council.

ITEM 7

Council and other public authority policies on hazard risk restrictions

Whether or not the land is affected by a policy:

(a) adopted by the council, or

(b) adopted by any other public authority and notified to the council for the express purpose of its adoption by that authority being referred to in planning certificates issued by the council,

that restricts the development of the land because of the likelihood of land slip, bushfire, tidal inundation, subsidence, acid sulphate soils or any other risk (other than flooding).

Item 7(a-b)

Land Slip:

The council has not adopted a policy to restrict development of the subject land because of the likelihood of land slip. Geotechnical investigations may be required prior to development of some sites, depending upon the characteristics of the site and the nature of development proposed.

Bushfire:

The Council has adopted a policy to restrict development of the subject land because of the likelihood of bushfire hazard (see Item 11 below).

Tidal Inundation:

Council has no records that indicate that the land is affected by tidal inundation. Accordingly, the Council has not adopted a policy to restrict development of the land in respect of tidal inundation.

Subsidence:

Council records do not indicate that the land is affected by subsidence. Accordingly, the Council has not adopted a policy to restrict development of the land in respect to subsidence.

Acid Sulfate Soils:

The subject land is identified as Class 3 on Councils "Acid Sulfate Soil Planning Map" under the relevant Tweed Local Environmental Plan.

The subject land is identified as Class 5 on Councils "Acid Sulfate Soil Planning Map" under the relevant Tweed Local Environmental Plan.

Any Other Risk:

Council has adopted a policy to restrict development of the subject land due to the following other identified risk:

- ***Cattle Tick Dip Sites:***

  Council records do not indicate that the land is or has been used as a Cattle Tick Dip Site.

- ***Contamination:***

  Council has not by resolution, adopted a policy which may restrict development of the subject land in respect of potential contamination of that land.

  Due to the historical nature of land uses in the Tweed Shire, there is a possibility that land previously used for such purposes as agriculture, industrial, residential, commercial or similar uses would contain contamination. Enquiries should be made at the Council for any information held in their files and enquiries should also be made with all other relevant authorities. Tweed Shire Council has not yet prepared any detailed information as to whether this land is contaminated land.

- ***Coastal Hazards:***

  This property is not affected.

ITEM 7A

Flood related development controls information

(1)	*Whether or not development on that land or part of the land for the purposes of dwelling houses, dual occupancies, multi dwelling housing or residential flat buildings (not including development for the purposes of group homes or seniors housing) is subject to flood related development controls.*
(2)	*Whether or not development on that land or part of the land for any other purpose is subject to flood related development controls.*
(3)	*Words and expressions in this clause have the same meanings as in the instrument.*

Item 7A(1-3)

(1) The land is a flood control lot. Flood planning levels, such as minimum fill and floor levels apply to land in this area, as prescribed by Development Control Plan Section A3 - Development of Flood Liable Land. In this area Council adopted a design flood level of RL 7m AHD and requires new residential dwellings to be constructed with a minimum floor level of RL 7.5m AHD. Council also has an adopted policy for extensions to existing residential dwellings below the adopted design floor level. Flood planning levels are subject to change as new information is obtained. Greenfield residential subdivisions are subject to climate change affected flood planning levels.

Council is aware that the land is flood prone, as defined by Development Control Plan Section A3 - Development of Flood Liable Land. The land is a flood control lot and development of this land shall be subject to the relevant controls in the plan.

Floodplain Risk Management Study

The subject land is situated within the low flow area under the Tweed Valley Floodplain Risk Management Study (and Draft Plan) 2005 - Part 2 Planning Controls for High Flow Areas dated August 2006.

(2) Council is aware that the land is in an area which may be susceptible to flooding. Consequently Council has adopted Development Control Plan A3 – Development of Flood Liable Land, which establishes minimum standards for development not referred to in (1)

ITEM 8

Land Reserved for Acquisition:

Whether or not any environmental planning instrument or proposed environmental planning instrument, referred to in clause 1 makes provision in relation to the acquisition of the land by a public authority, as referred to in section 3.15 of the Act.

The subject land is not identified as being subject to acquisition by a public authority (as referred to in section 27 of the EP&A Act 1979) under the provisions of any environmental planning instrument deemed or draft environmental planning instrument.

ITEM 9

Contributions Plans:

The name of each contributions plan applying to the land.

The following contributions plan(s) apply (or may apply depending upon proposed future development) to the subject land:

Section 94 Plan No 4 - Tweed Road Contribution Plan

Section 94 Plan No 5 - Open Space Contributions

Section 94 Plan No 11 - Tweed Shire Library Facilities

Section 94 Plan No 12 - Bus Shelters

Section 94 Plan No 13 - Eviron Cemetery

Section 94 Plan No 15 - Developer Contributions for Community Facilities

Section 94 Plan No 18 - Council Administration Offices and Technical Support Facilities

Section 94 Plan No 22 - Cycleways

Section 94 Plan No 26 - Shirewide/Regional Open Space

ITEM 9A

Biodiversity Certified Land:

If the land is biodiversity certified land under Part 8 of the Biodiversity Conservation Act 2016, a statement to that effect.

Note. *Biodiversity certified land includes land certified under Part 7AA of the Threatened Species Conservation Act 1995 that is taken to be certified under Part 8 of the Biodiversity Conservation Act 2016.*

Council has not received any biodiversity certifications.

ITEM 10

Biodiversity Stewardship Sites:

If the land is a biodiversity stewardship site under a biodiversity stewardship agreement under Part 5 of the Biodiversity Conservation Act 2016, a statement to that effect (but only if the council has been notified of the existence of the agreement by the Chief Executive of the Office of Environment and Heritage).

Note. *Biodiversity stewardship agreements include biobanking agreements under Part 7A of the Threatened Species Conservation Act 1995 that are taken to be biodiversity stewardship agreements under Part 5 of the Biodiversity Conservation Act 2016.*

Council has not been notified of the existence of any biodiversity stewardship agreements by the Chief Executive of the Office of Environment and Heritage.

ITEM 10A

Native Vegetation Clearing Set Asides

If the land contains a set aside area under section 60ZC of the Local Land Services Act 2013, a statement to that effect (but only if the council has been notified of the existence of the set aside area by Local Land Services or it is registered in the public register under that section).

Council has not been notified of the existence of a set aside area.

ITEM 11

Bush Fire Prone Land

If any of the land is bush fire prone land (as defined in the Act), a statement that all or, as the case may be, some of the land is bush fire prone land.

If none of the land is bush fire prone land, a statement to that effect.

The subject land is identified as bush fire prone land in accordance with the Bush Fire Prone Land map certified in accordance with Section 146(2) of the Environmental Planning and Assessment Act 1979, as amended.

ITEM 12

Property Vegetation Plans

If the land is land to which a property vegetation plan approved under Part 4 of the Native Vegetation Act 2003 (and that continues in force) applies, a statement to that effect (but only if the council has been notified of the existence of the plan by the person or body that approved the plan under that Act).

The subject land is not affected by a Property Vegetation Plan under the Native Vegetation Act 2003.

ITEM 13

Orders under Trees (Disputes between Neighbours) Act 2006

Whether an order has been made under the Trees (Disputes Between Neighbours) Act 2006 to carry out work in relation to a tree on the land (but only if the council has been notified of the order).

Council has not been notified of any Order made under the Trees (Disputes between Neighbours) Act 2006 to carry out work in relation to a tree on the land.

ITEM 14

Directions under Part 3A

If there is a direction by the Minister in force under section 75P (2) (c1) of the Act that a provision of an environmental planning instrument prohibiting or restricting the carrying out of a project or a stage of a project on the land under Part 4 of the Act does not have effect, a statement to that effect identifying the provision that does not have effect.

There are no Directions under Part 3A affecting this land.

ITEM 15

Site compatibility certificates and conditions for seniors housing

If the land is land to which State Environmental Planning Policy (Housing for Seniors or People with a Disability) 2004 applies:

(a) a statement of whether there is a current site compatibility certificate (seniors housing), of which the council is aware, in respect of proposed development on the land and, if there is a certificate, the statement is to include:

(i) the period for which the certificate is current, and

(ii) that a copy may be obtained from the head office of the Department, and

(b) a statement setting out any terms of a kind referred to in clause 18 (2) of that Policy that have been imposed as a condition of consent to a development application granted after 11 October 2007 in respect of the land.

There are no site compatibility certificates and conditions affecting seniors housing on the land.

ITEM 16

Site compatibility certificates for infrastructure, schools or TAFE establishments

A statement of whether there is a valid site compatibility certificate (infrastructure), or site compatibility certificate (schools or TAFE establishments), of which the council is aware, in respect of proposed development on the land and, if there is a certificate, the statement is to include:

(a) the period for which the certificate is valid, and

(b) that a copy may be obtained from the head office of the Department

There are no site compatibility certificates for infrastructure on the land.

ITEM 17

Site compatibility certificates and conditions for affordable rental housing

(1) A statement of whether there is a current site compatibility certificate (affordable rental housing), of which the council is aware, in respect of proposed development on the land and, if there is a certificate, the statement is to include:

(a) the period for which the certificate is current, and

(b) that a copy may be obtained from the head office of the Department.

(2) A statement setting out any terms of a kind referred to in clause 17 (1) or 38 (1) of State Environmental Planning Policy (Affordable Rental Housing) 2009 that have been imposed as a condition of consent to a development application in respect of the land.

There are no site compatibility certificates and conditions for affordable rental housing on the land.

ITEM 18

Paper subdivision information

(1) The name of any development plan adopted by a relevant authority that applies to the land or that is proposed to be subject to a consent ballot.

(2) The date of any subdivision order that applies to the land.

(3) Words and expressions used in this clause have the same meaning as they have in Part 16C of this Regulation.

There is no paper subdivision information relating to this land.

ITEM 19

Site verification certificates

A statement of whether there is a current site verification certificate, of which the council is aware, in respect of the land, if there is a certificate, the statement is to include:

(a) the matter certified by the certificate, and

Note. *A site verification certificate sets out the Secretary's opinion as to whether the land concerned is or is not biophysical strategic agricultural land or critical industry cluster land - see Division 3 of Part 4AA of State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries 2007.*

(b) the date on which the certificate ceases to be current (if any), and

(c) that a copy may be obtained from the head office of the Department.

There are no site verification certificates relating to this land.

ITEM 20

Loose-fill asbestos insulation

If the land includes any residential premises (within the meaning of Division 1A of Part 8 of the Home Building Act 1989) that are listed on the register that is required to be maintained under that Division, a statement to that effect.

The land is not affected or listed on the register.

ITEM 21

Affected building notices and building product rectification orders

(1) A statement of whether there is any affected building notice of which the council is aware that is in force in respect of the land.

(2) A statement of:

(a) whether there is any building product rectification order of which the council is aware that is in force in respect of the land and has not been fully complied with, and

(b) whether any notice of intention to make a building product rectification order of which the council is aware has been given in respect of the land and is outstanding.

(3) In this clause:

affected building notice *has the same meaning as in Part 4 of the Building Products (Safety) Act 2017.*

building product rectification order *has the same meaning as in the Building Products (Safety) Act 2017.*

The land is not affected by any building notice.

Prescribed matters in accordance with the Contaminated Land Management Act 1997

The following matters are prescribed by section 59(2) of the Contaminated Land Management Act 1997 as additional matters to be specified in a planning certificate:

(a) that the land to which the certificate relates is significantly contaminated land within the meaning of that Act – if the land (or part of the land) is significantly contaminated land at the date when the certificate is issued,

(b) that the land to which the certificate relates is subject to a management order within the meaning of that Act – if it is subject to such an order at the date when the certificate is issued,

(c) that the land to which the certificate relates is the subject of an approved voluntary management proposal within the meaning of that Act – if it is the subject of such an approved proposal at the date when the certificate is issued,

(d) that the land to which the certificate relates is subject to an ongoing maintenance order within the meaning of that Act – if it is subject to such an order at the date when the certificate is issued,

(e) that the land to which the certificate relates is the subject of a site audit statement within the meaning of that Act – if a copy of such a statement has been provided at any time to the local authority issuing the certificate.

(a) Significantly Contaminated Land

As at the date of this certificate, Council has not been notified by the Environment Protection Authority (EPA) that the land is significantly contaminated land within the meaning of the Contaminated Land Management Act 1997.

(b) Management Order

As at the date of this certificate, Council has not been notified by the Environment Protection Authority (EPA) that the land is the subject of a management order within the meaning of the Contaminated Land Management Act 1997.

(c) Approved Voluntary Management Proposal

As at the date of this certificate, Council has not been notified by the Environment Protection Authority (EPA) that the land is the subject of an approved voluntary management proposal within the meaning of the Contaminated Land Management Act 1997.

(d) Ongoing Maintenance Order

As at the date of this certificate, Council has not been notified by the Environment Protection Authority (EPA) that the land is the subject of an ongoing maintenance order within the meaning of the Contaminated Land Management Act 1997.

(e) Site Audit Statement

As at the date of this certificate, Council has not been notified that the land is the subject of a site audit statement within the meaning of Part 4 of the Contaminated Land Management Act 1997. Council has not been notified/provided with a copy of any site audit statement pertaining to the subject land.

Additional Information Pursuant to Section 10.7(5) of the Environmental Planning and Assessment Act, 1979

Development Approval/s

No development consents have been issued within the last five (5) years.

Draft Environmental Planning Instruments

Council has resolved to prepare a Draft Local Environmental Plan Amendment (Environmentally Sensitive Land - Clause to clarify the meaning of Sensitive Environmental Land with respect of Aboriginal cultural heritage - PP20/0001) relating to the subject land.

Tree Preservation Orders

The subject land is not affected by Council's Tree Preservation Orders.

Height under either Tweed Local Environmental Plan 2000, Tweed City Centre Local Environmental Plan 2012 or Tweed Local Environmental Plan 2014

The land is restricted to a 9 metre height limit under Tweed Local Environmental Plan 2014

Aircraft Noise

The subject site does not lie within an Australian Noise Exposure Forecast (ANEF) zone surrounding Gold Coast Airport. Additional information on aircraft noise and the ANEF can be obtained from Gold Coast Airport on (07) 5589 1100 or by visiting their website at http://www.goldcoastairport.com.au/.

Future Road Corridor

The subject land is not identified as being subject to future road corridor as identified in Tweed Road Contribution Plan No. 4 (as referred to in Section 26 of the EP&A Act 1979).

Future Road Widening

The subject land is not identified as being subject to future road widening as identified in Tweed Road Contribution Plan No. 4 (as referred to in Section 26 of the EP&A Act 1979).

Farmland Protection

The subject land is not affected by any Farmland Protection.

Tweed Coast Comprehensive Koala Plan of Management

The subject land is not affected by the Tweed Coast Comprehensive Koala Plan of Management.

Residential Living Within and Near Rural Zones

Residential living within and near rural zones may be exposed to noise and impacts from existing and future neighbouring farming activities.

The following “Living and Working in Rural Areas” handbook published by DPI NSW provides a more detailed explanation of these impacts:

https://www.dpi.nsw.gov.au/__data/assets/pdf_file/0010/234001/Living-and-working-in-rural-areas-complete.pdf

NOTE: *The information contained in this certificate needs to be read in conjunction with the provisions of the Environmental Planning and Assessment Act 1979 and Environmental Planning and Assessment Regulation 2000.*

Information provided under Section 10.7(2) is in accordance with the matters prescribed under Schedule 4 of the Environmental Planning and Assessment Regulation 2000.

When information pursuant to Section 10.7(5) is requested, the Council is under no obligation to furnish any particular information pursuant to that Section. The absence of any reference to any matters affecting the land shall not imply that the land is not affected by any matter not referred to in this Certificate.

In addition to the above information you may wish to obtain advice on additional matters affecting the site. A certificate under Section 10.7(5) of the Environmental Planning and Assessment Act 1979 would provide advice on the following additional matters:

- *Development Approval/s issued within the last five years;*
- *Draft Environmental Planning Instruments;*
- *Tree Preservation Orders;*
- *Further Information Regarding Contamination;*
- *Height under Tweed Local Environmental Plan 2000; Tweed City Centre Local Environmental Plan 2012 and Tweed Local Environmental Plan 2014*
- *Aircraft Noise;*
- *Future Road Corridor;*
- *Future Road Widening; and*
- *Farmland Protection*

Council draws your attention to Section 10.7(6) which states that a Council shall not incur any liability in respect of any advice provided in good faith pursuant to subsection (5).

Please contact the Development Assessment Unit for further information about any instruments or affectations referred to in the Certificate.

TROY GREEN
GENERAL MANAGER

Per ……..

Customer Service | 1300 292 872 | (02) 6670 2400
PO Box 816 Murwillumbah NSW 2484
Fax (02) 6670 2429 | ABN 90 178 732 496
tsc@tweed.nsw.gov.au | www.tweed.nsw.gov.au

TWEED SHIRE COUNCIL

Planning Certificate under Section 10.7

(formerly Section 149)

Environmental Planning and Assessment Act, 1979

Land No. 33293

Applicant: Lotsearch Pty Ltd
Level 3, 68 Alfred Street
MILSONS POINT NSW 2061

Certificate No: ePlanCer21/1388
Date of Issue: 26/04/2021
Fee Paid: $133.00
Receipt No:

Your Reference:
eCustomer Reference: **LS019934 Lot 2 DP578679**
Property Description: Lot 2 DP 578679; Elizabeth Street MURWILLUMBAH

In accordance with the requirements of section 10.7 of the Environmental Planning and Assessment Act 1979 (as amended), the following prescribed matters relate to the land at the date of this certificate.

ITEM 1

Names of relevant planning instruments and DCPs

(1)	*The name of each environmental planning instrument that applies to the carrying out of development on the land.*
(2)	*The name of each proposed environmental planning instrument that will apply to the carrying out of development on the land and that is or has been the subject of community consultation or on public exhibition under the Act (unless the Secretary has notified the council that the making of the proposed instrument has been deferred indefinitely or has not been approved).*
(3)	*The name of each development control plan that applies to the carrying out of development on the land.*
(4)	*In this clause, proposed environmental planning instrument includes a planning proposal for a LEP or a draft environmental planning instrument.*

Item 1(1)

The following local environmental planning instrument applies to the carrying out of development on the land:

Tweed Shire LEP 2014

The following State environmental planning policies (SEPPs) apply to the carrying out of development on the land.

State Environmental Planning Policy (Affordable Rental Housing) 2009

State Environmental Planning Policy (Building Sustainability Index: BASIX) 2004

State Environmental Planning Policy (Educational Establishments and Child Care Facilities) 2017

State Environmental Planning Policy (Exempt and Complying Development Codes) 2008

State Environmental Planning Policy (Integration and Repeals) 2016

State Environmental Planning Policy (Koala Habitat Protection) 2019

State Environmental Planning Policy (State Significant Precincts) 2005

State Environmental Planning Policy (Primary Production and Rural Development) 2019

State Environmental Planning Policy (Coastal Management) 2018

State Environmental Planning Policy No. 21 - Caravan Parks

State Environmental Planning Policy No. 33 - Hazardous and Offensive Development

State Environmental Planning Policy No. 36 - Manufactured Homes Estate

State Environmental Planning Policy No. 50 - Canal Estate Development

State Environmental Planning Policy No. 55 - Remediation of Land

State Environmental Planning Policy No. 64 - Advertising and Signage

State Environmental Planning Policy No. 65 - Design Quality of Residential Flat Development

State Environmental Planning Policy (Infrastructure) 2007

State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007

State Environmental Planning Policy (Housing for Seniors or People with a Disability) 2004

State Environmental Planning Policy (Vegetation in Non-Rural Areas) 2017

State Environmental Planning Policy (State and Regional Development) 2011

State Environmental Planning Policy (Miscellaneous Consent Provisions) 2007

Item 1(2)

The following draft local environmental plan(s) and draft planning proposal(s) have been placed on public exhibition and apply to the carrying out of development on the land:

There are no draft Local Environmental Plans currently applying to the subject land.

Item 1(3)

The following development control plan(s) that have been prepared apply to the carrying out of development on the land:

Section A1 - Residential and Tourist Development Code

Section A2 - Site Access and Parking Code

Section A3 - Development of Flood Liable Land

Section A4 - Advertising Signs Code

Section A5 - Subdivision Manual

Section A6 - Biting Midge and Mosquito Control

Section A7 - Child Care Centres

Section A8 - Brothels Policy

Section A9 - Energy Smart Homes Policy

Section A10 - Exempt and Complying Development

Section A13 - Socio Economic Impact Assessment

Section A15 - Waste Minimisation and Management

Section A16 - Preservation of Trees or Vegetation

Section A17 - Business, Enterprise Corridor and General Industrial Zones

Section A18 - Heritage

Section A19 - Biodiversity and Habitat Management

ITEM 2

Zoning and land use under relevant LEPs

For each environmental planning instrument or proposed instrument referred to in clause 1 (other than a SEPP or proposed SEPP) that includes the land in any zone (however described):

(a) the identity of the zone, whether by reference to a name (such as "Residential Zone" or "Heritage Area") or by reference to a number (such as "Zone No 2 (a)"),

(b) the purposes for which the instrument provides that development may be carried out within the zone without the need for development consent,

(c) the purposes for which the instrument provides that development may not be carried out within the zone except with development consent,

(d) the purposes for which the instrument provides that development is prohibited within the zone,

(e) whether any development standards applying to the land fix minimum land dimensions for the erection of a dwelling-house on the land and, if so, the minimum land dimensions so fixed,

(f) whether the land includes or comprises critical habitat,

(g) whether the land is in a conservation area (however described),

(h) whether an item of environmental heritage (however described) is situated on the land.

Item 2(a-d)

The subject land is within the following zone(s) and is affected by the following landuse table:

Zone R2 Low Density Residential

1 Objectives of zone

- To provide for the housing needs of the community within a low density residential environment.
- To enable other land uses that provide facilities or services to meet the day to day needs of residents.

2 Permitted without consent

Environmental facilities; Environmental protection works; Home occupations

3 Permitted with consent

Bed and breakfast accommodation; Boarding houses; Dwelling houses; Group homes; Home industries; Roads; Any other development not specified in item 2 or 4

4 Prohibited

Agriculture; Air transport facilities; Airstrips; Amusement centres; Animal boarding or training establishments; Boat building and repair facilities; Camping grounds; Caravan parks; Cemeteries; Charter and tourism boating facilities; Commercial premises; Correctional centres; Crematoria; Depots; Eco-tourist facilities; Entertainment facilities; Exhibition homes; Exhibition villages; Extractive industries; Farm buildings; Forestry; Freight transport facilities; Function centres; Heavy industrial storage establishments; Highway service centres; Home occupations (sex services); Hostels; Industrial retail outlets; Industrial training facilities; Industries; Information and education facilities; Marinas; Moorings; Mortuaries; Open cut mining; Passenger transport facilities; Public administration buildings; Recreation facilities (major); Registered clubs; Research stations; Residential flat buildings; Restricted premises; Rural industries; Rural workers' dwellings; Service stations; Sex services premises; Shop top housing; Storage premises; Tourist and visitor accommodation; Transport depots; Truck depots; Vehicle body repair workshops; Vehicle repair stations; Veterinary hospitals; Warehouse or distribution centres; Wharf or boating facilities; Wholesale supplies

[End of Zone R2 Table]

Item 2(e) - Minimum Standards for the Erection of a Dwelling-House:

See relevant Tweed Local Environmental Plan(s) applicable to this land as referenced in Item 1(1) above.

Item 2(f) - Critical Habitat:

The subject land is not identified as including or comprising critical habitat as prescribed in the Biodiversity Conservation Act 2016 or (subject to section 5c) Part 7A of the Fisheries Management Act 1994.

Item 2(g) - Conservation Area:

The subject land is not within a heritage conservation area identified within the applicable Tweed Local Environmental Plan.

Item 2(h) - Item of Environmental Heritage:

The subject land does not contain nor constitute an item of environmental heritage as listed in the applicable Tweed Local Environmental Plan.

Other Clauses under Tweed Local Environmental Plan 2000 (if this Plan applies)

The subject land is not affected by any special clauses in Tweed Local Environmental Plan 2000.

ITEM 3

Complying Development

Extract from Clause 47 of the Environmental Planning and Assessment (Complying Development and Fire Safety) Regulation 2013 - Schedule 1 - Amendment of Environmental Planning and Assessment Regulation 2000

"Schedule 4 Planning certificates

(1) The extent to which the land is land on which complying development may be carried out under each of the codes for complying development because of the provisions of clauses 1.17A (1) (c) to (e), (2), (3) and (4), 1.18(1)(c3) and 1.19 of State Environmental Planning Policy (Exempt and Complying Development Codes) 2008.

(2) The extent to which complying development may not be carried out on that land because of the provisions of clauses 1.17A (1) (c) to (e), (2), (3) and (4), 1.18(1)(c3) and 1.19 of that Policy and the reasons why it may not be carried out under those clauses.

(3) If the council does not have sufficient information to ascertain the extent to which complying development may or may not be carried out on the land, a statement that a restriction applies to the land, but it may not apply to all of the land, and that council does not have sufficient information to ascertain the extent to which complying development may or may not be carried out on the land."

Subdivisions Code (Strata Subdivision)

Yes. Complying Development under the Subdivisions (Strata Subdivisions) Code may be carried out on this land subject to an assessment of compliance with the requirements of the SEPP.

Demolition Code

Yes. Complying Development under the Demolition Code may be carried out on this land subject to an assessment of compliance with the requirements of the SEPP.

Commercial and Industrial Alterations Code

Yes. Complying Development under the Commercial and Industrial Alterations Code may be carried out on this land subject to an assessment of compliance with the requirements of the SEPP.

General Housing and Rural Housing Code

Yes. Complying Development under the General Housing Code and Rural Housing Code may be carried out on this land subject to an assessment of compliance with the requirements of the SEPP.

Housing Alterations Code and General Development Code

Yes. Complying Development under the Housing Alterations Code and General Development Code may be carried out on this land subject to an assessment of compliance with the requirements of the SEPP.

Commercial and Industrial (New Buildings and Additions) Code

Yes. Complying Development under the Commercial and Industrial (New Buildings and Additions) Code may be carried out on this land subject to an assessment of compliance with the requirements of the SEPP.

Qualifying Statement on Council Data Affecting this Item

Tweed Shire Council does not have sufficient information to ascertain the extent to which complying development may or may not be carried out on the land, however this restriction may not apply to all of the land.

EXPLANATORY NOTE FOR ITEM 3 COMPLYING DEVELOPMENT

Please note that Council has updated its Section 10.7(2) Planning Certificate information to reflect the statutory changes introduced by the NSW State Government relating to amendments to the State Environmental Planning Policy (Exempt and Complying Development Codes) 2008, via the Amendment (Commercial and Industrial Development and Other Matters) 2013, and the Environmental Planning and Assessment Regulation 2000, via the Amendment (Complying Development and Fire Safety) 2013, which all take full effect from 22 February 2014.

To assist with the introduction of these SEPP amendments, the NSW Department of Planning and Infrastructure (DPI) has provided a series of information sheets on its web site www.planning.nsw.gov.au

The DPI also issued Circulars PS13-004 and PS13-005 on 23 December 2013 which explains what steps local councils need to undertake to implement the commencement of these new controls.

The DPI have stated the following rationale for the new Amendments:

> *"The amending Regulation makes important changes to the lodgement and determination of applications for a complying development certificate (CDC). This includes new requirements to provide advice and notification of complying development to neighbours. There are also additional requirements for information to be lodged with an application for a CDC and for conditions to be imposed on a CDC approval.*
>
> *The SEPP has been amended to include new complying development codes, development standards and other requirements. These amendments will require changes to the information provided in section 10.7 planning certificates. The new development types also include a number of prerequisites for certain proposals to be complying development. These and other related matters are specified in the Regulation."*

It is strongly suggested that you review this information before proceeding with the lodgement of a Complying Development Certificate application to either Council or a private certifier.

For any further clarification of these matters, please contact Council's Development Assessment or Building Units.

ITEM 4 - REPEALED

ITEM 4A - REPEALED

ITEM 4B

Annual Charges under Local Government Act 1993 for coastal protection services that relate to existing coastal protection works

In relation to a coastal council - whether the owner (or any previous owner) of the land has consented in writing to the land being subject to annual charges under section 496B of the Local Government Act 1993 for coastal protection services that relate to existing coastal protection works (within the meaning of section 553B of that Act).

Note. "Existing coastal protection works" are works to reduce the impact of coastal hazards on land (such as seawalls, revetments, groynes and beach nourishment) that existed before the commencement of section 553B of the Local Government Act 1993.

No

ITEM 5

Mine Subsidence:

Whether or not the land is proclaimed to be a mine subsidence district within the meaning of the Coal Mine Subsidence Compensation Act 2017.

No

ITEM 6

Road Widening and Road Realignment:

Whether or not the land is affected by any road widening or road realignment under:

(a) Division 2 of Part 3 of the Roads Act 1993 , or

(b) any environmental planning instrument, or

(c) any resolution of the council.

Item 6(a-c)

The subject land is not affected by any road widening or realignment proposal under either Division 2 or Part 3 of the Roads Act, 1993, any environmental planning instrument or any resolution of the Council.

ITEM 7

Council and other public authority policies on hazard risk restrictions

Whether or not the land is affected by a policy:

(a) adopted by the council, or

(b) adopted by any other public authority and notified to the council for the express purpose of its adoption by that authority being referred to in planning certificates issued by the council,

that restricts the development of the land because of the likelihood of land slip, bushfire, tidal inundation, subsidence, acid sulphate soils or any other risk (other than flooding).

Item 7(a-b)

Land Slip:

The council has not adopted a policy to restrict development of the subject land because of the likelihood of land slip. Geotechnical investigations may be required prior to development of some sites, depending upon the characteristics of the site and the nature of development proposed.

Bushfire:

The Council has adopted a policy to restrict development of the subject land because of the likelihood of bushfire hazard (see Item 11 below).

Tidal Inundation:

Council has no records that indicate that the land is affected by tidal inundation. Accordingly, the Council has not adopted a policy to restrict development of the land in respect of tidal inundation.

Subsidence:

Council records do not indicate that the land is affected by subsidence. Accordingly, the Council has not adopted a policy to restrict development of the land in respect to subsidence.

Acid Sulfate Soils:

The subject land is identified as Class 3 on Councils "Acid Sulfate Soil Planning Map" under the relevant Tweed Local Environmental Plan.

The subject land is identified as Class 4 on Councils "Acid Sulfate Soil Planning Map" under the relevant Tweed Local Environmental Plan.

The subject land is identified as Class 5 on Councils "Acid Sulfate Soil Planning Map" under the relevant Tweed Local Environmental Plan.

Any Other Risk:

Council has adopted a policy to restrict development of the subject land due to the following other identified risk:

- ***Cattle Tick Dip Sites:***

  Council records do not indicate that the land is or has been used as a Cattle Tick Dip Site.

- ***Contamination:***

  Council has not by resolution, adopted a policy which may restrict development of the subject land in respect of potential contamination of that land.

  Due to the historical nature of land uses in the Tweed Shire, there is a possibility that land previously used for such purposes as agriculture, industrial, residential, commercial or similar uses would contain

contamination. Enquiries should be made at the Council for any information held in their files and enquiries should also be made with all other relevant authorities. Tweed Shire Council has not yet prepared any detailed information as to whether this land is contaminated land.

- ***Coastal Hazards:***

  This property is not affected.

ITEM 7A

Flood related development controls information

(1)	*Whether or not development on that land or part of the land for the purposes of dwelling houses, dual occupancies, multi dwelling housing or residential flat buildings (not including development for the purposes of group homes or seniors housing) is subject to flood related development controls.*
(2)	*Whether or not development on that land or part of the land for any other purpose is subject to flood related development controls.*
(3)	*Words and expressions in this clause have the same meanings as in the instrument.*

Item 7A(1-3)

(1) The land is a flood control lot. Flood planning levels, such as minimum fill and floor levels apply to land in this area, as prescribed by Development Control Plan Section A3 - Development of Flood Liable Land. In this area Council adopted a design flood level of RL 7.8m AHD and requires new residential dwellings to be constructed with a minimum floor level of RL 8.3m AHD. Council also has an adopted policy for extensions to existing residential dwellings below the adopted design floor level. Flood planning levels are subject to change as new information is obtained. Greenfield residential subdivisions are subject to climate change affected flood planning levels.

Council is aware that the land is flood prone, as defined by Development Control Plan Section A3 - Development of Flood Liable Land. The land is a flood control lot and development of this land shall be subject to the relevant controls in the plan.

Floodplain Risk Management Study

The subject land is situated within the high flow area under the Tweed Valley Floodplain Risk Management Study (and Draft Plan) 2005 - Part 2 Planning Controls for High Flow Areas dated August 2006.

The subject land is situated within the low flow area under the Tweed Valley Floodplain Risk Management Study (and Draft Plan) 2005 - Part 2 Planning Controls for High Flow Areas dated August 2006.

(2) Council is aware that the land is in an area which may be susceptible to flooding. Consequently Council has adopted Development Control Plan A3 – Development of Flood Liable Land, which establishes minimum standards for development not referred to in (1)

ITEM 8

Land Reserved for Acquisition:

Whether or not any environmental planning instrument or proposed environmental planning instrument, referred to in clause 1 makes provision in relation to the acquisition of the land by a public authority, as referred to in section 3.15 of the Act.

The subject land is not identified as being subject to acquisition by a public authority (as referred to in section 27 of the EP&A Act 1979) under the provisions of any environmental planning instrument deemed or draft environmental planning instrument.

ITEM 9

Contributions Plans:

The name of each contributions plan applying to the land.

The following contributions plan(s) apply (or may apply depending upon proposed future development) to the subject land:

Section 94 Plan No 4 - Tweed Road Contribution Plan

Section 94 Plan No 5 - Open Space Contributions

Section 94 Plan No 11 - Tweed Shire Library Facilities

Section 94 Plan No 12 - Bus Shelters

Section 94 Plan No 13 - Eviron Cemetery

Section 94 Plan No 15 - Developer Contributions for Community Facilities

Section 94 Plan No 18 - Council Administration Offices and Technical Support Facilities

Section 94 Plan No 22 - Cycleways

Section 94 Plan No 26 - Shirewide/Regional Open Space

ITEM 9A

Biodiversity Certified Land:

If the land is biodiversity certified land under Part 8 of the Biodiversity Conservation Act 2016, a statement to that effect.

Note. *Biodiversity certified land includes land certified under Part 7AA of the Threatened Species Conservation Act 1995 that is taken to be certified under Part 8 of the Biodiversity Conservation Act 2016.*

Council has not received any biodiversity certifications.

ITEM 10

Biodiversity Stewardship Sites:

If the land is a biodiversity stewardship site under a biodiversity stewardship agreement under Part 5 of the Biodiversity Conservation Act 2016, a statement to that effect (but only if the council has been notified of the existence of the agreement by the Chief Executive of the Office of Environment and Heritage).

Note. *Biodiversity stewardship agreements include biobanking agreements under Part 7A of the Threatened Species Conservation Act 1995 that are taken to be biodiversity stewardship agreements under Part 5 of the Biodiversity Conservation Act 2016.*

Council has not been notified of the existence of any biodiversity stewardship agreements by the Chief Executive of the Office of Environment and Heritage.

ITEM 10A

Native Vegetation Clearing Set Asides

If the land contains a set aside area under section 60ZC of the Local Land Services Act 2013, a statement to that effect (but only if the council has been notified of the existence of the set aside area by Local Land Services or it is registered in the public register under that section).

Council has not been notified of the existence of a set aside area.

ITEM 11

Bush Fire Prone Land

If any of the land is bush fire prone land (as defined in the Act), a statement that all or, as the case may be, some of the land is bush fire prone land.

If none of the land is bush fire prone land, a statement to that effect.

The subject land is identified as bush fire prone land in accordance with the Bush Fire Prone Land map certified in accordance with Section 146(2) of the Environmental Planning and Assessment Act 1979, as amended.

ITEM 12

Property Vegetation Plans

If the land is land to which a property vegetation plan approved under Part 4 of the Native Vegetation Act 2003 (and that continues in force) applies, a statement to that effect (but only if the council has been notified of the existence of the plan by the person or body that approved the plan under that Act).

The subject land is not affected by a Property Vegetation Plan under the Native Vegetation Act 2003.

ITEM 13

Orders under Trees (Disputes between Neighbours) Act 2006

Whether an order has been made under the Trees (Disputes Between Neighbours) Act 2006 to carry out work in relation to a tree on the land (but only if the council has been notified of the order).

Council has not been notified of any Order made under the Trees (Disputes between Neighbours) Act 2006 to carry out work in relation to a tree on the land.

ITEM 14

Directions under Part 3A

If there is a direction by the Minister in force under section 75P (2) (c1) of the Act that a provision of an environmental planning instrument prohibiting or restricting the carrying out of a project or a stage of a project on the land under Part 4 of the Act does not have effect, a statement to that effect identifying the provision that does not have effect.

There are no Directions under Part 3A affecting this land.

ITEM 15

Site compatibility certificates and conditions for seniors housing

If the land is land to which State Environmental Planning Policy (Housing for Seniors or People with a Disability) 2004 applies:

(a) a statement of whether there is a current site compatibility certificate (seniors housing), of which the council is aware, in respect of proposed development on the land and, if there is a certificate, the statement is to include:

(i) the period for which the certificate is current, and

(ii) that a copy may be obtained from the head office of the Department, and

(b) a statement setting out any terms of a kind referred to in clause 18 (2) of that Policy that have been imposed as a condition of consent to a development application granted after 11 October 2007 in respect of the land.

There are no site compatibility certificates and conditions affecting seniors housing on the land.

ITEM 16

Site compatibility certificates for infrastructure, schools or TAFE establishments

A statement of whether there is a valid site compatibility certificate (infrastructure), or site compatibility certificate (schools or TAFE establishments), of which the council is aware, in respect of proposed development on the land and, if there is a certificate, the statement is to include:

(a) the period for which the certificate is valid, and

(b) that a copy may be obtained from the head office of the Department

There are no site compatibility certificates for infrastructure on the land.

ITEM 17

Site compatibility certificates and conditions for affordable rental housing

(1) A statement of whether there is a current site compatibility certificate (affordable rental housing), of which the council is aware, in respect of proposed development on the land and, if there is a certificate, the statement is to include:

(a) the period for which the certificate is current, and

(b) that a copy may be obtained from the head office of the Department.

(2) A statement setting out any terms of a kind referred to in clause 17 (1) or 38 (1) of State Environmental Planning Policy (Affordable Rental Housing) 2009 that have been imposed as a condition of consent to a development application in respect of the land.

There are no site compatibility certificates and conditions for affordable rental housing on the land.

ITEM 18

Paper subdivision information

(1) The name of any development plan adopted by a relevant authority that applies to the land or that is proposed to be subject to a consent ballot.

(2) The date of any subdivision order that applies to the land.

(3) Words and expressions used in this clause have the same meaning as they have in Part 16C of this Regulation.

There is no paper subdivision information relating to this land.

ITEM 19

Site verification certificates

A statement of whether there is a current site verification certificate, of which the council is aware, in respect of the land, if there is a certificate, the statement is to include:

(a) the matter certified by the certificate, and

Note. *A site verification certificate sets out the Secretary's opinion as to whether the land concerned is or is not biophysical strategic agricultural land or critical industry cluster land - see Division 3 of Part 4AA of State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries 2007.*

(b) the date on which the certificate ceases to be current (if any), and

(c) that a copy may be obtained from the head office of the Department.

There are no site verification certificates relating to this land.

ITEM 20

Loose-fill asbestos insulation

If the land includes any residential premises (within the meaning of Division 1A of Part 8 of the Home Building Act 1989) that are listed on the register that is required to be maintained under that Division, a statement to that effect.

The land is not affected or listed on the register.

ITEM 21

Affected building notices and building product rectification orders

(1) A statement of whether there is any affected building notice of which the council is aware that is in force in respect of the land.

(2) A statement of:

(a) whether there is any building product rectification order of which the council is aware that is in force in respect of the land and has not been fully complied with, and

(b) whether any notice of intention to make a building product rectification order of which the council is aware has been given in respect of the land and is outstanding.

(3) In this clause:

***affected building notice** has the same meaning as in Part 4 of the Building Products (Safety) Act 2017.*

***building product rectification order** has the same meaning as in the Building Products (Safety) Act 2017.*

The land is not affected by any building notice.

Prescribed matters in accordance with the Contaminated Land Management Act 1997

The following matters are prescribed by section 59(2) of the Contaminated Land Management Act 1997 as additional matters to be specified in a planning certificate:

(a) that the land to which the certificate relates is significantly contaminated land within the meaning of that Act – if the land (or part of the land) is significantly contaminated land at the date when the certificate is issued,

(b) that the land to which the certificate relates is subject to a management order within the meaning of that Act – if it is subject to such an order at the date when the certificate is issued,

(c) that the land to which the certificate relates is the subject of an approved voluntary management proposal within the meaning of that Act – if it is the subject of such an approved proposal at the date when the certificate is issued,

(d) that the land to which the certificate relates is subject to an ongoing maintenance order within the meaning of that Act – if it is subject to such an order at the date when the certificate is issued,

(e) that the land to which the certificate relates is the subject of a site audit statement within the meaning of that Act – if a copy of such a statement has been provided at any time to the local authority issuing the certificate.

(a) Significantly Contaminated Land

As at the date of this certificate, Council has not been notified by the Environment Protection Authority (EPA) that the land is significantly contaminated land within the meaning of the Contaminated Land Management Act 1997.

(b) Management Order

As at the date of this certificate, Council has not been notified by the Environment Protection Authority (EPA) that the land is the subject of a management order within the meaning of the Contaminated Land Management Act 1997.

(c) Approved Voluntary Management Proposal

As at the date of this certificate, Council has not been notified by the Environment Protection Authority (EPA) that the land is the subject of an approved voluntary management proposal within the meaning of the Contaminated Land Management Act 1997.

(d) Ongoing Maintenance Order

As at the date of this certificate, Council has not been notified by the Environment Protection Authority (EPA) that the land is the subject of an ongoing maintenance order within the meaning of the Contaminated Land Management Act 1997.

(e) Site Audit Statement

As at the date of this certificate, Council has not been notified that the land is the subject of a site audit statement within the meaning of Part 4 of the Contaminated Land Management Act 1997. Council has not been notified/provided with a copy of any site audit statement pertaining to the subject land.

Additional Information Pursuant to Section 10.7(5) of the Environmental Planning and Assessment Act, 1979

Development Approval/s

No development consents have been issued within the last five (5) years.

Draft Environmental Planning Instruments

Council has resolved to prepare a Draft Local Environmental Plan Amendment (Environmentally Sensitive Land - Clause to clarify the meaning of Sensitive Environmental Land with respect of Aboriginal cultural heritage - PP20/0001) relating to the subject land.

Tree Preservation Orders

The subject land is not affected by Council's Tree Preservation Orders.

Height under either Tweed Local Environmental Plan 2000, Tweed City Centre Local Environmental Plan 2012 or Tweed Local Environmental Plan 2014

The land is restricted to a 9 metre height limit under Tweed Local Environmental Plan 2014

Aircraft Noise

The subject site does not lie within an Australian Noise Exposure Forecast (ANEF) zone surrounding Gold Coast Airport. Additional information on aircraft noise and the ANEF can be obtained from Gold Coast Airport on (07) 5589 1100 or by visiting their website at http://www.goldcoastairport.com.au/.

Future Road Corridor

The subject land is not identified as being subject to future road corridor as identified in Tweed Road Contribution Plan No. 4 (as referred to in Section 26 of the EP&A Act 1979).

Future Road Widening

The subject land is not identified as being subject to future road widening as identified in Tweed Road Contribution Plan No. 4 (as referred to in Section 26 of the EP&A Act 1979).

Farmland Protection

The land is identified as Regionally Significant Farmland (Farmland Protection Project) on the map referred to in Section 117(2) Direction No. 14 dated 30 September 2005.

Tweed Coast Comprehensive Koala Plan of Management

The subject land is not affected by the Tweed Coast Comprehensive Koala Plan of Management.

Residential Living Within and Near Rural Zones

Residential living within and near rural zones may be exposed to noise and impacts from existing and future neighbouring farming activities.

The following “Living and Working in Rural Areas” handbook published by DPI NSW provides a more detailed explanation of these impacts:

https://www.dpi.nsw.gov.au/__data/assets/pdf_file/0010/234001/Living-and-working-in-rural-areas-complete.pdf

NOTE: *The information contained in this certificate needs to be read in conjunction with the provisions of the Environmental Planning and Assessment Act 1979 and Environmental Planning and Assessment Regulation 2000.*

Information provided under Section 10.7(2) is in accordance with the matters prescribed under Schedule 4 of the Environmental Planning and Assessment Regulation 2000.

When information pursuant to Section 10.7(5) is requested, the Council is under no obligation to furnish any particular information pursuant to that Section. The absence of any reference to any matters affecting the land shall not imply that the land is not affected by any matter not referred to in this Certificate.

In addition to the above information you may wish to obtain advice on additional matters affecting the site. A certificate under Section 10.7(5) of the Environmental Planning and Assessment Act 1979 would provide advice on the following additional matters:

- *Development Approval/s issued within the last five years;*
- *Draft Environmental Planning Instruments;*
- *Tree Preservation Orders;*
- *Further Information Regarding Contamination;*
- *Height under Tweed Local Environmental Plan 2000; Tweed City Centre Local Environmental Plan 2012 and Tweed Local Environmental Plan 2014*
- *Aircraft Noise;*
- *Future Road Corridor;*
- *Future Road Widening; and*
- *Farmland Protection*

Council draws your attention to Section 10.7(6) which states that a Council shall not incur any liability in respect of any advice provided in good faith pursuant to subsection (5).

Please contact the Development Assessment Unit for further information about any instruments or affectations referred to in the Certificate.

TROY GREEN
GENERAL MANAGER

Per ……..

Appendix G

SafeWork NSW Dangerous Goods Search

428 - 485 - F

Licence No. 35/017710

RECEIVED
SERVICE
15 OCT 2004
WORKCOVER
NEWS

APPLICATION FOR RENEWAL

OF LICENCE TO KEEP DANGEROUS GOODS

ISSUED UNDER AND SUBJECT TO THE PROVISIONS OF THE DANGEROUS GOODS ACT, 1975 AND REGULATION THEREUNDER

DECLARATION: Please renew licence number 35/017710 to 19/11/2005 . I confirm that all the licence details shown below are correct (amend if necessary).

B Flynn (Signature) PHILLIP FLYNN (Please print name) 12/10/2004 (Date signed)

for: SCHOOL EDUCATION DEPARTMENT

*THIS **SIGNED** DECLARATION SHOULD BE **RETURNED TO:***

WorkCover New South Wales
Dangerous Goods Licensing Section
LOCKED BAG 2906
LISAROW NSW 2252

Enquiries:ph (02) 43215500
fax (02) 92875500

Details of licence on 30 September 2004

Licence Number 35/017710 **Expiry Date** 19/11/2004

Licensee SCHOOL EDUCATION DEPARTMENT MURWILLUMBAH HIGH SCHOOL

Postal Address: MURWILLUMBAH HIGH SCHOOL P O BOX 829 MURWILLUMBAH NSW 2484

Licensee Contact PHILLIP FLYNN Ph. 02 66721566 Fax. 02 66725070

Premises Licensed to Keep Dangerous Goods
SCHOOL EDUCATION DEPARTMENT MURWILLUMBAH HIGH SCHOOL
RIVERVIEW ST MURWILLUMBAH 2484

Nature of Site SECONDARY EDUCATION

Major Supplier of Dangerous Goods ELGAS

Emergency Contact for this Site PHILLIP FLYNN Ph. 02 66721566

Site staffing 10HRS 5DAYS

Details of Depots

Depot No.	Depot Type	Goods Stored in Depot	Qty
LPG1	ABOVE-GROUND TANK	Class 2.1	1000 L
	UN 1075 PETROLEUM GASES, LIQUEFIED		1000 L

THE NEW SOUTH WALES GOVERNMENT
Putting people first by managing better

PART A

WorkCover Authority

LICENCE TO KEEP DANGEROUS GOODS

(Dangerous Goods Act 1975)

Application for new licence, amendment or transfer

1. Name of applicant | ACN
   MURWILLUMBAH HIGH SCHOOL |

2. Site to be licensed
   No | Street
   | RIVERVIEW STREET
   Suburb/Town | Postcode
   MURWILLUMBAH | 2484

3. Previous licence number (if known) 35-017710

4. Nature of site SCHOOL

5. Emergency contact on site:
   Phone | Name
   (066) 72 1566 | PHILLIP FLYNN

DATA
23 NOV 1994
ENTERED

6. Site staffing: Hours per day 10 Days per week 5

7. Major supplier of dangerous goods BORAL GAS (NSW) PTY LTD

8. If new site or significant modification
   Plan stamped by: | Accredited consultant's name: | Date stamped

SCIENTIFIC SERVICES BRANCH
21 NOV 1994
DANGEROUS GOODS

9. Number of dangerous goods depots at site ONE

10. Trading name or occupier's name
    MURWILLUMBAH HIGH SCHOOL

11. Postal address of applicant | Suburb/Town | Postcode
    P.O. BOX 829 | MURWILLUMBAH | 2484

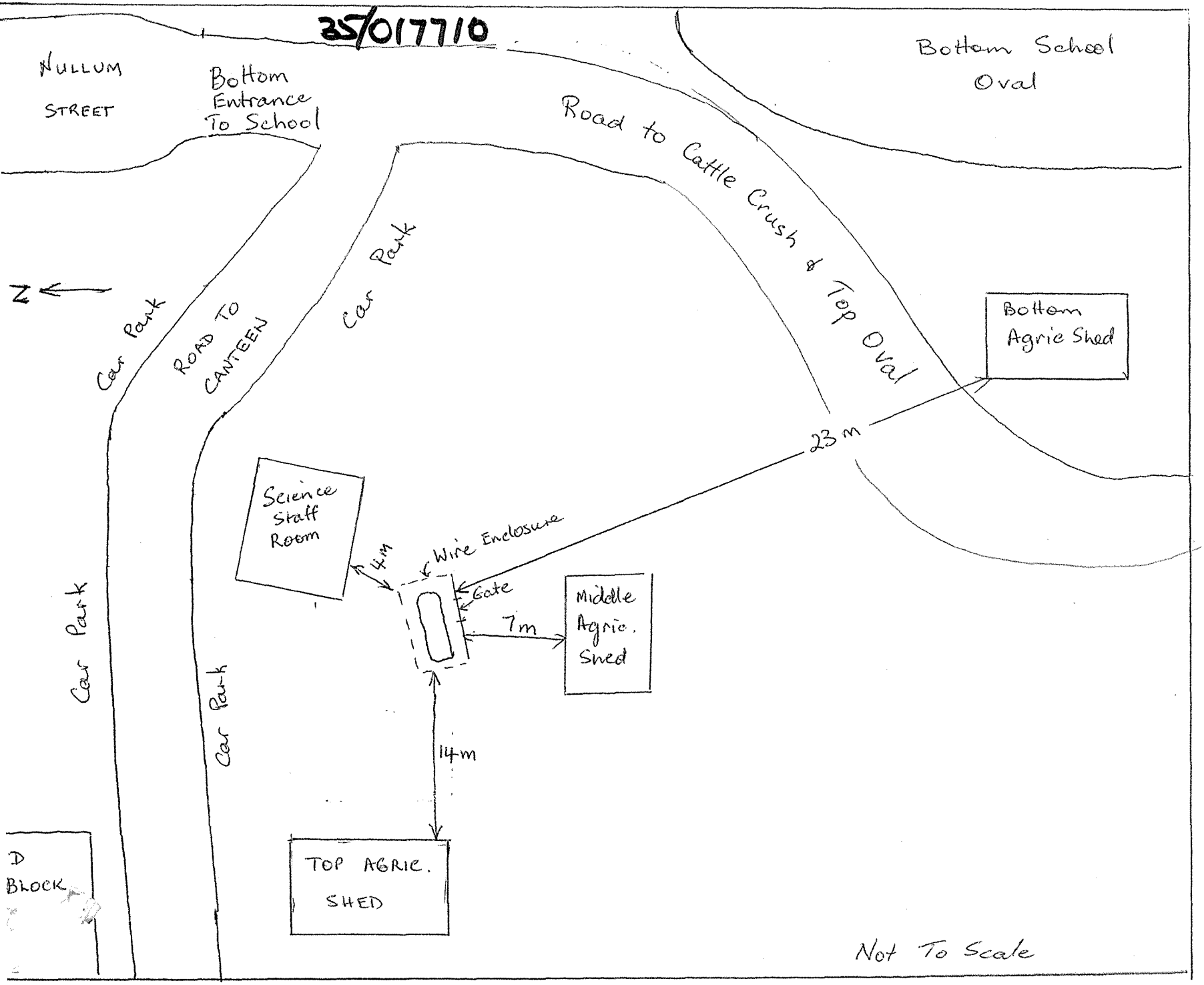
12. Contact for licence enquiries:
    Phone | Fax | Name
    066 72 1566 | 066 72 5070 | PHILLIP FLYNN

I certify that the details contained in this application (or the accompanying computer disk) are true and correct

13. Signature of applicant P Flynn H.T. Admin. Date 15-11-94

Please complete attached site sketch, depot listing and check sheet (if required) and return to WorkCover Authority in envelope provided.

Form DG1


35/017710
NULLUM STREET
Bottom Entrance To School
Bottom School Oval
Road to Cattle Crush & Top Oval
N
Car Park
ROAD TO CANTEEN
Car Park
Bottom Agric Shed
23 m
Science Staff Room
4m
Wire Enclosure
Gate
7m
Middle Agric. Shed
Car Park
Car Park
14m
D BLOCK
TOP AGRIC. SHED
Not To Scale

PART C **CHEMICAL STORAGE**

Complete 1 section per depot

If you have more depots than the space provided, photocopy sufficient sheets first.

Depot number	Type of depot	Class	Licensed maximum storage capacity
LPG 1	ABOVE GROUND TANK 119-U-7631	2.1	1000 litres

UN number	Shipping name	Pkg. Class	Pkg. Group	Pkg. EPG	Product or common name	Typical quantity	Unit eg. L, kg, m³
1075	BORAL GAS PTY LTD	2.1			LPG	1000	L

Depot number	Type of depot	Class	Licensed maximum storage capacity

UN number	Shipping name	Pkg. Class	Pkg. Group	Pkg. EPG	Product or common name	Typical quantity	Unit eg. L, kg, m³

Depot number	Type of depot	Class	Licensed maximum storage capacity

UN number	Shipping name	Pkg. Class	Pkg. Group	Pkg. EPG	Product or common name	Typical quantity	Unit eg. L, kg, m³

Depot number	Type of depot	Class	Licensed maximum storage capacity

UN number	Shipping name	Pkg. Class	Pkg. Group	Pkg. EPG	Product or common name	Typical quantity	Unit eg. L, kg, m³

ME 37

FORM B

Page 1

Register No. 17710.

INFLAMMABLE LIQUID ACT, 1915 (AS AMENDED)

Application for Registration of Premises or Store Licence under Division A. or for the transfer alteration or amendment of any such Registration or Licence, for the keeping of Inflammable Liquid and/or Dangerous Goods, in accordance with the provisions of the Inflammable Liquid Act, 1915 (as amended), for the ensuing year.

DIRECTIONS

1. Applications must be forwarded to the Chief Inspector of Inflammable Liquid, Explosives Department, Box R.216, Royal Exchange Sydney, N.S.W. 2000 and must be accompanied by the prescribed fee, as set out hereunder:

Registration of Premises (Fee $3.00 p.a.) – For quantities not exceeding 300 gallons of mineral oil and 100 gallons of mineral spirit, if kept together; or 800 gallons of mineral oil and 100 gallons of mineral spirit, if kept in separate depots; or 500 gallons of mineral spirit, if kept in an underground tank depot; or 800 gallons of mineral oil and 500 gallons of mineral spirit, if mineral spirit is kept in an underground tank depot.

In addition to, or in lieu of the above, similar quantities of Dangerous Goods of Classes 1 and 2 may be kept under the like conditions; reading Dangerous Goods of Class 1 for the words Mineral Spirit and Dangerous Goods of Class 2 for the words Mineral Oil.

Store License, Div. A (Fee, $6.50 p.a.) – For quantities in excess of those stated above, but not exceeding 4,000 gallons mineral oil and/or mineral spirit, and/or Dangerous Goods of Classes 1, 2 and 9.

Store License, Div. B (Fee, See Regulation 7) – For quantities exceeding 4,000 gallons of mineral spirit, and/or dangerous goods of Classes 1 and 2, and/or dangerous goods of Class 3.

For the keeping of Dangerous Goods of Classes 3 and/or 4. ($15.00 p.a.).

Fees for the keeping of inflammable liquid and dangerous goods in excess of the above stated quantities and also for Liquid Perroleum Gas storage are set out in Regulation 7.

1. Name of occupier including full christian names.	EDUCATION DEPARTMENT
2. Trading Name (if any)	PUBLIC WORKS DEPARTMENT
3. Locality of the premises in which the depot or depots are situated	No. or Name MURWILLUMBAH HIGH SCHOOL. Street Town MURWILLUMBAH 2484
4. Postal address	Light, Heat & Power, St., Postcode 2000. State Office Block SYDNEY.
5. Occupation	
6. Nature of premises (dwelling, garage etc.)	Gov t., Dept., SCHOOL.

8.

7. Particulars of construction of depots and maximum quantities of inflammable liquid and/or Dangerous Goods to be kept at any one time.

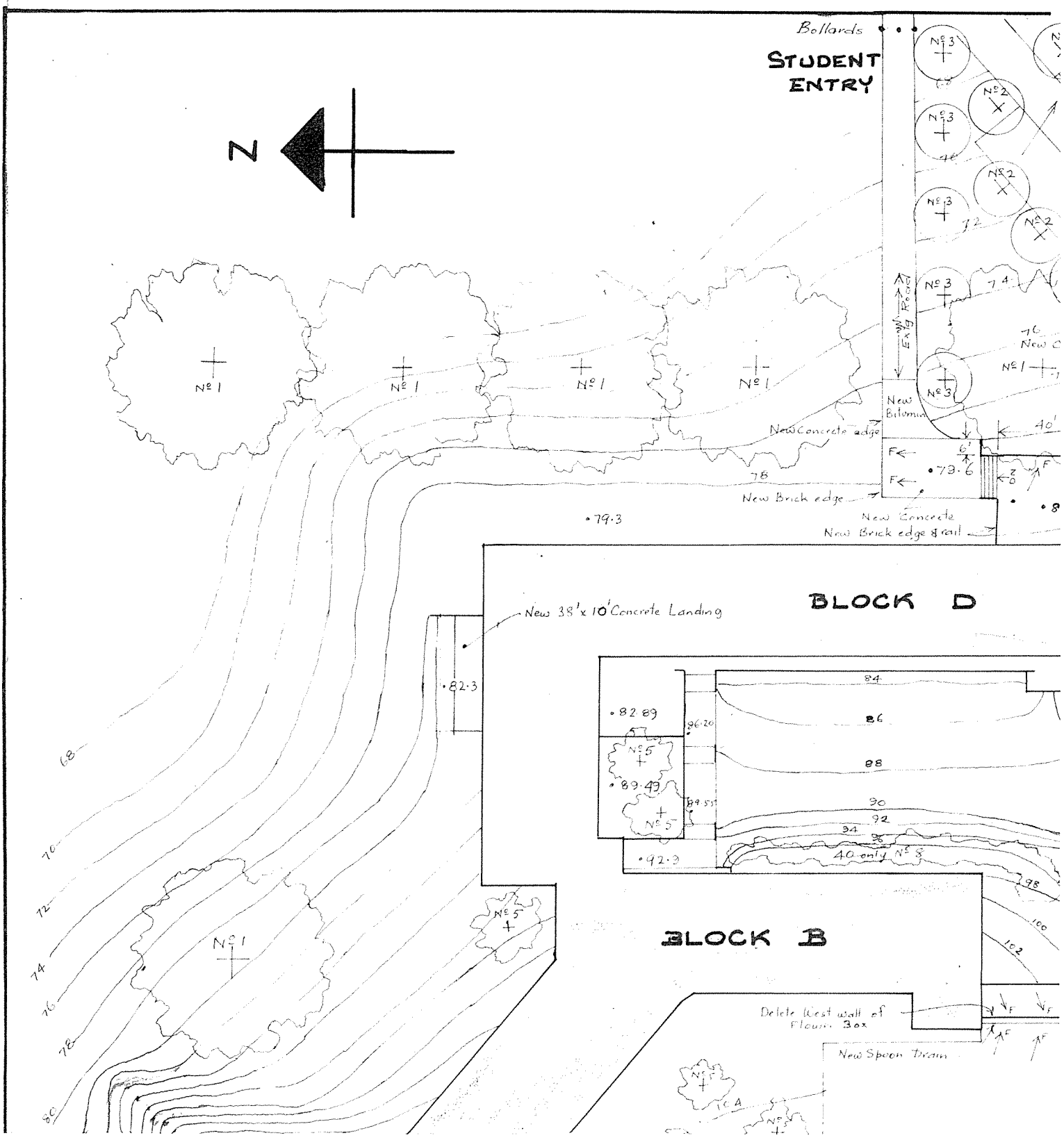
PLEASE ATTACH PLAN OF PREMISES

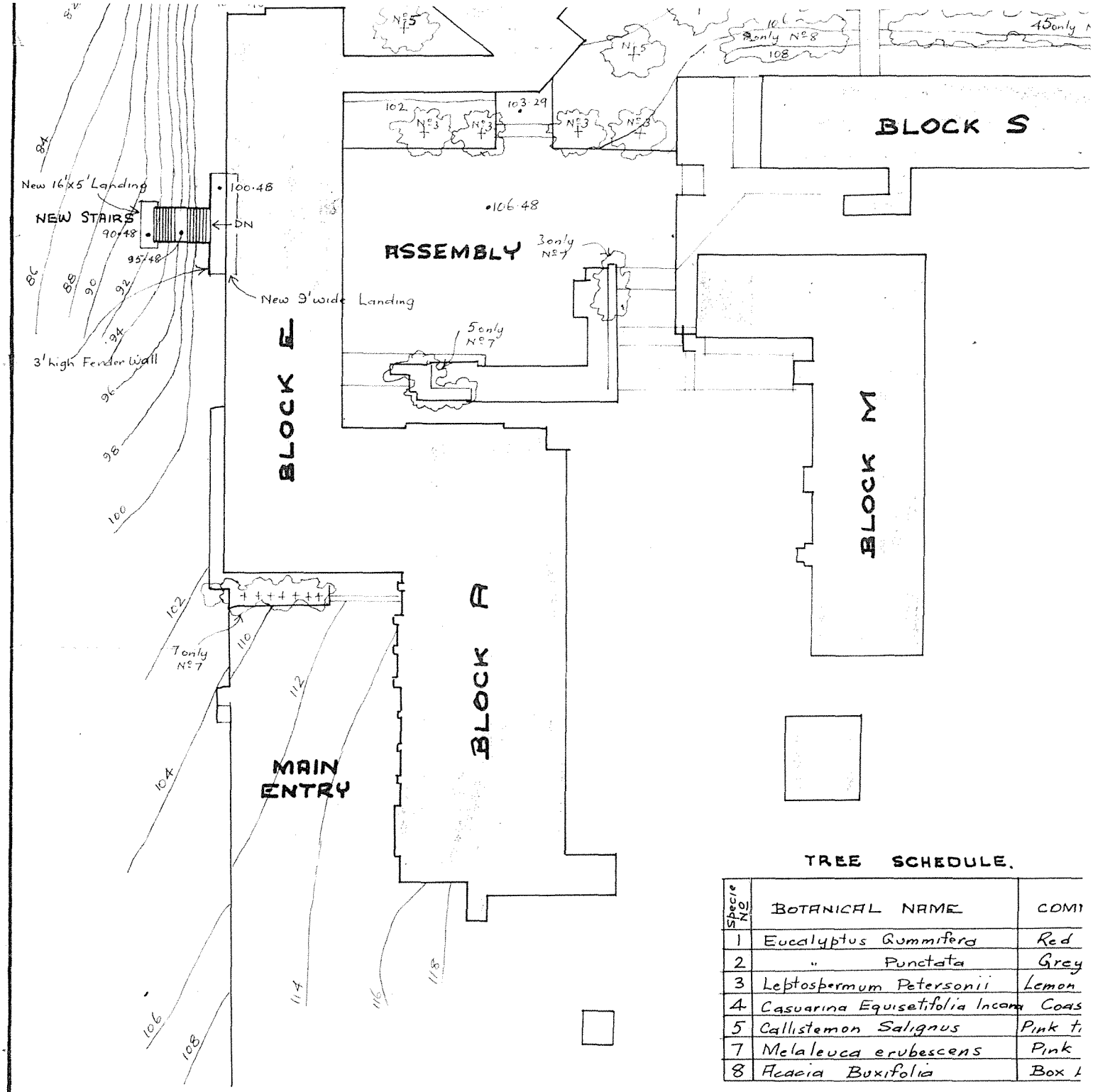
Depot No.	Construction of depots *			Inflammable liquid		* Dangerous goods					
	Walls	Roof	Floor	Mineral spirit gallons	Mineral oil gallons	Class 1 gallons	Class 2 gallons	Class 3 lb	Class 4 cu ft	Class 5A water gal	Class 9 gallons
1	ABOVEGROUND		TANK.							250	
2											
3											
4											
5											
6											
7											
8											
9										Receipt No 7981	
10										14.2.72.	

* If product is kept in tanks describe depots as underground or aboveground tanks.

Signature of applicant [signature] (Principal)

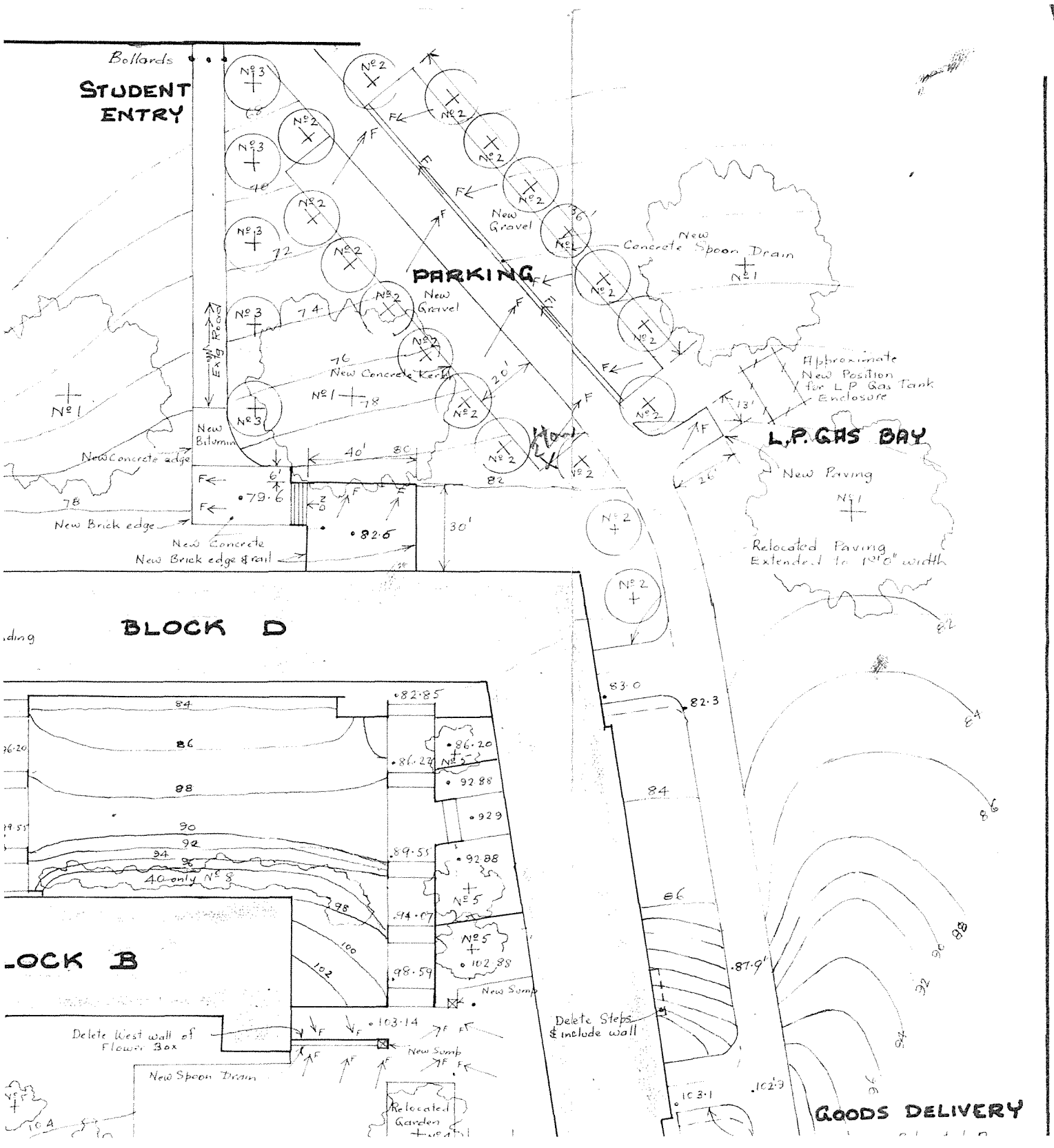
Date of application 9th Feb, 1972

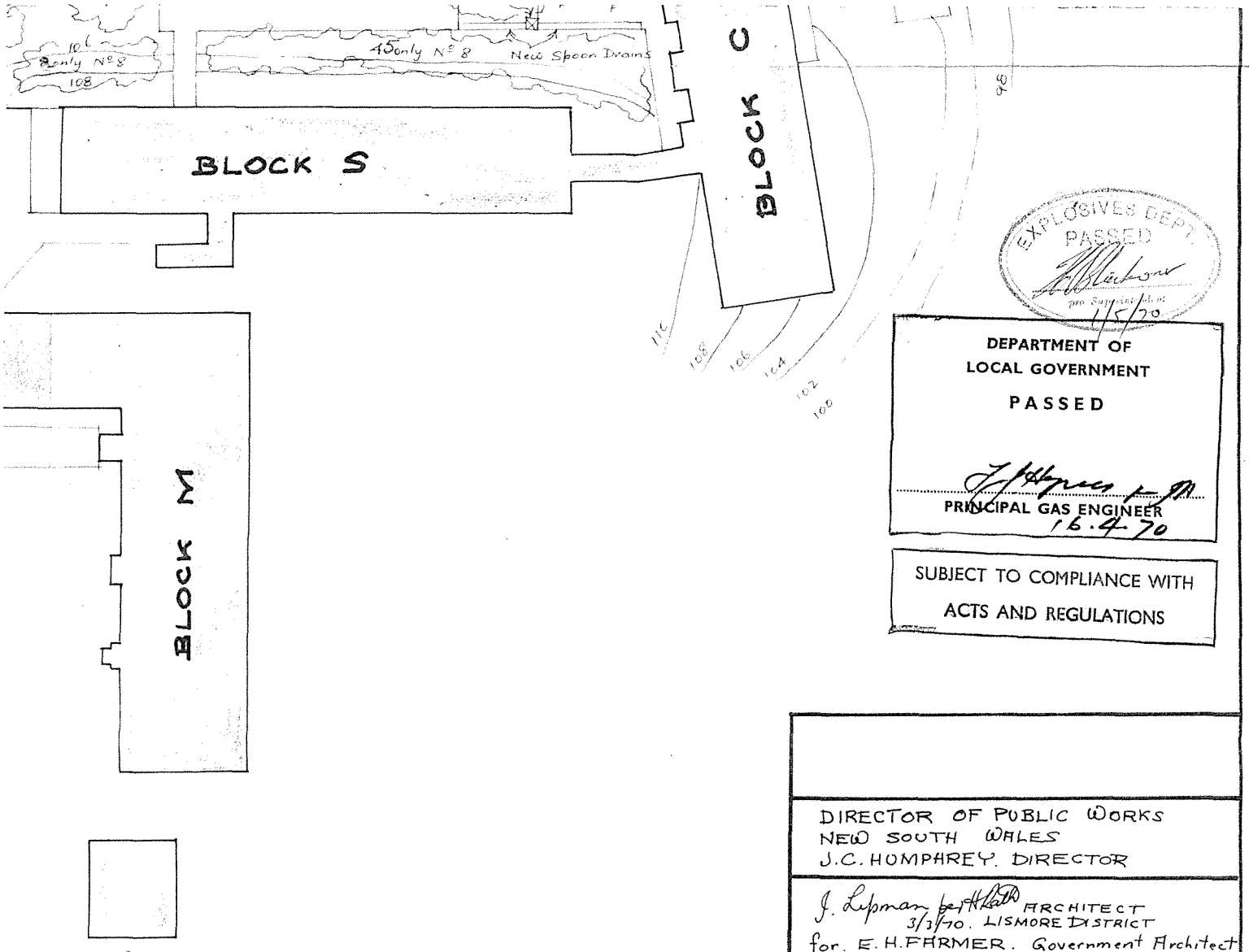

Bollards
STUDENT ENTRY
N
Nº 1
Nº 3
Nº 2
Nº 5
New Concrete edge
New Brick edge
New Concrete
New Brick edge & rail
New 38' x 10' Concrete Landing
BLOCK D
BLOCK B
Delete West wall of Flown Box
New Spoon Drain
40 only Nº 3
• 79·3
• 79·6
• 82·3
• 82 89
• 89·49
• 92·3
96·20
89·55
78
76
74
72
70
68
80
84
86
88
90
92
94
98
100
102
104
40'
6'



TREE SCHEDULE.

Specie No	BOTANICAL NAME	COMM
1	Eucalyptus Gummifera	Red
2	" Punctata	Grey
3	Leptospermum Petersonii	Lemon
4	Casuarina Equisetifolia Incom	Coas
5	Callistemon Salignus	Pink t
7	Melaleuca erubescens	Pink
8	Acacia Buxifolia	Box


Bollards
STUDENT ENTRY
PARKING
New Gravel
New Concrete Spoon Drain
Approximate New Position for L.P. Gas Tank Enclosure
L.P. GAS BAY
New Paving
Relocated Paving Extended to 10'0" width
Existing Road
New Concrete Kerb
New Bitumin
New Concrete edge
New Brick edge
New Concrete
New Brick edge & rail
BLOCK D
BLOCK B
40 only No 8
New Sump
Delete West wall of Flow in Box
New Spoon Drain
Relocated Garden
Delete Steps & include wall
GOODS DELIVERY



EXPLOSIVES DEPT. PASSED pro Superintendent 11/5/70

DEPARTMENT OF LOCAL GOVERNMENT

PASSED

PRINCIPAL GAS ENGINEER 16.4.70

SUBJECT TO COMPLIANCE WITH ACTS AND REGULATIONS

DIRECTOR OF PUBLIC WORKS
NEW SOUTH WALES
J.C. HUMPHREY. DIRECTOR

J. Lipman per H.H. ARCHITECT
3/3/70. LISMORE DISTRICT
for. E.H. FARMER. Government Architect

MURWILLUMBAH HIGH SCHOOL ALTS & ADDITIONS

AMENDMENTS & ADDITIONAL WORK

Scale: 1/32" to 1 foot LS 233.

TREE SCHEDULE.

Specie No	BOTANICAL NAME	COMMON NAME	Number Req'd.
1	Eucalyptus Gummifera	Red Bloodwood.	8
2	" Punctata	Grey Gum	18
3	Leptospermum Petersonii	Lemon Scented Tea Tree	9
4	Casuarina Equisetifolia Incana	Coast Oak	1
5	Callistemon Salignus	Pink tip, White Bottlebrush	11
7	Melaleuca erubescens	Pink Paper Bark	15
8	Acacia Buxifolia	Box Leaf Wattle	93

TOTAL 155

Appendix H

Site Photographs



Photograph 1:View of courtyard and ‘B’ Building



Photograph 2:View of courtyard and ‘S’ Building

Douglas Partners Geotechnics | Environment | Groundwater	Project No. 203033.01	Site Photographs	Plate No. 1 of 5
	Walkover Date: 12 April 2021	Proposed School Structures 86 Riverview Street, Murwillumbah Client: Built Pty Ltd	



Photograph 3:View of slope from ‘D’ Building



Photograph 4:View of slope and levelling occurring between ‘B’ Building and ‘D’ Building

Douglas Partners Geotechnics | Environment | Groundwater	Project No. 203033.01	Site Photographs	Plate No. 2 of 5
	Walkover Date: 12 April 2021	Proposed School Structures 86 Riverview Street, Murwillumbah Client: Built Pty Ltd	



Photograph 5:View of AST and Agricultural Department



Photograph 6:View of chicken coop



Photograph 7:View of storage area, a part of the Agricultural department



Photograph 8:View of goats kept with the Agricultural area



Photograph 9:View of tennis courts



Photograph 10:View of historic wall (furthest wall)



Photograph 11: View of heritage building ‘A’ and connecting courtyard



Photograph 12:View of courtyard and Building ‘E’ prior to excavation works



Photograph 13:View of courtyard following excavation and re-instatement of concrete



Photograph 14:View of southern football fields

Douglas Partners Geotechnics | Environment | Groundwater	Project No. 203033.01	Site Photographs	Plate No. 7 of 10
	Walkover Date: 12 April 2021	Proposed School Structures 86 Riverview Street, Murwillumbah Client: Built Pty Ltd	



Photograph 15:View of treed southern-eastern corner



Photograph 16:View of basketball courts



Photograph 17:View of new building ‘G’



Photograph 18:View of recreation centre ‘M’ Building



Photograph 19:View of grassed northern area



Photograph 20:View of old BBQ area



Photograph 21:View of the student garden



Photograph 22:Storage area underneath ‘B’ Building



Photograph 23:View of classroom/ storage shed, ‘F’ Building



Photograph 24: Transmission Oil for tractors

Douglas Partners Geotechnics | Environment | Groundwater	Project No. 203033.01	Site Photographs	Plate No. 12 of 15
	Walkover Date: 12 April 2021	Proposed School Structures 86 Riverview Street, Murwillumbah Client: Built Pty Ltd	



Photograph 25:View of tyre stockpile

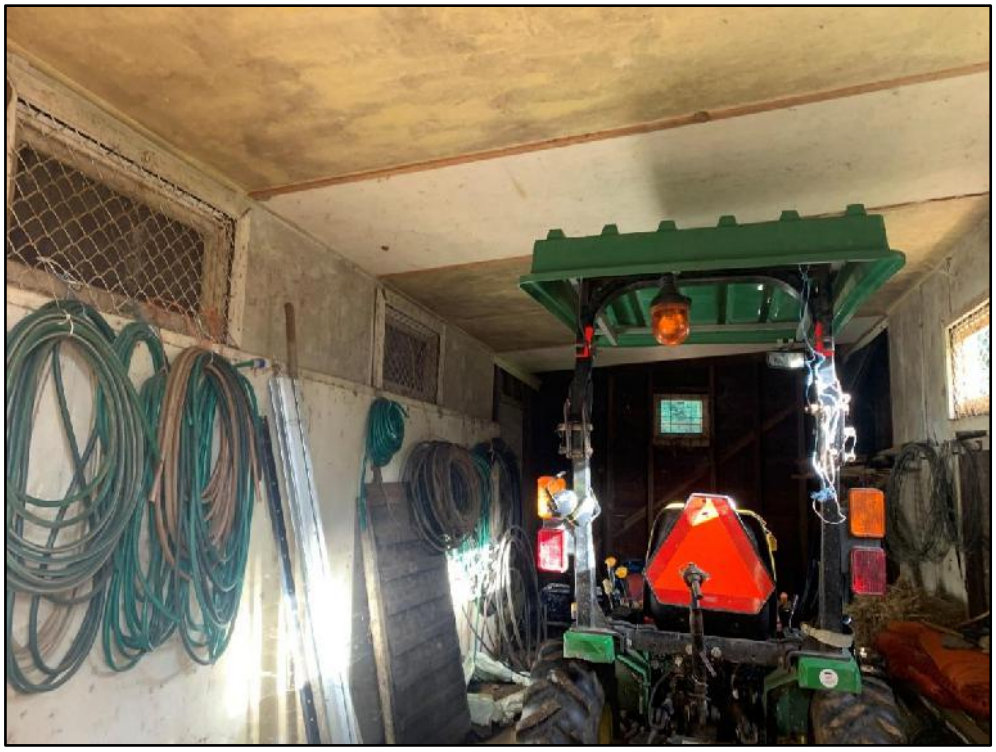


Photograph 26:View of paint storage

Douglas Partners Geotechnics | Environment | Groundwater	Project No. 203033.01	Site Photographs	Plate No. 13 of 15
	Walkover Date: 12 April 2021	Proposed School Structures 86 Riverview Street, Murwillumbah Client: Built Pty Ltd	



Photograph 27:View of tractor within storage shed/ ‘F’Building



Photograph 28:View of tractor in agricultural department

Douglas Partners Geotechnics | Environment | Groundwater	Project No. 203033.01	Site Photographs	Plate No. 14 of 15
	Walkover Date: 12 April 2021	Proposed School Structures 86 Riverview Street, Murwillumbah Client: Built Pty Ltd	



Photograph 29:View of flammable liquids storage cabinet in 'F' Building



Photograph 30:View of chemical storage for the agricultural department

Douglas Partners Geotechnics | Environment | Groundwater	Project No. 203033.01	Site Photographs	Plate No. 15 of 15
	Walkover Date: 12 April 2021	Proposed School Structures 86 Riverview Street, Murwillumbah Client: Built Pty Ltd	

Appendix I

Data Quality Assessment

Data Quality Assessment

QAQC1 Data Quality Objectives

The investigation was prepared with reference to the seven-step data quality objective (DQO) process, which is provided in Appendix B, Schedule B2 of the *National Environment Protection (Assessment of Site Contamination) Measure* 1999 as amended 2013 (NEPM 2013). The DQO process is outlined as follows:

- Stating the Problem;
- Identifying the Decision;
- Identifying Inputs to the Decision;
- Defining the Boundary of the Assessment;
- Developing a Decision Rule;
- Specifying Acceptable Limits on Decision Errors; and
- Optimising the Design for Obtaining Data.

The DQOs have been addressed within the report as shown in QAQC Table 1 below.

QAQC Table 1: Data Quality Objectives

Data Quality Objective	Report Section Where Addressed
State the Problem	S1 Introduction
Identify the Decision	S1 Introduction (objectives) S14 Conclusion and Recommendations
Identify Inputs to the Decision	S1 Proposed Development. S1.1Scope of Works S2 Site Identification S10 Site Assessment Criteria (SAC)
Define the Boundary of the Assessment	S2 Site Identification Site Drawing – Appendix B
Develop a Decision Rule	S10 Site Assessment Criteria (SAC)
Specify Acceptable Limits on Decision Errors	S8 Sampling and Analysis Plan and Methodology S10 Site Assessment Criteria (SAC) QA/QC Procedures and Results – Sections QAQC2 and QAQC3
Optimise the Design for Obtaining Data	S1.1 Scope of Works S8 Sampling and Analysis Plan and Methodology QA/QC Procedures and Results – Sections QAQC2 and QAQC3

QAQC2 Field and Laboratory Quality Control

The field and laboratory quality control (QC) procedures and results are summarised in QAQC Table 2 and QAQC Table 3. Reference should be made to the field work and analysis procedures outlined in Section 6 and the laboratory results certificates in Appendix K for further details.

QAQC Table 2: Field QC

Item	Frequency	Acceptance Criteria	Achievement
Intra-laboratory replicate	5% primary samples (1 in 20)	RPD <30% inorganics), <50% (organics)	yes[1]
Inter- laboratory replicate	5% primary samples (1 in 20)	RPD <30% inorganics), <50% (organics)	yes[1]
Trip Blank	1 per field batch	<PQL/LOR	yes
Trip Spike	1 per field batch	>LOR	yes

Notes:

1 qualitative assessment of RPD results overall; refer Section QAQC2.1 and QAQC2.2.

QAQC Table 3: Laboratory QC

Item	Frequency	Acceptance Criteria	Achievement
Analytical laboratories used	-	NATA accreditation	yes
Holding times	-	In accordance with NEPM which references various Australian and international standards	Yes[1]
Laboratory/Reagent Blank	1 per lab batch	<PQL	yes
Laboratory duplicate	10% primary samples (1 in 10)	<5 x PQL Any RPD >5 x PQL 0 – 50%	yes[1]
Matrix Spike	1 per lab batch	Inorganics/metals 70 – 130% Organics 60 – 140% SVOC and speciated phenols 10 – 140%	yes
Surrogate Spike	organics by GC	Inorganics/metals 70 – 130% Organics 60 – 140% SVOC and speciated phenols 10 – 140%	yes
Control Sample	1 per lab batch	Inorganics/metals 70 – 130% Organics 60 – 140% SVOC and speciated phenols 10 – 140%	Yes[1]

With reference to the Certificate of Analysis and the QA/QC from the laboratory the following QC outliers occurred in ALS reports EB2110706 and EB2110394, including:

- A duplicate outlier for chromium exists for an RPD exceeding the LOR limits;
- Laboratory Control Spike (LCS) recoveries were less than the lower control limit for monocrotophos;
- Analysis holding times were exceeded for pH and conductivity in samples TP30/2.0, BH4/0.2, TP6/0.3, TP7/0.1, TP22/1.4 and TP9/1.1; and
- There was no QC sample for laboratory duplicate for soil partial density testing.

Although some laboratory QC outliers occurred the data is considered to be of sufficient quality to be acceptable for the assessment.

QAQC2.1 Intra-Laboratory Replicates

Intra-laboratory replicates were analysed as an internal check of the reproducibility within the primary laboratory (ALS) and as a measure of consistency of sampling techniques. The comparative results of analysis between original and intra-laboratory replicate samples are summarised in Table QA1 attached in Appendix L.

Note that, where both samples are below LOR/PQL, the difference and RPD has been given as zero. Where one sample is reported below LOR/PQL, but a concentration is reported for the other, the LOR/PQL value has been used for calculation of the RPD for the less than LOR/PQL sample.

Calculated RPD values were within the acceptable range of ±30% for inorganic analytes with the exception of Nickle in R5. However, this is not considered to be significant because:

- The number of replicate pairs being collected from fill soils which were heterogeneous in nature;
- Most of the recorded concentrations being relatively close to the LOR. High RPD values reflect the low concentrations;
- The majority of RPDs within a replicate pair being within the acceptable limits; and
- All other QA/QC parameters met the DQIs.

The overall inter-laboratory replicate comparisons indicate that the sampling technique was generally consistent and repeatable, and the laboratory sampling handling and analytical methods are comparable.

QAQC2.1 Inter-Laboratory Replicates

Inter-laboratory replicates were conducted as a check of the reproducibility of results between the primary laboratory, ALS and the secondary laboratory, Eurofins, and as a measure of consistency of sampling techniques. The comparative results of analysis between original and inter-laboratory replicate samples are summarised in Table QA1, attached in Appendix L.

Note that, where both samples are below LOR/PQL the difference and RPD has been given as zero. Where one sample is reported below LOR/PQL, but a concentration is reported for the other, the LOR/PQL value has been used for calculation of the RPD for the less than LOR/PQL sample

Calculated RPD values were within the acceptable range of ±30% for inorganic analytes with the exception of Nickle and Zinc in S5 and Arsenic, Copper, Lead, Nickle, and Zinc in S4. However, this is not considered to be significant because:

- The number of replicate pairs being collected from fill soils which were heterogeneous in nature;
- Most of the recorded concentrations being relatively close to the LOR for Copper (5 mg/kg for both laboratories) and Arsenic (2 mg/kg for Eurofins and 5 mg/kg for ALS). High RPD values reflect the low concentrations;
- The majority of RPDs within a replicate pair being within the acceptable limits; and
- All other QA/QC parameters met the DQIs.

The overall inter-laboratory replicate comparisons indicate that the sampling technique was generally consistent and repeatable, and the laboratory sampling handling and analytical methods are comparable.

QAQC3 Data Quality Indicators

The reliability of field procedures and analytical results was assessed against the following data quality indicators (DQIs):

- Completeness – a measure of the amount of usable data from a data collection activity;

- Comparability – the confidence (qualitative) that data may be considered to be equivalent for each sampling and analytical event;
- Representativeness – the confidence (qualitative) of data representativeness of media present on-site;
- Precision – a measure of variability or reproducibility of data; and
- Accuracy – a measure of closeness of the data to the 'true' value.

The DQIs were assessed as outlined in QAQC Table 4 below.

QAQC Table 4: Data Quality Indicators

Data Quality Indicator	Method(s) of Achievement
Completeness	Planned systematic grid sampling at targeted locations sampled; Preparation of field logs, sample location plan and chain of custody (CoC) records; Laboratory sample receipt information received confirming receipt of samples intact and appropriateness of the chain of custody; Samples analysed for the CoPC identified in the CSM; Completion of CoC documentation; NATA endorsed laboratory certificates provided by the laboratory; and Satisfactory frequency and results for field and laboratory QC samples as discussed in Section QAQC2.
Comparability	Using appropriate techniques for sample recovery, storage, and transportation, which were the same for the duration of the project; Works conducted by an appropriately experienced and trained DP environmental scientist; Use of NATA registered laboratories, with test methods the same or similar between laboratories; and Satisfactory results for field and laboratory QC samples.
Representativeness	Target media sampled; Spatial and temporal distribution of sample locations; Sample numbers recovered and analysed are considered to be representative of the target media and complying with DQOs; Samples were extracted and analysed within holding times; and Samples were analysed in accordance with the requested analysis.
Precision	Acceptable RPD between original samples and replicates; and Satisfactory results for all other field and laboratory QC samples.
Accuracy	Satisfactory results for all field and laboratory QC samples.

Based on the above, it is considered that the DQIs have been complied with. As such, it is concluded that the field and laboratory test data obtained are reliable and useable for this assessment.

Appendix J

Test Pit and Borehole Logs and Explanatory Notes

Symbols & Abbreviations

Douglas Partners

Introduction

These notes summarise abbreviations commonly used on borehole logs and test pit reports.

Drilling or Excavation Methods

C	Core drilling
R	Rotary drilling
SFA	Spiral flight augers
NMLC	Diamond core - 52 mm dia
NQ	Diamond core - 47 mm dia
HQ	Diamond core - 63 mm dia
PQ	Diamond core - 81 mm dia

Water

▷	Water seep
▽	Water level

Sampling and Testing

A	Auger sample
B	Bulk sample
D	Disturbed sample
E	Environmental sample
U_{50}	Undisturbed tube sample (50mm)
W	Water sample
pp	Pocket penetrometer (kPa)
PID	Photo ionisation detector
PL	Point load strength Is(50) MPa
S	Standard Penetration Test
V	Shear vane (kPa)

Description of Defects in Rock

The abbreviated descriptions of the defects should be in the following order: Depth, Type, Orientation, Coating, Shape, Roughness and Other. Drilling and handling breaks are not usually included on the logs.

Defect Type

B	Bedding plane
Cs	Clay seam
Cv	Cleavage
Cz	Crushed zone
Ds	Decomposed seam
F	Fault
J	Joint
Lam	Lamination
Pt	Parting
Sz	Sheared Zone
V	Vein

Orientation

The inclination of defects is always measured from the perpendicular to the core axis.

h	horizontal
v	vertical
sh	sub-horizontal
sv	sub-vertical

Coating or Infilling Term

cln	clean
co	coating
he	healed
inf	infilled
stn	stained
ti	tight
vn	veneer

Coating Descriptor

ca	calcite
cbs	carbonaceous
cly	clay
fe	iron oxide
mn	manganese
slt	silty

Shape

cu	curved
ir	irregular
pl	planar
st	stepped
un	undulating

Roughness

po	polished
ro	rough
sl	slickensided
sm	smooth
vr	very rough

Other

fg	fragmented
bnd	band
qtz	quartz

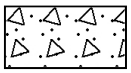
Symbols & Abbreviations

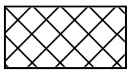
Graphic Symbols for Soil and Rock

General


Asphalt


Road base

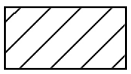

Concrete

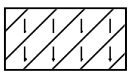

Filling

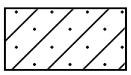
Soils


Topsoil

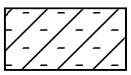

Peat

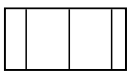

Clay

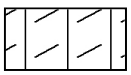

Silty clay

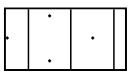

Sandy clay

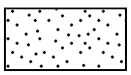

Gravelly clay

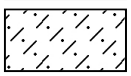

Shaly clay

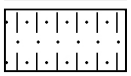

Silt


Clayey silt


Sandy silt

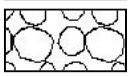

Sand

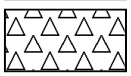

Clayey sand


Silty sand


Gravel

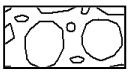

Sandy gravel


Cobbles, boulders

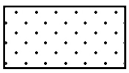

Talus

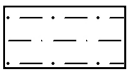
Sedimentary Rocks

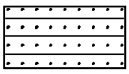

Boulder conglomerate

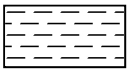

Conglomerate


Conglomeratic sandstone

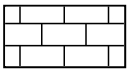

Sandstone


Siltstone

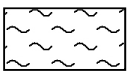

Laminite

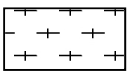

Mudstone, claystone, shale


Coal


Limestone

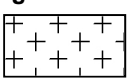
Metamorphic Rocks

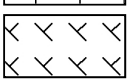

Slate, phyllite, schist

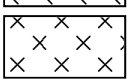

Gneiss

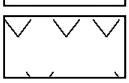

Quartzite

Igneous Rocks


Granite


Dolerite, basalt, andesite


Dacite, epidote


Tuff, breccia


Porphyry

Description and Classification Methods

The methods of description and classification of soils and rocks used in this report are generally based on Australian Standard AS1726:2017, Geotechnical Site Investigations. In general, the descriptions include strength or density, colour, structure, soil or rock type and inclusions.

Soil Types

Soil types are described according to the predominant particle size, qualified by the grading of other particles present:

Type	Particle size (mm)
Boulder	>200
Cobble	63 - 200
Gravel	2.36 - 63
Sand	0.075 - 2.36
Silt	0.002 - 0.075
Clay	<0.002

The sand and gravel sizes can be further subdivided as follows:

Type	Particle size (mm)
Coarse gravel	19 - 63
Medium gravel	6.7 - 19
Fine gravel	2.36 – 6.7
Coarse sand	0.6 - 2.36
Medium sand	0.21 - 0.6
Fine sand	0.075 - 0.21

Definitions of grading terms used are:

- Well graded - a good representation of all particle sizes
- Poorly graded - an excess or deficiency of particular sizes within the specified range
- Uniformly graded - an excess of a particular particle size
- Gap graded - a deficiency of a particular particle size with the range

The proportions of secondary constituents of soils are described as follows:

In fine grained soils (>35% fines)

Term	Proportion of sand or gravel	Example
And	Specify	Clay (60%) and Sand (40%)
Adjective	>30%	Sandy Clay
With	15 – 30%	Clay with sand
Trace	0 - 15%	Clay with trace sand

In coarse grained soils (>65% coarse)
- with clays or silts

Term	Proportion of fines	Example
And	Specify	Sand (70%) and Clay (30%)
Adjective	>12%	Clayey Sand
With	5 - 12%	Sand with clay
Trace	0 - 5%	Sand with trace clay

In coarse grained soils (>65% coarse)
- with coarser fraction

Term	Proportion of coarser fraction	Example
And	Specify	Sand (60%) and Gravel (40%)
Adjective	>30%	Gravelly Sand
With	15 - 30%	Sand with gravel
Trace	0 - 15%	Sand with trace gravel

The presence of cobbles and boulders shall be specifically noted by beginning the description with ‘Mix of Soil and Cobbles/Boulders’ with the word order indicating the dominant first and the proportion of cobbles and boulders described together.

Soil Descriptions

Cohesive Soils

Cohesive soils, such as clays, are classified on the basis of undrained shear strength. The strength may be measured by laboratory testing, or estimated by field tests or engineering examination. The strength terms are defined as follows:

Description	Abbreviation	Undrained shear strength (kPa)
Very soft	VS	<12
Soft	S	12 - 25
Firm	F	25 - 50
Stiff	St	50 - 100
Very stiff	VSt	100 - 200
Hard	H	>200
Friable	Fr	-

Cohesionless Soils

Cohesionless soils, such as clean sands, are classified on the basis of relative density, generally from the results of standard penetration tests (SPT), cone penetration tests (CPT) or dynamic penetrometers (PSP). The relative density terms are given below:

Relative Density	Abbreviation	Density Index (%)
Very loose	VL	<15
Loose	L	15-35
Medium dense	MD	35-65
Dense	D	65-85
Very dense	VD	>85

Soil Origin

It is often difficult to accurately determine the origin of a soil. Soils can generally be classified as:

- Residual soil - derived from in-situ weathering of the underlying rock;
- Extremely weathered material – formed from in-situ weathering of geological formations. Has soil strength but retains the structure or fabric of the parent rock;
- Alluvial soil – deposited by streams and rivers;
- Estuarine soil – deposited in coastal estuaries;
- Marine soil – deposited in a marine environment;
- Lacustrine soil – deposited in freshwater lakes;
- Aeolian soil – carried and deposited by wind;
- Colluvial soil – soil and rock debris transported down slopes by gravity;
- Topsoil – mantle of surface soil, often with high levels of organic material.
- Fill – any material which has been moved by man.

Moisture Condition – Coarse Grained Soils

For coarse grained soils the moisture condition should be described by appearance and feel using the following terms:

- Dry (D) Non-cohesive and free-running.
- Moist (M) Soil feels cool, darkened in colour.
  Soil tends to stick together.
  Sand forms weak ball but breaks easily.
- Wet (W) Soil feels cool, darkened in colour.
  Soil tends to stick together, free water forms when handling.

Moisture Condition – Fine Grained Soils

For fine grained soils the assessment of moisture content is relative to their plastic limit or liquid limit, as follows:

- 'Moist, dry of plastic limit' or 'w <PL' (i.e. hard and friable or powdery).
- 'Moist, near plastic limit' or 'w ≈ PL (i.e. soil can be moulded at moisture content approximately equal to the plastic limit).
- 'Moist, wet of plastic limit' or 'w >PL' (i.e. soils usually weakened and free water forms on the hands when handling).
- 'Wet' or 'w ≈LL' (i.e. near the liquid limit).
- 'Wet' or 'w >LL' (i.e. wet of the liquid limit).

Sampling

Sampling is carried out during drilling or test pitting to allow engineering examination (and laboratory testing where required) of the soil or rock.

Disturbed samples taken during drilling provide information on colour, type, inclusions and, depending upon the degree of disturbance, some information on strength and structure.

Undisturbed samples are taken by pushing a thin-walled sample tube into the soil and withdrawing it to obtain a sample of the soil in a relatively undisturbed state. Such samples yield information on structure and strength, and are necessary for laboratory determination of shear strength and compressibility. Undisturbed sampling is generally effective only in cohesive soils.

Test Pits

Test pits are usually excavated with a backhoe or an excavator, allowing close examination of the in-situ soil if it is safe to enter into the pit. The depth of excavation is limited to about 3 m for a backhoe and up to 6 m for a large excavator. A potential disadvantage of this investigation method is the larger area of disturbance to the site.

Large Diameter Augers

Boreholes can be drilled using a rotating plate or short spiral auger, generally 300 mm or larger in diameter commonly mounted on a standard piling rig. The cuttings are returned to the surface at intervals (generally not more than 0.5 m) and are disturbed but usually unchanged in moisture content. Identification of soil strata is generally much more reliable than with continuous spiral flight augers, and is usually supplemented by occasional undisturbed tube samples.

Continuous Spiral Flight Augers

The borehole is advanced using 90-115 mm diameter continuous spiral flight augers which are withdrawn at intervals to allow sampling or in-situ testing. This is a relatively economical means of drilling in clays and sands above the water table. Samples are returned to the surface, or may be collected after withdrawal of the auger flights, but they are disturbed and may be mixed with soils from the sides of the hole. Information from the drilling (as distinct from specific sampling by SPTs or undisturbed samples) is of relatively low reliability, due to the remoulding, possible mixing or softening of samples by groundwater.

Non-core Rotary Drilling

The borehole is advanced using a rotary bit, with water or drilling mud being pumped down the drill rods and returned up the annulus, carrying the drill cuttings. Only major changes in stratification can be determined from the cuttings, together with some information from the rate of penetration. Where drilling mud is used this can mask the cuttings and reliable identification is only possible from separate sampling such as SPTs.

Continuous Core Drilling

A continuous core sample can be obtained using a diamond tipped core barrel, usually with a 50 mm internal diameter. Provided full core recovery is achieved (which is not always possible in weak rocks and granular soils), this technique provides a very reliable method of investigation.

Standard Penetration Tests

Standard penetration tests (SPT) are used as a means of estimating the density or strength of soils and also of obtaining a relatively undisturbed sample. The test procedure is described in Australian Standard 1289, Methods of Testing Soils for Engineering Purposes - Test 6.3.1.

The test is carried out in a borehole by driving a 50 mm diameter split sample tube under the impact of a 63 kg hammer with a free fall of 760 mm. It is normal for the tube to be driven in three successive 150 mm increments and the 'N' value is taken as the number of blows for the last 300 mm. In dense sands, very hard clays or weak rock, the full 450 mm penetration may not be practicable and the test is discontinued.

The test results are reported in the following form.

- In the case where full penetration is obtained with successive blow counts for each 150 mm of, say, 4, 6 and 7 as:

  4,6,7
  N=13

- In the case where the test is discontinued before the full penetration depth, say after 15 blows for the first 150 mm and 30 blows for the next 40 mm as:

  15, 30/40 mm

The results of the SPT tests can be related empirically to the engineering properties of the soils.

Dynamic Cone Penetrometer Tests / Perth Sand Penetrometer Tests

Dynamic penetrometer tests (DCP or PSP) are carried out by driving a steel rod into the ground using a standard weight of hammer falling a specified distance. As the rod penetrates the soil the number of blows required to penetrate each successive 150 mm depth are recorded. Normally there is a depth limitation of 1.2 m, but this may be extended in certain conditions by the use of extension rods. Two types of penetrometer are commonly used.

- Perth sand penetrometer - a 16 mm diameter flat ended rod is driven using a 9 kg hammer dropping 600 mm (AS 1289, Test 6.3.3). This test was developed for testing the density of sands and is mainly used in granular soils and filling.
- Cone penetrometer - a 16 mm diameter rod with a 20 mm diameter cone end is driven using a 9 kg hammer dropping 510 mm (AS 1289, Test 6.3.2). This test was developed initially for pavement subgrade investigations, and correlations of the test results with California Bearing Ratio have been published by various road authorities.

BOREHOLE LOG

CLIENT: Built Pty Ltd
PROJECT: Proposed School Structures
LOCATION: 85 Kyogle Road, Murwillumbah

SURFACE LEVEL: --
EASTING: 538333
NORTHING: 6865601
DIP/AZIMUTH: 90°/--

BORE No: BH1
PROJECT No: 203033.01
DATE: 14/4/2021
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per 100mm)
	0.05	TOPSOIL Silty CLAY (CL): low plasticity, dark brown, with fine sand, w>PL, stiff		E	0.1		PID=0.0		
		Silty CLAY (CI): medium plasticity, red, w~PL, stiff							
		- red with brown, very stiff		E, D	0.5		PID=0.3		
	1.0	Bore discontinued at 1.0m depth - Limit of investigation							

RIG: **DRILLER:** **LOGGED:** SM **CASING:** Uncased

TYPE OF BORING: Driven Tube

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

☐ Sand Penetrometer AS1289.6.3.3
☒ Cone Penetrometer AS1289.6.3.2

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

BOREHOLE LOG

CLIENT: Built Pty Ltd
PROJECT: Proposed School Structures
LOCATION: 85 Kyogle Road, Murwillumbah

SURFACE LEVEL: --
EASTING: 538230
NORTHING: 6965704
DIP/AZIMUTH: 90°/--

BORE No: BH2
PROJECT No: 203033.01
DATE: 14/4/2021
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per 100mm)
	0.2	FILL Gravelly SAND (SP): fine, dark brown, fine to coarse gravel, with silt, moist, loose		E	0.1		PID=0.5		
		Silty CLAY (CL): low plasticity, dark brown, w>PL, firm							
		- medium plasticity, brown		E	0.5		PID=0.4		
		- pale brown with brown		D	0.7				
	1				1.0				
		- w>PL, stiff		S			2,2,5 N = 7		
					1.45				
		- low plasticity, w<PL, with fine to medium gravel, stiff - orange with pale grey, hard/extremely weathered siltstone material							
	2				2.1		PID=0		
		- pale grey and orange							
					2.5				
				S			13, 30/140mm		
					2.79				
		- interbedded very low strength siltstone							
	3								
	3.6	SILTSTONE: very low strength							
	4				4.0				
				S			30/140mm		
	4.14	Bore discontinued at 4.14m depth - Limit of investigation			4.14				
	5								
	6								

RIG: **DRILLER:** **LOGGED:** SM **CASING:** Uncased

TYPE OF BORING: Driven Tube

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

☐ Sand Penetrometer AS1289.6.3.3
☒ Cone Penetrometer AS1289.6.3.2

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

BOREHOLE LOG

CLIENT: Built Pty Ltd
PROJECT: Proposed School Structures
LOCATION: 85 Kyogle Road, Murwillumbah

SURFACE LEVEL: --
EASTING: 538360
NORTHING: 6865578
DIP/AZIMUTH: 90°/--

BORE No: BH3
PROJECT No: 203033.01
DATE: 14/4/2021
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per 100mm)
	0.05	TOPSOIL Silty CLAY (CL): low plasticity, dark brown, with fine sand, w>PL, stiff		E	0.1				
		Silty CLAY (CI): medium plasticity, red, trace fine sand, w>PL, stiff		B			PID=0.0		
				E, D	0.5		PID=0.7		
					0.7				
	1				1.0				
				S			4,6,8 N = 14		
					1.45				
		- red with pale brown-orange, trace fine to coarse gravel, w~ PL, very stiff							
	2								
					2.5				
		- red with orange and pale grey mottles		S			6,7,11 N = 18		
	3				2.95				
		- orange with pale grey and red mottles							
					4.0				
	4			S			5,9,14 N = 23		
	4.5				4.45				
		Bore discontinued at 4.5m depth - Limit of investigation							
	5								
	6								

RIG: **DRILLER:** **LOGGED:** SM **CASING:** Uncased

TYPE OF BORING: Driven Tube

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

☐ Sand Penetrometer AS1289.6.3.3
☒ Cone Penetrometer AS1289.6.3.2

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

BOREHOLE LOG

CLIENT: Built Pty Ltd
PROJECT: Proposed School Structures
LOCATION: 85 Kyogle Road, Murwillumbah

SURFACE LEVEL: --
EASTING: 538338
NORTHING: 6865566
DIP/AZIMUTH: 90°/--

BORE No: BH4
PROJECT No: 203033.01
DATE: 14/4/2021
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per 100mm)
	0.1	FILL/TOPSOIL Sandy CLAY (CL): low plasticity, dark brown, fine sand, with silt, w>PL, firm		E	0.1		PID=0.0		
					0.2				
		Silty CLAY (CI): medium plasticity, red with pale grey and orange, trace fine sand and fine to medium gravel, w>PL, stiff		E, D	0.4		PID=0.6		
	0.8	Silty CLAY (CI): medium plasticity, red, trace fine to medium sand, w>PL, stiff							
	1	- red with orange and grey mottles			1.0				
				S			4,5,9		
				E	1.3		N = 14		
		- orange with red and pale grey, w~PL, very stiff			1.45				
	2								
					2.5				
		- red with grey, w<PL		S			4,7,8 N = 15		
	3				2.95				
		- red with dark brown and grey, w~PL, stiff							
	4				4.0				
				S			3,5,6 N = 11 PID=0.0		
	4.5				4.45				
		Bore discontinued at 4.5m depth - Limit of investigation							
	5								
	6								

RIG: **DRILLER:** **LOGGED:** SM **CASING:** Uncased

TYPE OF BORING: Driven Tube

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

☐ Sand Penetrometer AS1289.6.3.3
☒ Cone Penetrometer AS1289.6.3.2

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

BOREHOLE LOG

CLIENT: Built Pty Ltd
PROJECT: Proposed School Structures
LOCATION: 85 Kyogle Road, Murwillumbah

SURFACE LEVEL: --
EASTING: 538203
NORTHING: 6865721
DIP/AZIMUTH: 90°/--

BORE No: BH5
PROJECT No: 203033.01
DATE: 14/4/2021
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per 100mm)
	0.05	TOPSOIL Silty CLAY (CL): low plasticity, dark brown, w>PL, soft		E	0.1		PID=0.2		
		Silty CLAY (CL): low plasticity, dark brown, w>PL, soft							
		- dark brown							
		- low to medium plasticity, brown			0.5		PID=0.3		
		- brown with red, trace fine gravel, firm		E	0.6		PID=0.1		
				D	0.8				
	1								1
		- brown-red with pale brown, w>PL, firm to stiff							
	2 2.0	Bore discontinued at 2.0m depth - Limit of investigation							2
	3								3
	4								4
	5								5
	6								6

Dynamic Penetrometer Test (blows per 100mm): 5, 10, 15, 20

RIG: **DRILLER:** **LOGGED:** SM **CASING:** Uncased

TYPE OF BORING: Driven Tube

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

☐ Sand Penetrometer AS1289.6.3.3
☒ Cone Penetrometer AS1289.6.3.2

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

BOREHOLE LOG

CLIENT: Built Pty Ltd
PROJECT: Proposed School Structures
LOCATION: 85 Kyogle Road, Murwillumbah

SURFACE LEVEL: --
EASTING: 538366
NORTHING: 6865663
DIP/AZIMUTH: 90°/--

BORE No: BH6
PROJECT No: 203033.01
DATE: 14/4/2021
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per 100mm)
	0.1	FILL/TOPSOIL Silty CLAY (CL): low plasticity, dark brown, with fine sand, w>PL, soft		E	0.1		PID=0.2		
		FILL Silty CLAY (CI): medium plasticity, red with dark brown and orange, trace fine sand, w~PL, stiff		E	0.3		PID=0.0		
		- firm		D	0.4				
				B					
					0.8				
1				E	1.0		PID=0.6		1
				S			1,2,2 N = 4		
					1.45				
	1.9	Silty CLAY (CL): low plasticity, dark brown, w>PL, firm		E	1.9				
2		- red							2
		- trace fine to medium gravel, w~PL, stiff		E	2.4		PID=0.5		
					2.5				
				S			3,5,7 N = 12		
3		- red with brown-orange			2.95				3
		- orange with red and grey, w<PL, very stiff							
4					4.0				4
				S			6,9,12 N = 21		
					4.45				
5									5
					5.5				
				S			4,8,14 N = 22		
6	6.0				5.95				6
		Bore discontinued at 6.0m depth - Limit of investigation							

RIG: **DRILLER:** **LOGGED:** SM **CASING:** Uncased

TYPE OF BORING: Driven Tube

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

☐ Sand Penetrometer AS1289.6.3.3
☒ Cone Penetrometer AS1289.6.3.2

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

BOREHOLE LOG

CLIENT: Built Pty Ltd
PROJECT: Proposed School Structures
LOCATION: 85 Kyogle Road, Murwillumbah

SURFACE LEVEL: --
EASTING: 538211
NORTHING: 6865707
DIP/AZIMUTH: 90°/--

BORE No: BH7
PROJECT No: 203033.01
DATE: 14/4/2021
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per 100mm)
	0.15	FILL/TOPSOIL Sandy CLAY (CL): low plasticity, dark brown with brown, fine to coarse sand, trace fine to medium gravel w>PL, soft		E	0.1				
		Silty CLAY (CL): low plasticity, dark brown, w>PL, soft							
		- medium plasticity, brown		E	0.5		PID=1.5		
	1	- pale brown			1.0				
		- firm		S			0,3,5 N = 8 PID=0.6		
		- low plasticity, orange with pale grey, stiff			1.45				
		- w<PL, very stiff							
	2	- pale grey with orange, some hard/extremely weathered material layers							
					2.5				
		- hard/extremely weathered siltstone material		S			8,12,17 N = 29		
	3				2.95				
		- interbedded very low strength, extremely weathered material layers							
	4				4.0				
				S			26, 30/130mm		
	4.28	Bore discontinued at 4.28m depth - Limit of investigation			4.28				
	5								
	6								

RIG: **DRILLER:** **LOGGED:** SM **CASING:** Uncased

TYPE OF BORING: Driven Tube

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

☐ Sand Penetrometer AS1289.6.3.3
☒ Cone Penetrometer AS1289.6.3.2

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

BOREHOLE LOG

CLIENT: Built Pty Ltd
PROJECT: Proposed School Structures
LOCATION: 85 Kyogle Road, Murwillumbah

SURFACE LEVEL: --
EASTING:
NORTHING:
DIP/AZIMUTH: 90°/--

BORE No: TP1
PROJECT No: 203033.01
DATE: 15/4/2021
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Well Construction Details
	0.2	Silty SAND (SM): fine to medium, well graded, dark brown, trace rootlets, trace fine gravel, moist		E	0.0 0.1		PID=0.2		
		Silty CLAY (CI): medium plasticity, w<PL, red-brown, fine to medium sand, trace fine well graded subangular gravel		E	0.2 0.3		PID=0.2		
				E	0.6 0.7		PID=0.3		
	1.0	Bore discontinued at 1.0m depth - Limit of investigation							

RIG: Excavator **DRILLER:** **LOGGED:** SM **CASING:**
TYPE OF BORING:
WATER OBSERVATIONS: No free groundwater observed
REMARKS:

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

BOREHOLE LOG

CLIENT: Built Pty Ltd
PROJECT: Proposed School Structures
LOCATION: 85 Kyogle Road, Murwillumbah

SURFACE LEVEL: --
EASTING:
NORTHING:
DIP/AZIMUTH: 90°/--

BORE No: TP2
PROJECT No: 203033.01
DATE: 15/4/2021
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Well Construction Details
		FILL Sandy SILT (SM): dark brown, fine to medium well graded sand, with clay, trace rootlets, trace fine gravel, moist		E	0.0				
					0.1		PID=0.8 Samples taken at 0.25m intervals down to 2m for ASS sampling		
		- bricks		D	0.25				
	0.4	FILL Sandy Silty CLAY (CL-CI): low to medium plasticity, grey-brown, fine to medium sand, w<PL			0.4				
				E	0.5		PID=1.4		
					0.7				
	0.8	Silty CLAY (CI): medium plasticity, w<PL, brown-red, fine to medium sands, trace well-graded, sub angular gravels		E	0.8		PID=1.4		
	1	- yellow							1
					1.1				
				E	1.2		PID=1.3		
	2			E	2.0				2
	2.1	Bore discontinued at 2.1m depth - Limit of investigation			2.1				
	3								3
	4								4
	5								5
	6								6

RIG: Excavator **DRILLER:** **LOGGED:** SM **CASING:**
TYPE OF BORING:
WATER OBSERVATIONS: No free groundwater observed
REMARKS:

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

BOREHOLE LOG

CLIENT: Built Pty Ltd
PROJECT: Proposed School Structures
LOCATION: 85 Kyogle Road, Murwillumbah

SURFACE LEVEL: --
EASTING:
NORTHING:
DIP/AZIMUTH: 90°/--

BORE No: TP3
PROJECT No: 203033.01
DATE: 13/4/2021
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Well Construction Details
	0.1	CONCRETE							
	0.15	ROADBASE		E	0.15				
		FILL Sandy CLAY (CI-CH): medium to high plasticity, red-brown, fine to medium well graded sand, w<PL		E	0.3		PID=0.2		
		- dark red, brick			0.4				
					0.8		PID=0.3		
	1.6	FILL Sandy Silty CLAY (CL): low plasticity, grey-brown, fine sand, w<PL		E	1.6				
					1.7		PID=1.3		
	1.9	FILL Sandy CLAY (CI-CH): medium to high plasticity, red-brown, fine to medium well graded sand, w<PL		E	1.9				
	2.0	Bore discontinued at 2.0m depth - Limit of investigation			2.0		PID=1.4		

RIG: Excavator **DRILLER:** **LOGGED:** SM **CASING:**
TYPE OF BORING:
WATER OBSERVATIONS: No free groundwater observed
REMARKS:

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

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Geotechnics / Environment / Groundwater

BOREHOLE LOG

CLIENT: Built Pty Ltd
PROJECT: Proposed School Structures
LOCATION: 85 Kyogle Road, Murwillumbah

SURFACE LEVEL: --
EASTING:
NORTHING:
DIP/AZIMUTH: 90°/--

BORE No: TP4
PROJECT No: 203033.01
DATE: 16/4/2021
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Well Construction Details
	0.2	Sandy SILT (SM): brown, fine to medium well graded subangular sand, trace clay, moist		E	0.0 0.1 0.2				
		Silty CLAY (CI): medium plasticity, w<PL, grey brown, fine sands		E	0.3		PID=1.5		
				E	0.7				
	0.8	Bore discontinued at 0.8m depth - Limit of investigation			0.8		PID=1.3		
	1								
	2								
	3								
	4								
	5								
	6								

RIG: Hand auger **DRILLER:** **LOGGED:** SM **CASING:**
TYPE OF BORING:
WATER OBSERVATIONS: No free groundwater observed
REMARKS:

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

BOREHOLE LOG

CLIENT: Built Pty Ltd
PROJECT: Proposed School Structures
LOCATION: 85 Kyogle Road, Murwillumbah

SURFACE LEVEL: --
EASTING:
NORTHING:
DIP/AZIMUTH: 90°/--

BORE No: TP5
PROJECT No: 203033.01
DATE: 16/4/2021
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Well Construction Details
		FILL Sandy SILT (SM): fine to medium well graded sand, with fine to coarse well graded subangular gravel, moist		E	0.0 0.1				
	0.2	Bore discontinued at 0.2m depth - Refusal							
	1								
	2								
	3								
	4								
	5								
	6								

RIG: Hand auger **DRILLER:** **LOGGED:** SM **CASING:**
TYPE OF BORING:
WATER OBSERVATIONS: No free groundwater observed
REMARKS:

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

BOREHOLE LOG

CLIENT: Built Pty Ltd
PROJECT: Proposed School Structures
LOCATION: 85 Kyogle Road, Murwillumbah

SURFACE LEVEL: --
EASTING:
NORTHING:
DIP/AZIMUTH: 90°/--

BORE No: TP6
PROJECT No: 203033.01
DATE: 16/4/2021
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Well Construction Details
	0.1	TOPSOIL Sandy SILT (SM): dark brown, fine to medium well graded sand, trace rootlets, trace fine gravel, moist		E	0.0				
				E	0.1				
		Silty CLAY (CI): medium plasticity, w<PL, grey/red brown, fine sands			0.2		PID=1.7		
				E	0.4				
	0.5	Bore discontinued at 0.5m depth - Limit of investigation			0.5		PID=1.5		
	1								
	2								
	3								
	4								
	5								
	6								

RIG: Hand auger **DRILLER:** **LOGGED:** SM **CASING:**
TYPE OF BORING:
WATER OBSERVATIONS: No free groundwater observed
REMARKS:

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

BOREHOLE LOG

CLIENT: Built Pty Ltd
PROJECT: Proposed School Structures
LOCATION: 85 Kyogle Road, Murwillumbah

SURFACE LEVEL: --
EASTING:
NORTHING:
DIP/AZIMUTH: 90°/--

BORE No: TP7
PROJECT No: 203033.01
DATE: 16/4/2021
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Well Construction Details
	0.1	FILL Sandy Silty CLAY (CL-CI): low to medium plasticity, grey-brown, fine to medium well graded subangular gravel, fine to medium sand, with rootlets, w<PL		E	0.0				
	0.2			E	0.1				
				E	0.2		PID=2.0		
					0.3		PID=1.6		
		FILL Silty CLAY (CI): medium plasticity, w<PL, grey/red brown, fine sands		E	0.4				
					0.5		PID=1.9		
	0.6	FILL Silty CLAY (CI-CI): low to medium plasticity, trace fine to medium gravel and rootlets							
		Silty CLAY (CL): low plasticity, w<PL, red		E	0.9				
1	1.0	Bore discontinued at 1.0m depth - Limit of investigation			1.0				

RIG: Hand auger **DRILLER:** **LOGGED:** SM **CASING:**
TYPE OF BORING:
WATER OBSERVATIONS: No free groundwater observed
REMARKS:

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

BOREHOLE LOG

CLIENT: Built Pty Ltd
PROJECT: Proposed School Structures
LOCATION: 85 Kyogle Road, Murwillumbah

SURFACE LEVEL: --
EASTING:
NORTHING:
DIP/AZIMUTH: 90°/--

BORE No: TP8
PROJECT No: 203033.01
DATE: 16/4/2021
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Well Construction Details
	0.0			E	0.0				
		TOPSOIL Sandy SILT (SM): red and grey-brown, fine to medium well graded subangular sand, trace fine gravels, moist			0.1				
	0.2			E	0.2				
		Sandy Silty CLAY (CI): medium plasticity, w<PL, grey/red brown, fine sands			0.3		PID=1.8		
					0.6				
	0.7			E	0.7		PID=1.6		
		Bore discontinued at 0.7m depth - Limit of investigation							
	1								
	2								
	3								
	4								
	5								
	6								

RIG: Hand auger **DRILLER:** **LOGGED:** SM **CASING:**
TYPE OF BORING:
WATER OBSERVATIONS: No free groundwater observed
REMARKS:

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

BOREHOLE LOG

CLIENT: Built Pty Ltd
PROJECT: Proposed School Structures
LOCATION: 85 Kyogle Road, Murwillumbah

SURFACE LEVEL: --
EASTING:
NORTHING:
DIP/AZIMUTH: 90°/--

BORE No: TP9
PROJECT No: 203033.01
DATE: 15/4/2021
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Well Construction Details
	0.0	TOPSOIL Sandy SILT (SM): grey-brown, fine to medium well graded sand, trace rootlets, trace fine gravel, moist		E	0.0				
	0.2	Sandy Silty CLAY (CL-CI): low to medium plasticity, red-brown, fine to medium sand,w<PL		E	0.2		PID=1.0		
	0.4	Silty CLAY (CI): medium plasticity, w<PL, red, trace fine sands		E	0.4		PID=1.4		
	1			E	1.0				1
	1.1	Bore discontinued at 1.1m depth - Limit of investigation			1.1		PID=1.2		
	2								2
	3								3
	4								4
	5								5
	6								6

RIG: Excavator **DRILLER:** **LOGGED:** SM **CASING:**
TYPE OF BORING:
WATER OBSERVATIONS: No free groundwater observed
REMARKS:

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

BOREHOLE LOG

CLIENT: Built Pty Ltd
PROJECT: Proposed School Structures
LOCATION: 85 Kyogle Road, Murwillumbah

SURFACE LEVEL: --
EASTING:
NORTHING:
DIP/AZIMUTH: 90°/--

BORE No: TP10
PROJECT No: 203033.01
DATE: 15/4/2021
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Well Construction Details
		Sandy SILT (SM): dark brown, fine to medium well graded sand, trace rootlets, trace fine gravel, moist		E	0.0 0.1				
	0.3	Silty CLAY (CI): medium plasticity, w<PL, fine sands, red, trace rootlets		E	0.3 0.4	+R4 +S4	PID=1.3		
		- slightly red							
				E	0.9				
1	1.0	Bore discontinued at 1.0m depth - Limit of investigation			1.0		PID=0.8		1
2									2
3									3
4									4
5									5
6									6

RIG: Excavator **DRILLER:** **LOGGED:** SM **CASING:**
TYPE OF BORING:
WATER OBSERVATIONS: No free groundwater observed
REMARKS:

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

BOREHOLE LOG

CLIENT: Built Pty Ltd
PROJECT: Proposed School Structures
LOCATION: 85 Kyogle Road, Murwillumbah

SURFACE LEVEL: --
EASTING:
NORTHING:
DIP/AZIMUTH: 90°/--

BORE No: TP11
PROJECT No: 203033.01
DATE: 13/4/2021
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Well Construction Details
	0.0			E	0.0				
	0.1			E	0.1		PID=1.3		
	0.2	FILL Sandy CLAY (CI): medium plasticity, w<PL, grey-brown, fine to medium sand, trace rootlets			0.2		PID=1.4		
	0.35	FILL Sandy CLAY (CI-CH): medium to high plasticity, w<PL, red-brown, fine to medium well graded sand, trace rootlets		E	0.35				
	0.4			E	0.4		PID=1.5		
	0.5				0.5				
	0.7	FILL CLAY (CH): high plasticity, grey-brown with mottles, trace fine sand, w~PL		E	0.7		PID=1.5		
	0.8	FILL CLAY (CH): high plasticity, yellow-brown with mottles, trace fine sand, w<PL			0.8				
1		CLAY (CH): high plasticity, grey-white mottled brown-red, trace fine sand, w<PL							1
	1.4			E	1.4				
	1.5	Bore discontinued at 1.5m depth - Limit of investigation			1.5		PID=1.2		
2									2
3									3
4									4
5									5
6									6

RIG: Excavator **DRILLER:** **LOGGED:** SM **CASING:**
TYPE OF BORING:
WATER OBSERVATIONS: No free groundwater observed
REMARKS:

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

BOREHOLE LOG

CLIENT: Built Pty Ltd
PROJECT: Proposed School Structures
LOCATION: 85 Kyogle Road, Murwillumbah

SURFACE LEVEL: --
EASTING:
NORTHING:
DIP/AZIMUTH: 90°/--

BORE No: TP12
PROJECT No: 203033.01
DATE: 13/4/2021
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Well Construction Details
	0.15	FILL Sandy CLAY (CI): medium plasticity, w<PL, grey-brown, fine to medium sand, trace rootlets		E	0.0 0.1		ASS PID=1.5		
	0.4	FILL Sandy CLAY (CI-CH): medium to high plasticity, w<PL, red-brown, fine to medium well graded sand, trace rootlets		E	0.15 0.25		ASS PID=2.4		
		FILL CLAY (CH): high plasticity, yellow-brown with mottles, trace fine sand, w>PL		E	0.4 0.5		ASS PID=2.1		
	0.9	CLAY (CH): high plasticity, grey-white mottled brown-red, trace fine sand, w>PL		E	0.9 1.0		ASS PID=1.6		
				E	1.4 1.5		ASS PID=1.1		
		- with fine poorly graded subangular gravel		ASS	1.75				
	2.0	Bore discontinued at 2.0m depth - Limit of investigation		ASS	2.0				

RIG: Excavator **DRILLER:** **LOGGED:** SM **CASING:**

TYPE OF BORING:

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

BOREHOLE LOG

CLIENT: Built Pty Ltd
PROJECT: Proposed School Structures
LOCATION: 85 Kyogle Road, Murwillumbah

SURFACE LEVEL: --
EASTING:
NORTHING:
DIP/AZIMUTH: 90°/--

BORE No: TP13
PROJECT No: 203033.01
DATE: 15/4/2021
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Well Construction Details
	0.2	TOPSOIL Sandy SILT (SM): dark brown, fine to medium well graded sand, trace rootlets, trace fine to medium, well garded gravel, moist		E	0.0 0.1	R5 S5			
		Silty CLAY (CI): medium plasticity, w<PL, fine sands, red/brown		E	0.2 0.3		PID=1.4		
	0.8	Bore discontinued at 0.8m depth - Limit of investigation		E	0.7 0.8		PID=0.8		

RIG: Excavator **DRILLER:** **LOGGED:** SM **CASING:**
TYPE OF BORING:
WATER OBSERVATIONS: No free groundwater observed
REMARKS:

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

BOREHOLE LOG

CLIENT: Built Pty Ltd
PROJECT: Proposed School Structures
LOCATION: 85 Kyogle Road, Murwillumbah

SURFACE LEVEL: --
EASTING:
NORTHING:
DIP/AZIMUTH: 90°/--

BORE No: TP14
PROJECT No: 203033.01
DATE: 13/4/2021
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Well Construction Details
		FILL Sandy SILT (SM): dark brown, fine to medium well graded sand, trace rootlets, trace fine gravel, moist		E	0.0 0.1		PID=1.4		
	0.4	FILL Sandy CLAY (CI-CH): medium to high plasticity, red, fine to medium well graded sand, w<PL		E	0.4 0.5		PID=1.2		
	0.9	Sandy CLAY (CI-CH): medium to high plasticity, red, fine to medium well graded sand, w<PL		E	0.9 1.0	R2 S2	PID=1.2		
	1.5	Bore discontinued at 1.5m depth - Limit of investigation		E	1.4 1.5		PID=1.2		

RIG: Excavator **DRILLER:** **LOGGED:** SM **CASING:**
TYPE OF BORING:
WATER OBSERVATIONS: No free groundwater observed
REMARKS:

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

BOREHOLE LOG

CLIENT: Built Pty Ltd
PROJECT: Proposed School Structures
LOCATION: 85 Kyogle Road, Murwillumbah

SURFACE LEVEL: --
EASTING:
NORTHING:
DIP/AZIMUTH: 90°/--

BORE No: TP15
PROJECT No: 203033.01
DATE: 13/4/2021
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Well Construction Details
	0.0			E	0.0				
	0.1	FILL Sandy SILT (SM): dark brown, fine to medium well graded sand, trace rootlets, trace fine gravel, moist		E	0.1		PID=0.4		
		FILL Silty Sandy CLAY (CL-CI): low to medium plasticity, red-brown, trace fine poorly graded subangular gravel, trace rootlets, w<PL			0.2		PID=1.3		
	0.6	Sandy SILT (SM): fine to medium sand, with fine gravel, trace roots, red-brown		E	0.6				
					0.7				
1	1.0	Sandy CLAY (CI): medium plasticity, fine to medium sand, with fine to medium poorly graded subangular gravel		E	1.0				1
					1.1		PID=0.8		
				E	1.5				
	1.6	Bore discontinued at 1.6m depth - Limit of investigation			1.6		PID=1.6		
2									2
3									3
4									4
5									5
6									6

RIG: Excavator **DRILLER:** **LOGGED:** SM **CASING:**
TYPE OF BORING:
WATER OBSERVATIONS: No free groundwater observed
REMARKS:

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

BOREHOLE LOG

CLIENT: Built Pty Ltd
PROJECT: Proposed School Structures
LOCATION: 85 Kyogle Road, Murwillumbah

SURFACE LEVEL: --
EASTING:
NORTHING:
DIP/AZIMUTH: 90°/--

BORE No: TP16
PROJECT No: 203033.01
DATE: 13/4/2021
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Well Construction Details
	0.1	FILL Sandy SILT (SM): dark brown, fine to medium sand, trace fine well graded gravel, trace rootlets, moist		E	0.0				
				E	0.1		PID=1.3		
		Sandy CLAY (CI): medium plasticity, fine to medium well graded sand, with fine to medium poorly graded subangular gravel			0.2		PID=0.7		
				E	0.5	R1 S1			
	0.6	Bore discontinued at 0.6m depth - Limit of investigation			0.6		PID=1.0		
					0.7		PID=1.8		
	1								1
	2								2
	3								3
	4								4
	5								5
	6								6

RIG: Excavator **DRILLER:** **LOGGED:** SM **CASING:**
TYPE OF BORING:
WATER OBSERVATIONS: No free groundwater observed
REMARKS:

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

BOREHOLE LOG

CLIENT: Built Pty Ltd
PROJECT: Proposed School Structures
LOCATION: 85 Kyogle Road, Murwillumbah

SURFACE LEVEL: --
EASTING:
NORTHING:
DIP/AZIMUTH: 90°/--

BORE No: TP17
PROJECT No: 203033.01
DATE: 13/4/2021
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Well Construction Details
	0.15	CONCRETE/BITUMEN							
	0.2	FILL SAND (SC) fine to medium sands, poorly graded, yellow		E	0.2 0.25		PID=1.3		
	0.3	FILL Clayey Sandy GRAVEL (GW): fine to medium, well graded, subangular, brown, fine to medium well graded sand, trace bricks		E	0.3 0.4		PID=1.1		
		Sandy CLAY (CI): medium plasticity, yellow-brown, fine to medium sand, with fine to medium well graded subangular gravel		E	0.9				
1	1.0	Bore discontinued at 1.0m depth - Limit of investigation			1.0		PID=0.8		1
									2
									3
									4
									5
									6

RIG: Excavator **DRILLER:** **LOGGED:** SM **CASING:**
TYPE OF BORING:
WATER OBSERVATIONS: No free groundwater observed
REMARKS:

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

BOREHOLE LOG

CLIENT: Built Pty Ltd
PROJECT: Proposed School Structures
LOCATION: 85 Kyogle Road, Murwillumbah

SURFACE LEVEL: --
EASTING:
NORTHING:
DIP/AZIMUTH: 90°/--

BORE No: TP18
PROJECT No: 203033.01
DATE: 14/4/2021
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Well Construction Details
	0.2	CONCRETE							
	0.25	FILL SAND (SC) fine to medium sands, poorly graded, yellow		E	0.25				
		FILL Silty Sandy CLAY (CL-CI): low to medium plasticity, yellow mottled white, fine to medium sand, trace fine poorly graded subangular gravel, w<PL			0.4		PID=1.3		
	0.9	- brick			0.9				
	1	Sandy Silty CLAY (CI): medium plasticity, w<PL, yellow mottled red, fine to medium sand, with fine to medium well graded gravel		E	1.0		PID=1.2		
				E	1.4				
	1.5	Bore discontinued at 1.5mdepth - Limit of investigation			1.5		PID=1.3		
	2								
	3								
	4								
	5								
	6								

RIG: Excavator **DRILLER:** **LOGGED:** SM **CASING:**
TYPE OF BORING:
WATER OBSERVATIONS: No free groundwater observed
REMARKS:

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

BOREHOLE LOG

CLIENT: Built Pty Ltd
PROJECT: Proposed School Structures
LOCATION: 85 Kyogle Road, Murwillumbah

SURFACE LEVEL: --
EASTING:
NORTHING:
DIP/AZIMUTH: 90°/--

BORE No: TP19
PROJECT No: 203033.01
DATE: 14/4/2021
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Well Construction Details
	0.2	CONCRETE							
	0.25	FILL SAND (SC) fine to medium sands, poorly graded, yellow		E	0.25				
		FILL Silty Sandy CLAY (CL-CI): low to medium plasticity, grey-brown-yellow, fine to medium sand, trace fine poorly graded subangular gravel, w<PL			0.4		PID=0.4		
	0.9				0.9				
	1	Sandy Silty CLAY (CI): medium plasticity, yellow mottled red, fine to medium sand, with fine to medium well graded gravel		E	1.0		PID=1.3		1
				E	1.4				
	1.5	Bore discontinued at 1.5m depth - Limit of investigation			1.5		PID=1.3		
	2								2
	3								3
	4								4
	5								5
	6								6

RIG: Excavator **DRILLER:** **LOGGED:** SM **CASING:**
TYPE OF BORING:
WATER OBSERVATIONS: No free groundwater observed
REMARKS:

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

BOREHOLE LOG

CLIENT: Built Pty Ltd
PROJECT: Proposed School Structures
LOCATION: 85 Kyogle Road, Murwillumbah

SURFACE LEVEL: --
EASTING:
NORTHING:
DIP/AZIMUTH: 90°/--

BORE No: TP20
PROJECT No: 203033.01
DATE: 14/4/2021
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Well Construction Details
	0.1	CONCRETE		E	0.0				
	0.15	ROADBASE Sandy GRAVEL (GP)		E	0.1 0.15		PID=1.1		
		FILL Sandy CLAY (CL-CI): low to medium plasticity, w<PL, brown-yellow, fine to medium sand, trace gravel			0.3		PID=1.1		
	0.4			E	0.4 0.5		PID=1.0		
		FILL Sandy CLAY (CL-CI): low to medium plasticity, brown-yellow with white mottling, fine to medium sand, with ash, with fine to medium well graded subangular gravel			0.7				
	0.7			E	0.8		PID=1.3		
	0.9			E	0.9 1.0		PID=0.6		
1		Sandy Silty CLAY (CL-CI): low to medium plasticity, dark grey-black, with ash							1
		Sandy Silty CLAY (CI): medium plasticity, w<PL, fine to medium sands, brown							
	1.6	Sandy CLAY (CI): medium plasticity, fine to medium sand, with fine to medium well graded subangular gravel		E	1.6 1.7		PID=1.7		
	1.9	Bore discontinued at 1.9mdepth - Refusal							
2									2
3									3
4									4
5									5
6									6

RIG: Excavator **DRILLER:** **LOGGED:** SM **CASING:**
TYPE OF BORING:
WATER OBSERVATIONS: No free groundwater observed
REMARKS:

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

BOREHOLE LOG

CLIENT: Built Pty Ltd
PROJECT: Proposed School Structures
LOCATION: 85 Kyogle Road, Murwillumbah

SURFACE LEVEL: --
EASTING:
NORTHING:
DIP/AZIMUTH: 90°/--

BORE No: TP21
PROJECT No: 203033.01
DATE: 14/4/2021
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Well Construction Details
	0.1	CONCRETE							
		ROADBASE							
	0.3	FILL Sandy CLAY (CI): medium plasticity, fine to medium sand, with fine to medium poorly graded subangular gravel		E	0.3 0.4		PID=0.7		
	0.5			E	0.5 0.6		PID=1.3		
		Sandy Silty CLAY (CL-CI): low to medium plasticity, dark brown, fine to medium sand, with fine well graded subangular gravel, trace ash, w<PL							
1									1
	1.4	Sandy Silty CLAY (CL): low plasticity, grey-black-brown mottled yellow, fine to medium sand, with ash, w<PL		E	1.4 1.5		PID=1.3		
2	2.0	Bore discontinued at 2.0m depth - Limit of investigation							2
3									3
4									4
5									5
6									6

RIG: Excavator **DRILLER:** **LOGGED:** SM **CASING:**
TYPE OF BORING:
WATER OBSERVATIONS: No free groundwater observed
REMARKS:

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

BOREHOLE LOG

CLIENT: Built Pty Ltd
PROJECT: Proposed School Structures
LOCATION: 85 Kyogle Road, Murwillumbah

SURFACE LEVEL: --
EASTING:
NORTHING:
DIP/AZIMUTH: 90°/--

BORE No: TP22
PROJECT No: 203033.01
DATE: 15/4/2021
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Well Construction Details
	0.0	TOPSOIL Sandy SILT (SM) dark brown, fine to medium well graded sand, trace rootlets, trace fine gravel, moist		E	0.0 0.1				
	0.4	Sandy Silty CLAY (CI): medium plasticity, red-brown, fine to medium sands, trace fine gravel, well graded sub angular		E	0.4 0.5		PID=1.1		
	0.6	Silty CLAY (CI): medium plasticity, red- brown, fine sands, trace fine gravel, well graded sub angular		E	0.7 0.8		PID=1.2		
	1								1
	1.4	Bore discontinued at 1.4m depth - Limit of investigation		E	1.3 1.4				
	2								2
	3								3
	4								4
	5								5
	6								6

RIG: Excavator **DRILLER:** **LOGGED:** SM **CASING:**
TYPE OF BORING:
WATER OBSERVATIONS: No free groundwater observed
REMARKS:

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

BOREHOLE LOG

CLIENT: Built Pty Ltd
PROJECT: Proposed School Structures
LOCATION: 85 Kyogle Road, Murwillumbah

SURFACE LEVEL: --
EASTING:
NORTHING:
DIP/AZIMUTH: 90°/--

BORE No: TP23
PROJECT No: 203033.01
DATE: 15/4/2021
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Well Construction Details
		TOPSOIL Sandy SILT (SM): dark brown		E	0.0 0.1				
	0.4	Sandy Silty CLAY (CI): medium plasticity, red, trace rootlets, fine to medium sands		E	0.4 0.5		PID=1.2		
	1				1.0		PID=1.4		1
	1.4	- trace fine poorly graded gravel		E	1.3 1.4	S3 R3	PID=1.2		
		Bore discontinued at 1.4m depth - Limit of investigation							
	2								2
	3								3
	4								4
	5								5
	6								6

RIG: Excavator **DRILLER:** **LOGGED:** SM **CASING:**
TYPE OF BORING:
WATER OBSERVATIONS: No free groundwater observed
REMARKS:

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

BOREHOLE LOG

CLIENT: Built Pty Ltd
PROJECT: Proposed School Structures
LOCATION: 85 Kyogle Road, Murwillumbah

SURFACE LEVEL: --
EASTING:
NORTHING:
DIP/AZIMUTH: 90°/--

BORE No: TP24
PROJECT No: 203033.01
DATE: 15/4/2021
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Well Construction Details
	0.1	FILL Silty SAND (SM): fine to medium, yellow-brown, trace organics, moist		E	0.0				
				E	0.1				
					0.2		PID=1.2		
	0.4	FILL Silty CLAY (CI): medium plasticity, with fine to medium sands, trace fine gravels well graded sub angular(possible natural)			0.4				
				E	0.5		PID=1.3		
		Sandy CLAY (CI): medium plasticity, red-orange, fine to medium sand, trace rootlets, w<PL							
				E	0.8				
	0.9	Bore discontinued at 0.9m depth - Limit of investigation			0.9		PID=1.6		
	1								
	2								
	3								
	4								
	5								
	6								

RIG: Excavator **DRILLER:** **LOGGED:** SM **CASING:**
TYPE OF BORING:
WATER OBSERVATIONS: No free groundwater observed
REMARKS:

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

BOREHOLE LOG

CLIENT: Built Pty Ltd
PROJECT: Proposed School Structures
LOCATION: 85 Kyogle Road, Murwillumbah

SURFACE LEVEL: --
EASTING:
NORTHING:
DIP/AZIMUTH: 90°/--

BORE No: TP25
PROJECT No: 203033.01
DATE: 15/4/2021
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Well Construction Details
	0.0			E	0.0				
					0.1		PID=1.4		
	0.2	FILL Clayey SAND (SC): fine to medium, yellow-brown, trace fine to medium poorly graded subangular gravel, trace organics, moist		E	0.14				
					0.2		PID=1.2		
		FILL Sandy Silty CLAY (CL-CI): low to medium plasticity, W<PL, red-brown, fine to medium sand, with charcoal/ash, trace organics, w<PL			0.3				
	0.5			E	0.5				
					0.6		PID=1.2		
		Silty CLAY (CI): medium plasticity, w<PL, trace fine sands, grey mottled							
	1				0.9				1
				E	1.0		PID=0.9		
					1.9				
	2 2.0	Bore discontinued at 2.0m depth - Limit of investigation		E	2.0				2
	3								3
	4								4
	5								5
	6								6

RIG: Excavator **DRILLER:** **LOGGED:** SM **CASING:**
TYPE OF BORING:
WATER OBSERVATIONS: No free groundwater observed
REMARKS:

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

BOREHOLE LOG

CLIENT: Built Pty Ltd
PROJECT: Proposed School Structures
LOCATION: 85 Kyogle Road, Murwillumbah

SURFACE LEVEL: --
EASTING:
NORTHING:
DIP/AZIMUTH: 90°/--

BORE No: TP26
PROJECT No: 203033.01
DATE: 14/4/2021
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Well Construction Details
	0.2	FILL Clayey SAND (SC): fine to medium, yellow-brown, trace fine to medium poorly graded subangular gravel, trace organics, moist		E	0.05 0.1		PID=1.3 PID=1.3		
		FILL Sandy Silty CLAY (CL-CI): low to medium plasticity, red-brown fine to medium sand, trace organics, w<PL		E D	0.2 0.25 0.3		Samples taken at 0.25m intervals down to 1.5m for ASS sampling		
	0.6				0.6				
	0.7	Silty CLAY (CL-CI): low to medium plasticity, w<PL, grey-brown, fine sand		E E	0.7 0.8		PID=1.3		
	1	Sandy Silty CLAY (CI): medium plasticity, w<PL, yellow mottled red, fine to medium sand, with fine to medium well graded gravel		E	1.15 1.25		PID=1.1		
	1.6	Bore discontinued at 1.6m depth - Refusal							

RIG: Excavator **DRILLER:** **LOGGED:** SM **CASING:**
TYPE OF BORING:
WATER OBSERVATIONS: No free groundwater observed
REMARKS:

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

BOREHOLE LOG

CLIENT: Built Pty Ltd
PROJECT: Proposed School Structures
LOCATION: 85 Kyogle Road, Murwillumbah

SURFACE LEVEL: --
EASTING:
NORTHING:
DIP/AZIMUTH: 90°/--

BORE No: TP27
PROJECT No: 203033.01
DATE: 15/4/2021
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Well Construction Details
	0.0	TOPSOIL Sandy Silt (SM): dark brown, fine to medium well graded sand, trace rootlets, trace fine gravel, moist		E	0.0				
	0.2	Sandy Silty CLAY (CL): low plasticity, yellow-brown, fine sand, w<PL			0.1				
				E	0.2		PID=1.4		
					0.3				
	1	- trace fine to medium poorly graded subangular gravel			0.9				1
				E	1.0		PID=1.3		
				E	1.4		PID=1.0		
	1.5	Bore discontinued at 1.5m depth - Limit of investigation			1.5		PID=1.9		
	2								2
	3								3
	4								4
	5								5
	6								6

RIG: Excavator **DRILLER:** **LOGGED:** SM **CASING:**
TYPE OF BORING:
WATER OBSERVATIONS: No free groundwater observed
REMARKS:

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

BOREHOLE LOG

CLIENT: Built Pty Ltd
PROJECT: Proposed School Structures
LOCATION: 85 Kyogle Road, Murwillumbah

SURFACE LEVEL: --
EASTING:
NORTHING:
DIP/AZIMUTH: 90°/--

BORE No: TP28
PROJECT No: 203033.01
DATE: 15/4/2021
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Well Construction Details
		FILL Sandy SILT (SM): brown, fine to medium sand, with fine poorly graded subangular gravel		E	0.0 0.1				
	0.4	FILL Sandy CLAY (CI): medium plasticity, fine to medium sand, trace fine well graded subangular gravel		E	0.4 0.5		PID=1.8		
	0.7	- red-brown, trace glass and debris		E	0.7 0.8		PID=1.1		
	0.9	FILL Sandy CLAY (CI): medium plasticity, red-brown, fine to medium sand, with fine well graded subangular gravel		E	0.9 1.0		PID=1.2		
1		Silty CLAY (CI): medium plasticity, w<PL, red-brown, fine sand, w<PL							1
	1.5	- pale red		E	1.4 1.5		PID=1.2		
		Bore discontinued at 1.5m depth - Limit of investigation							
2									2
3									3
4									4
5									5
6									6

RIG: Excavator **DRILLER:** **LOGGED:** SM **CASING:**
TYPE OF BORING:
WATER OBSERVATIONS: No free groundwater observed
REMARKS:

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

BOREHOLE LOG

CLIENT: Built Pty Ltd
PROJECT: Proposed School Structures
LOCATION: 85 Kyogle Road, Murwillumbah

SURFACE LEVEL: --
EASTING:
NORTHING:
DIP/AZIMUTH: 90°/--

BORE No: TP29
PROJECT No: 203033.01
DATE: 14/4/2021
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Well Construction Details
	0.2	TOPSOIL Sandy SILT (SM): dark brown, fine to medium well graded sand, trace rootlets, trace fine gravel, moist		E	0.0 0.1		PID=1.2		
		Silty CLAY (CI): medium plasticity, w<PL, red-brown, fine sand, w<PL		E	0.2 0.3				
	1.0	Bore discontinued at 1.0m depth - Limit of investigation		E	0.7 0.8		PID=1.7		

RIG: Excavator **DRILLER:** **LOGGED:** SM **CASING:**
TYPE OF BORING:
WATER OBSERVATIONS: No free groundwater observed
REMARKS:

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

BOREHOLE LOG

CLIENT: Built Pty Ltd
PROJECT: Proposed School Structures
LOCATION: 85 Kyogle Road, Murwillumbah

SURFACE LEVEL: --
EASTING:
NORTHING:
DIP/AZIMUTH: 90°/--

BORE No: TP30
PROJECT No: 203033.01
DATE: 15/4/2021
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Well Construction Details
		TOPSOIL Sandy SILT (SM): dark brown, fine to medium well graded sand, trace rootlets, trace fine gravel		E E D	0.0 0.05 0.1 0.15 0.25		PID=1.5 Samples taken at 0.25m intervals down to 2m for ASS sampling	▼	
	0.6	- wet							
		Silty CLAY (CI): medium plasticity, w>PL, grey/brown, fine sand, w<PL			0.75		PID=0.7		
	2.0	Bore discontinued at 2.0m depth - Limit of investigation		E	1.9 2.0				

RIG: Excavator **DRILLER:** **LOGGED:** SM **CASING:**
TYPE OF BORING:
WATER OBSERVATIONS: Groundwater observed at 0.5m
REMARKS:

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

BOREHOLE LOG

CLIENT: Built Pty Ltd
PROJECT: Proposed School Structures
LOCATION: 85 Kyogle Road, Murwillumbah

SURFACE LEVEL: --
EASTING:
NORTHING:
DIP/AZIMUTH: 90°/--

BORE No: TP31
PROJECT No: 203033.01
DATE: 15/4/2021
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Well Construction Details
	0.0	FILL Sandy SILT (SM): dark brown, fine to medium well graded sand, trace rootlets, trace fine gravel		E	0.0				
				E	0.1				
	0.2	FILL SAND (SC): fine to medium, well graded, subangular, yellow, trace silt		E	0.2		PID=1.0		
					0.3		PID=1.1		
	0.4	FILL Sandy SILT (SM): dark brown, fine to medium well graded sand, trace rootlets, trace fine gravel, trace clay							
	0.7	Sandy Silty CLAY (CI): medium plasticity, w<PL, red, fine sand		E	0.7				
					0.8		PID=1.4		
	1								1
				E	1.1				
					1.2		PID=1.5		
	1.5	Bore discontinued at 1.5m depth - Limit of investigation							
	2								2
	3								3
	4								4
	5								5
	6								6

RIG: Excavator **DRILLER:** **LOGGED:** SM **CASING:**
TYPE OF BORING:
WATER OBSERVATIONS: No free groundwater observed
REMARKS:

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

Appendix K

Laboratory Reports and Chain of Custody Documentation

CHAIN OF CUSTODY RECORD

Eurofins | mgt ABN 50 005 085 521

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

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

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

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

Company	Douglas Partners	**Project №**	203033.01	**Project Manager**	Rob Muller
Address	439 Montague Road, West End	**Project Name**		**EDD Format** (Excel, EQuIS etc)	
Contact Name	Sarah McKay				
Phone №	0428 769 065				
Special Directions					
Purchase Order					
Quote ID №					

Sampler(s)	Sarah McKay	
Handed over by		
Email for Invoice	brisbane@douglaspartners.com.au	
Email for Results	sarah.mckay@douglaspartners.com.au	

Analyses (Where metals are requested, please specify 'Total' or 'Filtered'. SUITE code must be used to attract SUITE pricing)

Containers (Change container type & size if necessary)

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

♦Surcharge will apply
☐ Overnight (reporting by 9am)♦
☐ Same day ♦ ☐ 1 day ♦
☐ 2 days ♦ ☐ 3 days ♦
☑ 5 days (Standard)
☐ Other( )

№	Client Sample ID	Sampled Date/Time dd/mm/yy hh:mm	Matrix Solid (S) Water (W)	B7	HOLD	500mL Plastic	250mL Plastic	125mL Plastic	200mL Amber Glass	40mL VOA vial	500mL PFAS Bottle	Jar (Glass or HDPE)	Other (Asbestos AS4964, WA Guidelines)	Sample Comments / Dangerous Goods Hazard Warning
1	S1		S		X									
2	S2		S		X							1		
3	S3		S		X							1		
4	S4		S	X								1		
5	S5		S	X								1		
6												1		
7														
8														
9														
10														
	Total Counts			2	3							5		

Temperature: 0
3.8
0.8
3.6
Correction Factor:

Method of Shipment ☐ Courier (#) ☐ Hand Delivered ☐ Postal

Eurofins | mgt Laboratory Use Only	Received By	Sarah Roubsajs	SYD | BNE | MEL | PER | ADL | NTL | DRW	Name		Signature		Date	22/4/21
	Received By		SYD | BNE | MEL | PER | ADL | NTL | DRW	Signature		Date		Time	11:45AM

Time		Time	
Temperature		Report №	

Eurofins Environment Testing Australia Pty Ltd trading as Eurofins | mgt

#789466

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

eurofins | Environment Testing

ABN: 50 005 085 521 www.eurofins.com.au EnviroSales@eurofins.com

Australia

Melbourne
6 Monterey Road
Dandenong South VIC 3175
Phone : +61 3 8564 5000
NATA # 1261
Site # 1254 & 14271

Sydney
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Lane Cove West NSW 2066
Phone : +61 2 9900 8400
NATA # 1261 Site # 18217

Brisbane
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Phone : +61 7 3902 4600
NATA # 1261 Site # 20794

Perth
46-48 Banksia Road
Welshpool WA 6106
Phone : +61 8 9251 9600
NATA # 1261
Site # 23736

Newcastle
4/52 Industrial Drive
Mayfield East NSW 2304
PO Box 60 Wickham 2293
Phone : +61 2 4968 8448
NATA # 1261 Site # 25079

New Zealand

Auckland
35 O'Rorke Road
Penrose, Auckland 1061
Phone : +64 9 526 45 51
IANZ # 1327

Christchurch
43 Detroit Drive
Rolleston, Christchurch 7675
Phone : 0800 856 450
IANZ # 1290

Sample Receipt Advice

Company name:	Douglas Partners (Qld) Pty Ltd
Contact name:	Sarah Mckay
Project name:	Not provided
Project ID:	203033.01
Turnaround time:	5 Day
Date/Time received	Apr 22, 2021 11:45 AM
Eurofins reference	789466

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

Contact

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

Peter Brand on phone : or by email: PeterBrand@eurofins.com

Results will be delivered electronically via email to Sarah Mckay - Sarah.Mckay@douglaspartners.com.au.

Note: A copy of these results will also be delivered to the general Douglas Partners (Qld) Pty Ltd email address.

eurofins | Environment Testing

ABN: 50 005 085 521 web: www.eurofins.com.au email: EnviroSales@eurofins.com

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Phone : +64 9 526 45 51
IANZ # 1327

Christchurch
43 Detroit Drive
Rolleston, Christchurch 7675
Phone : 0800 856 450
IANZ # 1290

Company Name: Douglas Partners (Qld) Pty Ltd
Address: 439 Montague Road
West End
QLD 4101

Project Name:
Project ID: 203033.01

Order No.:
Report #: 789466
Phone: 07 3237 8900
Fax: 07 3237 8999

Received: Apr 22, 2021 11:45 AM
Due: Apr 30, 2021
Priority: 5 Day
Contact Name: Sarah Mckay

Eurofins Analytical Services Manager : Peter Brand

Sample Detail						HOLD	Eurofins Suite B7
Melbourne Laboratory - NATA Site # 1254 & 14271							
Sydney Laboratory - NATA Site # 18217							
Brisbane Laboratory - NATA Site # 20794						X	X
Perth Laboratory - NATA Site # 23736							
Mayfield Laboratory - NATA Site # 25079							
External Laboratory							
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**		
1	S1	Not Provided		Soil	B21-Ap38663	X	
2	S2	Not Provided		Soil	B21-Ap38664	X	
3	S3	Not Provided		Soil	B21-Ap38665	X	
4	S4	Not Provided		Soil	B21-Ap38666		X
5	S5	Not Provided		Soil	B21-Ap38667		X
Test Counts						3	2

Douglas Partners Pty Ltd
439 Montague Road
West End
QLD 4101

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 and proficiency testing scheme providers reports.

Attention: **Sarah Mckay**

Report **789466-S**
Project name
Project ID 203033.01
Received Date Apr 22, 2021

Client Sample ID			**S4**	**S5**
Sample Matrix			**Soil**	**Soil**
Eurofins Sample No.			**B21-Ap38666**	**B21-Ap38667**
Date Sampled			**Not Provided**[I12]	**Not Provided**[I12]
Test/Reference	LOR	Unit		
BTEX				
Benzene	0.1	mg/kg	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	93	94
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5
TRH C6-C10	20	mg/kg	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	66
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	< 50	66
TRH >C16-C34	100	mg/kg	< 100	210
TRH >C34-C40	100	mg/kg	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100	276
Total Recoverable Hydrocarbons				
TRH C6-C9	20	mg/kg	< 20	< 20
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				
TRH C10-C14	20	mg/kg	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	180
TRH C29-C36	50	mg/kg	< 50	100
TRH C10-C36 (Total)	50	mg/kg	< 50	280
Polycyclic Aromatic Hydrocarbons				
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6	0.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2	1.2
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5	< 0.5
Anthracene	0.5	mg/kg	< 0.5	< 0.5
Benz(a)anthracene	0.5	mg/kg	< 0.5	< 0.5
Benzo(a)pyrene	0.5	mg/kg	< 0.5	< 0.5
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	< 0.5	< 0.5
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	< 0.5

Client Sample ID			S4	S5
Sample Matrix			Soil	Soil
Eurofins Sample No.			B21-Ap38666	B21-Ap38667
Date Sampled			Not Provided[I12]	Not Provided[I12]
Test/Reference	LOR	Unit		
Polycyclic Aromatic Hydrocarbons				
Chrysene	0.5	mg/kg	< 0.5	< 0.5
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	< 0.5
Fluoranthene	0.5	mg/kg	< 0.5	< 0.5
Fluorene	0.5	mg/kg	< 0.5	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	< 0.5
Naphthalene	0.5	mg/kg	< 0.5	< 0.5
Phenanthrene	0.5	mg/kg	< 0.5	< 0.5
Pyrene	0.5	mg/kg	< 0.5	< 0.5
Total PAH*	0.5	mg/kg	< 0.5	< 0.5
2-Fluorobiphenyl (surr.)	1	%	98	102
p-Terphenyl-d14 (surr.)	1	%	109	110
Heavy Metals				
Arsenic	2	mg/kg	9.0	4.4
Cadmium	0.5	mg/kg	< 0.5	< 0.5
Chromium	5	mg/kg	40	22
Copper	5	mg/kg	7.7	11
Lead	5	mg/kg	19	15
Mercury	0.1	mg/kg	< 0.1	< 0.1
Nickel	5	mg/kg	8.8	9.5
Zinc	5	mg/kg	13	200
% Moisture	1	%	22	18

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
Eurofins Suite B7			
BTEX	Brisbane	Apr 27, 2021	14 Days
- Method: USEPA SW846 8260			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Brisbane	Apr 27, 2021	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Brisbane	Apr 27, 2021	0 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons	Brisbane	Apr 27, 2021	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Brisbane	Apr 27, 2021	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Polycyclic Aromatic Hydrocarbons	Brisbane	Apr 27, 2021	14 Days
- Method: USEPA M 8270 (LTM-ORG-2130 PAH & Phenols in Soil & Water by GC-MS)			
Metals M8	Brisbane	Apr 27, 2021	180 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
% Moisture	Brisbane	Apr 28, 2021	14 Days
- Method: LTM-GEN-7080 Moisture			

eurofins | Environment Testing

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Company Name: Douglas Partners (Qld) Pty Ltd
Address: 439 Montague Road
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QLD 4101

Project Name:
Project ID: 203033.01

Order No.:
Report #: 789466
Phone: 07 3237 8900
Fax: 07 3237 8999

Received: Apr 22, 2021 11:45 AM
Due: Apr 30, 2021
Priority: 5 Day
Contact Name: Sarah Mckay

Eurofins Analytical Services Manager : Peter Brand

Sample Detail						HOLD	Eurofins Suite B7
Melbourne Laboratory - NATA Site # 1254 & 14271							
Sydney Laboratory - NATA Site # 18217							
Brisbane Laboratory - NATA Site # 20794						X	X
Perth Laboratory - NATA Site # 23736							
Mayfield Laboratory - NATA Site # 25079							
External Laboratory							
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**		
1	S1	Not Provided		Soil	B21-Ap38663	X	
2	S2	Not Provided		Soil	B21-Ap38664	X	
3	S3	Not Provided		Soil	B21-Ap38665	X	
4	S4	Not Provided		Soil	B21-Ap38666		X
5	S5	Not Provided		Soil	B21-Ap38667		X
Test Counts						3	2

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.

****NOTE:** pH duplicates are reported as a range NOT as RPD

Units

mg/kg: milligrams per kilogram

mg/L: milligrams per litre

ug/L: micrograms per litre

ppm: Parts per million

ppb: Parts per billion

%: Percentage

org/100mL: Organisms per 100 millilitres

NTU: Nephelometric Turbidity Units

MPN/100mL: Most Probable Number of organisms per 100 millilitres

Terms

Dry	Where a moisture has been determined on a solid sample the result is expressed on a dry basis.
LOR	Limit of Reporting.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
LCS	Laboratory Control Sample - reported as percent recovery.
CRM	Certified Reference Material - 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.
Surr - Surrogate	The addition of a like compound to the analyte target and reported as percentage recovery.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
USEPA	United States Environmental Protection Agency
APHA	American Public Health Association
TCLP	Toxicity Characteristic Leaching Procedure
COC	Chain of Custody
SRA	Sample Receipt Advice
QSM	US Department of Defense Quality Systems Manual Version 5.3
CP	Client Parent - QC was performed on samples pertaining to this report
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.
TEQ	Toxic Equivalency Quotient

QC - Acceptance Criteria

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%

Surrogate Recoveries: Recoveries must lie between 20-130% Phenols & 50-150% PFASs

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.3 where no positive PFAS results have been reported have been reviewed and no data was affected.

WA DWER (n=10): PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

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. Organochlorine Pesticide analysis - where reporting LCS data, Toxaphene & Chlordane are not added to the LCS.
4. Organochlorine Pesticide analysis - where reporting Spike data, Toxaphene is not added to the Spike.
5. Total Recoverable Hydrocarbons - where reporting Spike & LCS data, a single spike of commercial Hydrocarbon products in the range of C12-C30 is added and it's Total Recovery is reported in the C10-C14 cell of the Report.
6. 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.
7. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of Recovery the term "INT" appears against that analyte.
8. Polychlorinated Biphenyls are spiked only using Aroclor 1260 in Matrix Spikes and LCS.
9. For Matrix Spikes and LCS results a dash " -" in the report means that the specific analyte was not added to the QC sample.
10. 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							
BTEX							
Benzene	mg/kg	< 0.1			0.1	Pass	
Toluene	mg/kg	< 0.1			0.1	Pass	
Ethylbenzene	mg/kg	< 0.1			0.1	Pass	
m&p-Xylenes	mg/kg	< 0.2			0.2	Pass	
o-Xylene	mg/kg	< 0.1			0.1	Pass	
Xylenes - Total*	mg/kg	< 0.3			0.3	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	mg/kg	< 0.5			0.5	Pass	
TRH C6-C10	mg/kg	< 20			20	Pass	
TRH >C10-C16	mg/kg	< 50			50	Pass	
TRH >C16-C34	mg/kg	< 100			100	Pass	
TRH >C34-C40	mg/kg	< 100			100	Pass	
Method Blank							
Total Recoverable Hydrocarbons							
TRH C6-C9	mg/kg	< 20			20	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C10-C14	mg/kg	< 20			20	Pass	
TRH C15-C28	mg/kg	< 50			50	Pass	
TRH C29-C36	mg/kg	< 50			50	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	mg/kg	< 0.5			0.5	Pass	
Acenaphthylene	mg/kg	< 0.5			0.5	Pass	
Anthracene	mg/kg	< 0.5			0.5	Pass	
Benz(a)anthracene	mg/kg	< 0.5			0.5	Pass	
Benzo(a)pyrene	mg/kg	< 0.5			0.5	Pass	
Benzo(b&j)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Benzo(g.h.i)perylene	mg/kg	< 0.5			0.5	Pass	
Benzo(k)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Chrysene	mg/kg	< 0.5			0.5	Pass	
Dibenz(a.h)anthracene	mg/kg	< 0.5			0.5	Pass	
Fluoranthene	mg/kg	< 0.5			0.5	Pass	
Fluorene	mg/kg	< 0.5			0.5	Pass	
Indeno(1.2.3-cd)pyrene	mg/kg	< 0.5			0.5	Pass	
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Phenanthrene	mg/kg	< 0.5			0.5	Pass	
Pyrene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Heavy Metals							
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	
LCS - % Recovery							

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
BTEX							
Benzene	%	97			70-130	Pass	
Toluene	%	97			70-130	Pass	
Ethylbenzene	%	95			70-130	Pass	
m&p-Xylenes	%	93			70-130	Pass	
Xylenes - Total*	%	93			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
TRH C6-C10	%	100			70-130	Pass	
TRH >C10-C16	%	93			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C6-C9	%	102			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C10-C14	%	93			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	%	110			70-130	Pass	
Acenaphthylene	%	99			70-130	Pass	
Anthracene	%	118			70-130	Pass	
Benz(a)anthracene	%	93			70-130	Pass	
Benzo(a)pyrene	%	88			70-130	Pass	
Benzo(b&j)fluoranthene	%	91			70-130	Pass	
Benzo(g.h.i)perylene	%	93			70-130	Pass	
Benzo(k)fluoranthene	%	121			70-130	Pass	
Chrysene	%	109			70-130	Pass	
Dibenz(a.h)anthracene	%	94			70-130	Pass	
Fluoranthene	%	96			70-130	Pass	
Fluorene	%	103			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	101			70-130	Pass	
Naphthalene	%	116			70-130	Pass	
Phenanthrene	%	103			70-130	Pass	
Pyrene	%	99			70-130	Pass	
LCS - % Recovery							
Heavy Metals							
Arsenic	%	97			80-120	Pass	
Cadmium	%	109			80-120	Pass	
Chromium	%	104			80-120	Pass	
Copper	%	108			80-120	Pass	
Lead	%	107			80-120	Pass	
Mercury	%	108			80-120	Pass	
Nickel	%	107			80-120	Pass	
Zinc	%	108			80-120	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
BTEX				Result 1					
Benzene	B21-Ap40148	NCP	%	82			70-130	Pass	
Toluene	B21-Ap40148	NCP	%	84			70-130	Pass	
Ethylbenzene	B21-Ap40148	NCP	%	84			70-130	Pass	
m&p-Xylenes	B21-Ap40148	NCP	%	81			70-130	Pass	
o-Xylene	B21-Ap40148	NCP	%	81			70-130	Pass	
Xylenes - Total*	B21-Ap40148	NCP	%	81			70-130	Pass	
Spike - % Recovery									

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
TRH C6-C10	B21-Ap40148	NCP	%	76			70-130	Pass	
TRH >C10-C16	B21-Ap40148	NCP	%	94			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons				Result 1					
TRH C6-C9	B21-Ap40148	NCP	%	79			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1					
TRH C10-C14	B21-Ap40148	NCP	%	95			70-130	Pass	
Spike - % Recovery									
Polycyclic Aromatic Hydrocarbons				Result 1					
Acenaphthene	B21-Ap40148	NCP	%	101			70-130	Pass	
Acenaphthylene	B21-Ap40148	NCP	%	95			70-130	Pass	
Anthracene	B21-Ap40148	NCP	%	105			70-130	Pass	
Benz(a)anthracene	B21-Ap40148	NCP	%	100			70-130	Pass	
Benzo(a)pyrene	B21-Ap40148	NCP	%	90			70-130	Pass	
Benzo(b&j)fluoranthene	B21-Ap40148	NCP	%	93			70-130	Pass	
Benzo(g.h.i)perylene	B21-Ap40148	NCP	%	94			70-130	Pass	
Benzo(k)fluoranthene	B21-Ap40148	NCP	%	110			70-130	Pass	
Chrysene	B21-Ap40148	NCP	%	104			70-130	Pass	
Dibenz(a.h)anthracene	B21-Ap40148	NCP	%	94			70-130	Pass	
Fluoranthene	B21-Ap40148	NCP	%	93			70-130	Pass	
Fluorene	B21-Ap40148	NCP	%	105			70-130	Pass	
Indeno(1.2.3-cd)pyrene	B21-Ap40148	NCP	%	98			70-130	Pass	
Naphthalene	B21-Ap40148	NCP	%	92			70-130	Pass	
Phenanthrene	B21-Ap40148	NCP	%	95			70-130	Pass	
Pyrene	B21-Ap40148	NCP	%	99			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic	B21-Ap42750	NCP	%	82			75-125	Pass	
Cadmium	B21-Ap42750	NCP	%	92			75-125	Pass	
Chromium	B21-Ap42750	NCP	%	75			75-125	Pass	
Copper	B21-Ap42750	NCP	%	78			75-125	Pass	
Lead	B21-Ap42750	NCP	%	109			75-125	Pass	
Mercury	B21-Ap42750	NCP	%	89			75-125	Pass	
Nickel	B21-Ap42750	NCP	%	75			75-125	Pass	
Zinc	B21-Ap42750	NCP	%	91			75-125	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	B21-Ap40147	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	B21-Ap40147	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	B21-Ap40147	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	B21-Ap40147	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	B21-Ap40147	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total*	B21-Ap40147	NCP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	B21-Ap40147	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
TRH C6-C10	B21-Ap40147	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH >C10-C16	B21-Ap40147	NCP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH >C16-C34	B21-Ap40147	NCP	mg/kg	< 100	< 100	<1	30%	Pass	
TRH >C34-C40	B21-Ap40147	NCP	mg/kg	< 100	< 100	<1	30%	Pass	

Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C6-C9	B21-Ap40147	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1	Result 2	RPD			
TRH C10-C14	B21-Ap40147	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C15-C28	B21-Ap40147	NCP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH C29-C36	B21-Ap40147	NCP	mg/kg	< 50	< 50	<1	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	B21-Ap40147	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Acenaphthylene	B21-Ap40147	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Anthracene	B21-Ap40147	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benz(a)anthracene	B21-Ap40147	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(a)pyrene	B21-Ap40147	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(b&j)fluoranthene	B21-Ap40147	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(g.h.i)perylene	B21-Ap40147	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(k)fluoranthene	B21-Ap40147	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Chrysene	B21-Ap40147	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dibenz(a.h)anthracene	B21-Ap40147	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluoranthene	B21-Ap40147	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluorene	B21-Ap40147	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	B21-Ap40147	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Naphthalene	B21-Ap40147	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Phenanthrene	B21-Ap40147	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Pyrene	B21-Ap40147	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	B21-Ap42749	NCP	mg/kg	< 2	2.1	25	30%	Pass	
Cadmium	B21-Ap42749	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Chromium	B21-Ap42739	NCP	mg/kg	5.5	6.3	13	30%	Pass	
Copper	B21-Ap42749	NCP	mg/kg	7.5	9.4	22	30%	Pass	
Lead	B21-Ap42739	NCP	mg/kg	8.7	8.3	4.0	30%	Pass	
Nickel	B21-Ap42749	NCP	mg/kg	< 5	< 5	<1	30%	Pass	
Zinc	B21-Ap42749	NCP	mg/kg	35	45	26	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
% Moisture	B21-Ap38666	CP	%	22	22	1.0	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	N/A
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
I12	Where sampling date has not been provided, Eurofins | Environment Testing is not able to determine whether analysis has been performed within recommended holding times.
N01	F2 is determined by arithmetically subtracting the "naphthalene" value from the ">C10-C16" value. The naphthalene value used in this calculation is obtained from volatiles (Purge & Trap analysis).
N02	Where we have reported both volatile (P&T GCMS) and semivolatile (GCMS) naphthalene data, results may not be identical. Provided correct sample handling protocols have been followed, any observed differences in results are likely to be due to procedural differences within each methodology. Results determined by both techniques have passed all QAQC acceptance criteria, and are entirely technically valid.
N04	F1 is determined by arithmetically subtracting the "Total BTEX" value from the "C6-C10" value. The "Total BTEX" value is obtained by summing the concentrations of BTEX analytes. The "C6-C10" value is obtained by quantitating against a standard of mixed aromatic/aliphatic analytes.
N07	Please note:- These two PAH isomers closely co-elute using the most contemporary analytical methods and both the reported concentration (and the TEQ) apply specifically to the total of the two co-eluting PAHs

Authorised by:

Peter Brand	Analytical Services Manager
Jonathon Angell	Senior Analyst-Organic (QLD)
Jonathon Angell	Senior Analyst-Volatile (QLD)
Steven Trout	Senior Analyst-Metal (QLD)



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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ALS Environmental

CERTIFICATE OF ANALYSIS

Work Order	: **EB2110394**	Page	: 1 of 42
Client	: **DOUGLAS PARTNERS PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	: ROB MULLER	Contact	: John Pickering
Address	: 439 MONTAGUE ROAD WEST END QLD, AUSTRALIA 4101	Address	: 2 Byth Street Stafford QLD Australia 4053
Telephone	: ----	Telephone	: +61 7 3552 8634
Project	: 203033.01	Date Samples Received	: 20-Apr-2021 14:15
Order number	: 203033.01	Date Analysis Commenced	: 22-Apr-2021
C-O-C number	: ----	Issue Date	: 05-May-2021 15:35
Sampler	: SARAH McKAY		
Site	: ----		
Quote number	: EN/222		
No. of samples received	: 90		
No. of samples analysed	: 37		

ilac-MRA NATA
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
- Descriptive Results
- Surrogate Control Limits

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

Signatories

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

Signatories	*Position*	*Accreditation Category*
Mark Hallas	Senior Inorganic Chemist	Brisbane Acid Sulphate Soils, Stafford, QLD
Mark Hallas	Senior Inorganic Chemist	Brisbane Inorganics, Stafford, QLD
Matt Frost	Assistant Laboratory Manager	Brisbane Inorganics, Stafford, QLD
Matt Frost	Assistant Laboratory Manager	Brisbane Organics, Stafford, QLD
Satishkumar Trivedi	Senior Acid Sulfate Soil Chemist	Brisbane Acid Sulphate Soils, Stafford, QLD
Satishkumar Trivedi	Senior Acid Sulfate Soil Chemist	Brisbane Inorganics, Stafford, QLD
Uyen Dalkin	Approved Asbestos Identifier	Melbourne Asbestos, Springvale, VIC

General Comments

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

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

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

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

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

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

- ALS is not NATA accredited for the analysis of Exchangeable Aluminium and Exchange Acidity in soils when performed under ALS Method ED005.
- ALS is not NATA accredited for the analysis of Exchangeable Cations on Alkaline Soils when performed under ALS Method ED006.
- Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) per the NEPM (2013) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero, for 'TEQ 1/2LOR' are treated as half the reported LOR, and for 'TEQ LOR' are treated as being equal to the reported LOR. Note: TEQ 1/2LOR and TEQ LOR will calculate as 0.6mg/Kg and 1.2mg/Kg respectively for samples with non-detects for all of the eight TEQ PAHs.
- EP080: Where reported, Total Xylenes is the sum of the reported concentrations of m&p-Xylene and o-Xylene at or above the 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.
- EP075(SIM): Where reported, Total Cresol is the sum of the reported concentrations of 2-Methylphenol and 3- & 4-Methylphenol at or above the LOR.
- EG005T (Total Metals by ICP-AES): Sample 9/1.1 (EB2110394_030) shows poor duplicate results due to sample heterogeneity. Confirmed by visual inspection.
- ED007 (Exchangeable Cations by ICP-AES): Unable to calculate Magnesium/Potassium Ratio for some samples as required Exchangeable Magnesium and/or Potassium results are less than the limit of reporting.
- EA200 'Am' Amosite (brown asbestos)
- EA200 'Cr' Crocidolite (blue asbestos)
- EA200 'Trace' - Asbestos fibres ("Free Fibres") detected by trace analysis per AS4964. The result can be interpreted that the sample contains detectable 'respirable' asbestos fibres
- EA200: Asbestos Identification Samples were analysed by Polarised Light Microscopy including dispersion staining.
- EA200 Legend
- EA200 'Ch' Chrysotile (white asbestos)
- EA200: 'UMF' Unknown Mineral Fibres. "-" indicates fibres detected may or may not be asbestos fibres. Confirmation by alternative techniques is recommended.
- EA200: For samples larger than 30g, the <2mm fraction may be sub-sampled prior to trace analysis as outlined in ISO23909:2008(E) Sect 6.3.2-2
- ED007 and ED008: When Exchangeable Al is reported from these methods, it should be noted that Rayment & Lyons (2011) suggests Exchange Acidity by 1M KCl - Method 15G1 (ED005) is a more suitable method for the determination of exchange acidity (H+ + Al3+).
- EA200: 'Yes' - Asbestos detected by polarised light microscopy including dispersion staining.
- EA200: 'No*' - No asbestos found, at the reporting limit of 0.1g/kg, by polarised light microscopy including dispersion staining. Asbestos material was detected and positively identified at concentrations estimated to be below 0.1g/kg.
- EA200: 'No' - No asbestos found at the reporting limit 0.1g/kg, by polarised light microscopy including dispersion staining.

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	1/0.1	2/0.1	3/0.3	3/0.4	4/0.1
			Sampling date / time	15-Apr-2021 00:00	15-Apr-2021 00:00	13-Apr-2021 00:00	13-Apr-2021 00:00	16-Apr-2021 00:00
Compound	CAS Number	LOR	Unit	EB2110394-001	EB2110394-004	EB2110394-009	EB2110394-010	EB2110394-013
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	21.9	22.4	----	26.1	20.5
EA200: AS 4964 - 2004 Identification of Asbestos in Soils								
Asbestos Detected	1332-21-4	0.1	g/kg	No	No	No	----	No
Asbestos (Trace)	1332-21-4	5	Fibres	No	No	No	----	No
Asbestos Type	1332-21-4	-	--	-	-	-	----	-
Synthetic Mineral Fibre	----	0.1	g/kg	No	No	No	----	No
Organic Fibre	----	0.1	g/kg	Yes	Yes	Yes	----	Yes
Sample weight (dry)	----	0.01	g	425	543	188	----	244
APPROVED IDENTIFIER:	----	-	--	U.DALKIN	U.DALKIN	U.DALKIN	----	U.DALKIN
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	7	5	----	6	<5
Cadmium	7440-43-9	1	mg/kg	<1	<1	----	<1	<1
Chromium	7440-47-3	2	mg/kg	19	9	----	22	37
Copper	7440-50-8	5	mg/kg	15	34	----	11	15
Lead	7439-92-1	5	mg/kg	18	60	----	15	32
Nickel	7440-02-0	2	mg/kg	5	2	----	5	6
Zinc	7440-66-6	5	mg/kg	20	59	----	12	34
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	0.1	0.1	----	<0.1	<0.1
EP066: Polychlorinated Biphenyls (PCB)								
Total Polychlorinated biphenyls	----	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

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	1/0.1	2/0.1	3/0.3	3/0.4	4/0.1
				Sampling date / time	15-Apr-2021 00:00	15-Apr-2021 00:00	13-Apr-2021 00:00	13-Apr-2021 00:00	16-Apr-2021 00:00
Compound	CAS Number	LOR	Unit		EB2110394-001	EB2110394-004	EB2110394-009	EB2110394-010	EB2110394-013
					Result	Result	Result	Result	Result
EP068A: Organochlorine Pesticides (OC) - Continued									
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
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**	72-54-8/72-55-9/50-2	0.05	mg/kg		----	<0.05	----	----	<0.05
EP068B: Organophosphorus Pesticides (OP)									
Dichlorvos	62-73-7	0.05	mg/kg		----	<0.05	----	----	<0.05
Demeton-S-methyl	919-86-8	0.05	mg/kg		----	<0.05	----	----	<0.05
Monocrotophos	6923-22-4	0.2	mg/kg		----	<0.2	----	----	<0.2
Dimethoate	60-51-5	0.05	mg/kg		----	<0.05	----	----	<0.05
Diazinon	333-41-5	0.05	mg/kg		----	<0.05	----	----	<0.05
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg		----	<0.05	----	----	<0.05
Parathion-methyl	298-00-0	0.2	mg/kg		----	<0.2	----	----	<0.2
Malathion	121-75-5	0.05	mg/kg		----	<0.05	----	----	<0.05
Fenthion	55-38-9	0.05	mg/kg		----	<0.05	----	----	<0.05
Chlorpyrifos	2921-88-2	0.05	mg/kg		----	<0.05	----	----	<0.05
Parathion	56-38-2	0.2	mg/kg		----	<0.2	----	----	<0.2
Pirimphos-ethyl	23505-41-1	0.05	mg/kg		----	<0.05	----	----	<0.05
Chlorfenvinphos	470-90-6	0.05	mg/kg		----	<0.05	----	----	<0.05
Bromophos-ethyl	4824-78-6	0.05	mg/kg		----	<0.05	----	----	<0.05
Fenamiphos	22224-92-6	0.05	mg/kg		----	<0.05	----	----	<0.05
Prothiofos	34643-46-4	0.05	mg/kg		----	<0.05	----	----	<0.05
Ethion	563-12-2	0.05	mg/kg		----	<0.05	----	----	<0.05
Carbophenothion	786-19-6	0.05	mg/kg		----	<0.05	----	----	<0.05
Azinphos Methyl	86-50-0	0.05	mg/kg		----	<0.05	----	----	<0.05
EP075(SIM)A: Phenolic Compounds									

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	1/0.1	2/0.1	3/0.3	3/0.4	4/0.1
			Sampling date / time	15-Apr-2021 00:00	15-Apr-2021 00:00	13-Apr-2021 00:00	13-Apr-2021 00:00	16-Apr-2021 00:00
Compound	CAS Number	LOR	Unit	EB2110394-001	EB2110394-004	EB2110394-009	EB2110394-010	EB2110394-013
				Result	Result	Result	Result	Result
EP075(SIM)A: Phenolic Compounds - Continued								
Phenol	108-95-2	0.5	mg/kg	----	<0.5	----	----	<0.5
2-Chlorophenol	95-57-8	0.5	mg/kg	----	<0.5	----	----	<0.5
2-Methylphenol	95-48-7	0.5	mg/kg	----	<0.5	----	----	<0.5
3- & 4-Methylphenol	1319-77-3	1	mg/kg	----	<1	----	----	<1
2-Nitrophenol	88-75-5	0.5	mg/kg	----	<0.5	----	----	<0.5
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	----	<0.5	----	----	<0.5
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	----	<0.5	----	----	<0.5
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	----	<0.5	----	----	<0.5
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	----	<0.5	----	----	<0.5
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	----	<0.5	----	----	<0.5
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	----	<0.5	----	----	<0.5
Pentachlorophenol	87-86-5	2	mg/kg	----	<2	----	----	<2
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5
Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5
Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5
Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5
Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5
Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg	**0.6**	**0.6**	----	**0.6**	**0.6**
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg	**1.2**	**1.2**	----	**1.2**	**1.2**
EP080/071: Total Petroleum Hydrocarbons								

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	1/0.1	2/0.1	3/0.3	3/0.4	4/0.1
				Sampling date / time	15-Apr-2021 00:00	15-Apr-2021 00:00	13-Apr-2021 00:00	13-Apr-2021 00:00	16-Apr-2021 00:00
Compound	CAS Number	LOR	Unit		EB2110394-001	EB2110394-004	EB2110394-009	EB2110394-010	EB2110394-013
					Result	Result	Result	Result	Result
EP080/071: Total Petroleum Hydrocarbons - Continued									
C6 - C9 Fraction	----	10	mg/kg		<10	<10	----	<10	<10
C10 - C14 Fraction	----	50	mg/kg		<50	<50	----	<50	<50
C15 - C28 Fraction	----	100	mg/kg		<100	<100	----	<100	<100
C29 - C36 Fraction	----	100	mg/kg		<100	<100	----	<100	<100
^ **C10 - C36 Fraction (sum)**	----	50	mg/kg		<50	<50	----	<50	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	<10	----	<10	<10
^ **C6 - C10 Fraction minus BTEX (F1)**	C6_C10-BTEX	10	mg/kg		<10	<10	----	<10	<10
>C10 - C16 Fraction	----	50	mg/kg		<50	<50	----	<50	<50
>C16 - C34 Fraction	----	100	mg/kg		<100	<100	----	<100	<100
>C34 - C40 Fraction	----	100	mg/kg		<100	<100	----	<100	<100
^ **>C10 - C40 Fraction (sum)**	----	50	mg/kg		<50	<50	----	<50	<50
^ **>C10 - C16 Fraction minus Naphthalene (F2)**	----	50	mg/kg		<50	<50	----	<50	<50
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	<0.2	----	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg		<0.5	<0.5	----	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	<0.5	----	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	<0.5	----	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	<0.5	----	<0.5	<0.5
^ **Sum of BTEX**	----	0.2	mg/kg		<0.2	<0.2	----	<0.2	<0.2
^ **Total Xylenes**	----	0.5	mg/kg		<0.5	<0.5	----	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg		<1	<1	----	<1	<1
EP066S: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%		----	**110**	----	----	**114**
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.05	%		----	**117**	----	----	**122**
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.05	%		----	**73.2**	----	----	**79.6**
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		**106**	**106**	----	**108**	**106**
2-Chlorophenol-D4	93951-73-6	0.5	%		**102**	**101**	----	**103**	**102**
2.4.6-Tribromophenol	118-79-6	0.5	%		**77.9**	**74.7**	----	**70.6**	**78.7**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	1/0.1	2/0.1	3/0.3	3/0.4	4/0.1
				Sampling date / time	15-Apr-2021 00:00	15-Apr-2021 00:00	13-Apr-2021 00:00	13-Apr-2021 00:00	16-Apr-2021 00:00
Compound	CAS Number	LOR	Unit		EB2110394-001	EB2110394-004	EB2110394-009	EB2110394-010	EB2110394-013
					Result	Result	Result	Result	Result
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		**105**	**103**	**----**	**103**	**101**
Anthracene-d10	1719-06-8	0.5	%		**111**	**101**	**----**	**102**	**105**
4-Terphenyl-d14	1718-51-0	0.5	%		**117**	**113**	**----**	**113**	**117**
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.2	%		**96.1**	**97.7**	**----**	**89.3**	**95.2**
Toluene-D8	2037-26-5	0.2	%		**80.2**	**80.9**	**----**	**73.2**	**78.2**
4-Bromofluorobenzene	460-00-4	0.2	%		**100**	**104**	**----**	**95.1**	**99.0**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	5/0.1	6/0.1	7/0.1	7/0.2	8/0.1
			Sampling date / time	16-Apr-2021 00:00	16-Apr-2021 00:00	16-Apr-2021 00:00	16-Apr-2021 00:00	16-Apr-2021 00:00
Compound	CAS Number	LOR	Unit	EB2110394-015	EB2110394-016	EB2110394-019	EB2110394-020	EB2110394-024
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	18.6	25.4	----	17.3	20.5
EA200: AS 4964 - 2004 Identification of Asbestos in Soils								
Asbestos Detected	1332-21-4	0.1	g/kg	No	No	No	----	No
Asbestos (Trace)	1332-21-4	5	Fibres	No	No	No	----	No
Asbestos Type	1332-21-4	-	--	-	-	-	----	-
Synthetic Mineral Fibre	----	0.1	g/kg	No	No	No	----	No
Organic Fibre	----	0.1	g/kg	Yes	Yes	Yes	----	Yes
Sample weight (dry)	----	0.01	g	328	394	154	----	564
APPROVED IDENTIFIER:	----	-	--	U.DALKIN	U.DALKIN	U.DALKIN	----	U.DALKIN
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	<5	<5	----	<5	<5
Cadmium	7440-43-9	1	mg/kg	<1	<1	----	<1	<1
Chromium	7440-47-3	2	mg/kg	23	34	----	33	35
Copper	7440-50-8	5	mg/kg	10	13	----	8	8
Lead	7439-92-1	5	mg/kg	22	20	----	9	13
Nickel	7440-02-0	2	mg/kg	5	10	----	2	5
Zinc	7440-66-6	5	mg/kg	35	48	----	10	23
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	----	0.6	<0.1
EP066: Polychlorinated Biphenyls (PCB)								
Total Polychlorinated biphenyls	----	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

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	5/0.1	6/0.1	7/0.1	7/0.2	8/0.1
			Sampling date / time	16-Apr-2021 00:00	16-Apr-2021 00:00	16-Apr-2021 00:00	16-Apr-2021 00:00	16-Apr-2021 00:00
Compound	CAS Number	LOR	Unit	EB2110394-015	EB2110394-016	EB2110394-019	EB2110394-020	EB2110394-024
				Result	Result	Result	Result	Result
EP068A: Organochlorine Pesticides (OC) - Continued								
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
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**	72-54-8/72-55-9/50-2	0.05	mg/kg	----	<0.05	----	----	<0.05
EP068B: Organophosphorus Pesticides (OP)								
Dichlorvos	62-73-7	0.05	mg/kg	----	<0.05	----	----	<0.05
Demeton-S-methyl	919-86-8	0.05	mg/kg	----	<0.05	----	----	<0.05
Monocrotophos	6923-22-4	0.2	mg/kg	----	<0.2	----	----	<0.2
Dimethoate	60-51-5	0.05	mg/kg	----	<0.05	----	----	<0.05
Diazinon	333-41-5	0.05	mg/kg	----	<0.05	----	----	<0.05
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	----	<0.05	----	----	<0.05
Parathion-methyl	298-00-0	0.2	mg/kg	----	<0.2	----	----	<0.2
Malathion	121-75-5	0.05	mg/kg	----	<0.05	----	----	<0.05
Fenthion	55-38-9	0.05	mg/kg	----	<0.05	----	----	<0.05
Chlorpyrifos	2921-88-2	0.05	mg/kg	----	<0.05	----	----	<0.05
Parathion	56-38-2	0.2	mg/kg	----	<0.2	----	----	<0.2
Pirimphos-ethyl	23505-41-1	0.05	mg/kg	----	<0.05	----	----	<0.05
Chlorfenvinphos	470-90-6	0.05	mg/kg	----	<0.05	----	----	<0.05
Bromophos-ethyl	4824-78-6	0.05	mg/kg	----	<0.05	----	----	<0.05
Fenamiphos	22224-92-6	0.05	mg/kg	----	<0.05	----	----	<0.05
Prothiofos	34643-46-4	0.05	mg/kg	----	<0.05	----	----	<0.05
Ethion	563-12-2	0.05	mg/kg	----	<0.05	----	----	<0.05
Carbophenothion	786-19-6	0.05	mg/kg	----	<0.05	----	----	<0.05
Azinphos Methyl	86-50-0	0.05	mg/kg	----	<0.05	----	----	<0.05
EP075(SIM)A: Phenolic Compounds								

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	5/0.1	6/0.1	7/0.1	7/0.2	8/0.1
			Sampling date / time	16-Apr-2021 00:00	16-Apr-2021 00:00	16-Apr-2021 00:00	16-Apr-2021 00:00	16-Apr-2021 00:00
Compound	CAS Number	LOR	Unit	EB2110394-015	EB2110394-016	EB2110394-019	EB2110394-020	EB2110394-024
				Result	Result	Result	Result	Result
EP075(SIM)A: Phenolic Compounds - Continued								
Phenol	108-95-2	0.5	mg/kg	----	<0.5	----	----	<0.5
2-Chlorophenol	95-57-8	0.5	mg/kg	----	<0.5	----	----	<0.5
2-Methylphenol	95-48-7	0.5	mg/kg	----	<0.5	----	----	<0.5
3- & 4-Methylphenol	1319-77-3	1	mg/kg	----	<1	----	----	<1
2-Nitrophenol	88-75-5	0.5	mg/kg	----	<0.5	----	----	<0.5
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	----	<0.5	----	----	<0.5
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	----	<0.5	----	----	<0.5
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	----	<0.5	----	----	<0.5
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	----	<0.5	----	----	<0.5
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	----	<0.5	----	----	<0.5
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	----	<0.5	----	----	<0.5
Pentachlorophenol	87-86-5	2	mg/kg	----	<2	----	----	<2
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5
Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5
Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5
Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5
Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5
Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg	**0.6**	**0.6**	----	**0.6**	**0.6**
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg	**1.2**	**1.2**	----	**1.2**	**1.2**
EP080/071: Total Petroleum Hydrocarbons								

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	5/0.1	6/0.1	7/0.1	7/0.2	8/0.1
			Sampling date / time	16-Apr-2021 00:00	16-Apr-2021 00:00	16-Apr-2021 00:00	16-Apr-2021 00:00	16-Apr-2021 00:00
Compound	CAS Number	LOR	Unit	EB2110394-015	EB2110394-016	EB2110394-019	EB2110394-020	EB2110394-024
				Result	Result	Result	Result	Result
EP080/071: Total Petroleum Hydrocarbons - Continued								
C6 - C9 Fraction	----	10	mg/kg	<10	<10	----	<10	<10
C10 - C14 Fraction	----	50	mg/kg	<50	<50	----	<50	<50
C15 - C28 Fraction	----	100	mg/kg	<100	<100	----	<100	<100
C29 - C36 Fraction	----	100	mg/kg	<100	<100	----	<100	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg	<50	<50	----	<50	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions								
C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	----	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg	<10	<10	----	<10	<10
>C10 - C16 Fraction	----	50	mg/kg	<50	<50	----	<50	<50
>C16 - C34 Fraction	----	100	mg/kg	<100	<100	----	<100	<100
>C34 - C40 Fraction	----	100	mg/kg	<100	<100	----	<100	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	<50	<50	----	<50	<50
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg	<50	<50	----	<50	<50
EP080: BTEXN								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	----	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5
^ Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	----	<0.2	<0.2
^ Total Xylenes	----	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg	<1	<1	----	<1	<1
EP066S: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	----	114	----	----	115
EP068S: Organochlorine Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.05	%	----	120	----	----	124
EP068T: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.05	%	----	83.5	----	----	82.8
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.5	%	106	104	----	110	107
2-Chlorophenol-D4	93951-73-6	0.5	%	102	99.6	----	105	103
2.4.6-Tribromophenol	118-79-6	0.5	%	77.1	77.8	----	74.7	71.1

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	5/0.1	6/0.1	7/0.1	7/0.2	8/0.1
				Sampling date / time	16-Apr-2021 00:00	16-Apr-2021 00:00	16-Apr-2021 00:00	16-Apr-2021 00:00	16-Apr-2021 00:00
Compound	CAS Number	LOR	Unit		EB2110394-015	EB2110394-016	EB2110394-019	EB2110394-020	EB2110394-024
					Result	Result	Result	Result	Result
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		103	102	----	104	104
Anthracene-d10	1719-06-8	0.5	%		103	108	----	105	112
4-Terphenyl-d14	1718-51-0	0.5	%		115	118	----	115	123
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.2	%		96.3	95.5	----	98.1	90.6
Toluene-D8	2037-26-5	0.2	%		83.2	81.9	----	78.0	75.1
4-Bromofluorobenzene	460-00-4	0.2	%		101	103	----	99.9	94.5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	9/0.1	9/1.1	10/0.1	10/0.4	11/0.1
			Sampling date / time	15-Apr-2021 00:00	15-Apr-2021 00:00	15-Apr-2021 00:00	15-Apr-2021 00:00	13-Apr-2021 00:00
Compound	CAS Number	LOR	Unit	EB2110394-027	EB2110394-030	EB2110394-031	EB2110394-032	EB2110394-034
				Result	Result	Result	Result	Result
EA001: pH in soil using 0.01M CaCl extract								
pH (CaCl2)	----	0.1	pH Unit	----	4.5	----	----	----
EA002: pH 1:5 (Soils)								
pH Value	----	0.1	pH Unit	----	5.7	----	----	----
EA010: Conductivity (1:5)								
Electrical Conductivity @ 25°C	----	1	µS/cm	----	8	----	----	----
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	28.1	20.7	----	21.6	----
EA150: Soil Classification based on Particle Size								
Clay (<2 µm)	----	1	%	----	52	----	----	----
EA152: Soil Particle Density								
Soil Particle Density (Clay/Silt/Sand)	----	0.01	g/cm3	----	2.94	----	----	----
EA200: AS 4964 - 2004 Identification of Asbestos in Soils								
Asbestos Detected	1332-21-4	0.1	g/kg	No	----	No	----	No
Asbestos (Trace)	1332-21-4	5	Fibres	No	----	No	----	No
Asbestos Type	1332-21-4	-	--	-	----	-	----	-
Synthetic Mineral Fibre	----	0.1	g/kg	No	----	No	----	No
Organic Fibre	----	0.1	g/kg	Yes	----	Yes	----	Yes
Sample weight (dry)	----	0.01	g	467	----	458	----	407
APPROVED IDENTIFIER:	----	-	--	U.DALKIN	----	U.DALKIN	----	U.DALKIN
ED005: Exchange Acidity								
ø Exchange Acidity	----	0.1	meq/100g	----	0.7	----	----	----
ø Exchangeable Aluminium	----	0.1	meq/100g	----	0.2	----	----	----
ED007: Exchangeable Cations								
Exchangeable Calcium	----	0.1	meq/100g	----	1.1	----	----	----
Exchangeable Magnesium	----	0.1	meq/100g	----	0.8	----	----	----
Exchangeable Potassium	----	0.1	meq/100g	----	<0.1	----	----	----
Exchangeable Sodium	----	0.1	meq/100g	----	<0.1	----	----	----
Cation Exchange Capacity	----	0.1	meq/100g	----	2.8	----	----	----
EG005(ED093)T: Total Metals by ICP-AES								
Iron	7439-89-6	0.005	%	----	5.72	----	----	----
Arsenic	7440-38-2	5	mg/kg	<5	<5	----	<5	----
Cadmium	7440-43-9	1	mg/kg	<1	<1	----	<1	----
Chromium	7440-47-3	2	mg/kg	35	47	----	31	----
Copper	7440-50-8	5	mg/kg	18	5	----	<5	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	9/0.1	9/1.1	10/0.1	10/0.4	11/0.1
			Sampling date / time	15-Apr-2021 00:00	15-Apr-2021 00:00	15-Apr-2021 00:00	15-Apr-2021 00:00	13-Apr-2021 00:00
Compound	CAS Number	LOR	Unit	EB2110394-027	EB2110394-030	EB2110394-031	EB2110394-032	EB2110394-034
				Result	Result	Result	Result	Result
EG005(ED093)T: Total Metals by ICP-AES - Continued								
Lead	7439-92-1	5	mg/kg	20	12	----	13	----
Nickel	7440-02-0	2	mg/kg	12	5	----	4	----
Zinc	7440-66-6	5	mg/kg	67	6	----	6	----
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	----	0.1	----
EP004: Organic Matter								
Organic Matter	----	0.5	%	----	0.9	----	----	----
Total Organic Carbon	----	0.5	%	----	0.5	----	----	----
EP066: Polychlorinated Biphenyls (PCB)								
Total Polychlorinated biphenyls	----	0.1	mg/kg	----	----	----	<0.1	----
EP068A: Organochlorine Pesticides (OC)								
alpha-BHC	319-84-6	0.05	mg/kg	----	----	----	<0.05	----
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	----	----	----	<0.05	----
beta-BHC	319-85-7	0.05	mg/kg	----	----	----	<0.05	----
gamma-BHC	58-89-9	0.05	mg/kg	----	----	----	<0.05	----
delta-BHC	319-86-8	0.05	mg/kg	----	----	----	<0.05	----
Heptachlor	76-44-8	0.05	mg/kg	----	----	----	<0.05	----
Aldrin	309-00-2	0.05	mg/kg	----	----	----	<0.05	----
Heptachlor epoxide	1024-57-3	0.05	mg/kg	----	----	----	<0.05	----
^ Total Chlordane (sum)	----	0.05	mg/kg	----	----	----	<0.05	----
trans-Chlordane	5103-74-2	0.05	mg/kg	----	----	----	<0.05	----
alpha-Endosulfan	959-98-8	0.05	mg/kg	----	----	----	<0.05	----
cis-Chlordane	5103-71-9	0.05	mg/kg	----	----	----	<0.05	----
Dieldrin	60-57-1	0.05	mg/kg	----	----	----	<0.05	----
4.4`-DDE	72-55-9	0.05	mg/kg	----	----	----	<0.05	----
Endrin	72-20-8	0.05	mg/kg	----	----	----	<0.05	----
beta-Endosulfan	33213-65-9	0.05	mg/kg	----	----	----	<0.05	----
^ Endosulfan (sum)	115-29-7	0.05	mg/kg	----	----	----	<0.05	----
4.4`-DDD	72-54-8	0.05	mg/kg	----	----	----	<0.05	----
Endrin aldehyde	7421-93-4	0.05	mg/kg	----	----	----	<0.05	----
Endosulfan sulfate	1031-07-8	0.05	mg/kg	----	----	----	<0.05	----
4.4`-DDT	50-29-3	0.2	mg/kg	----	----	----	<0.2	----
Endrin ketone	53494-70-5	0.05	mg/kg	----	----	----	<0.05	----
Methoxychlor	72-43-5	0.2	mg/kg	----	----	----	<0.2	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	9/0.1	9/1.1	10/0.1	10/0.4	11/0.1
			Sampling date / time	15-Apr-2021 00:00	15-Apr-2021 00:00	15-Apr-2021 00:00	15-Apr-2021 00:00	13-Apr-2021 00:00
Compound	CAS Number	LOR	Unit	EB2110394-027	EB2110394-030	EB2110394-031	EB2110394-032	EB2110394-034
				Result	Result	Result	Result	Result
EP068A: Organochlorine Pesticides (OC) - Continued								
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg	----	----	----	<0.05	----
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-2	0.05	mg/kg	----	----	----	<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	----
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	----	----	----	<0.5	----
2-Chlorophenol	95-57-8	0.5	mg/kg	----	----	----	<0.5	----
2-Methylphenol	95-48-7	0.5	mg/kg	----	----	----	<0.5	----
3- & 4-Methylphenol	1319-77-3	1	mg/kg	----	----	----	<1	----
2-Nitrophenol	88-75-5	0.5	mg/kg	----	----	----	<0.5	----
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	----	----	----	<0.5	----
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	----	----	----	<0.5	----
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	----	----	----	<0.5	----
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	----	----	----	<0.5	----
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	----	----	----	<0.5	----
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	----	----	----	<0.5	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	9/0.1	9/1.1	10/0.1	10/0.4	11/0.1
			Sampling date / time	15-Apr-2021 00:00	15-Apr-2021 00:00	15-Apr-2021 00:00	15-Apr-2021 00:00	13-Apr-2021 00:00
Compound	CAS Number	LOR	Unit	EB2110394-027	EB2110394-030	EB2110394-031	EB2110394-032	EB2110394-034
				Result	Result	Result	Result	Result
EP075(SIM)A: Phenolic Compounds - Continued								
Pentachlorophenol	87-86-5	2	mg/kg	----	----	----	<2	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	----	----	<0.5	----
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	----	----	<0.5	----
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	----	----	<0.5	----
Fluorene	86-73-7	0.5	mg/kg	<0.5	----	----	<0.5	----
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	----	----	<0.5	----
Anthracene	120-12-7	0.5	mg/kg	<0.5	----	----	<0.5	----
Fluoranthene	206-44-0	0.5	mg/kg	<0.5	----	----	<0.5	----
Pyrene	129-00-0	0.5	mg/kg	<0.5	----	----	<0.5	----
Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	----	----	<0.5	----
Chrysene	218-01-9	0.5	mg/kg	<0.5	----	----	<0.5	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	----	----	<0.5	----
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	----	----	<0.5	----
Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	----	----	<0.5	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	----	----	<0.5	----
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	----	----	<0.5	----
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	----	----	<0.5	----
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	----	----	<0.5	----
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	<0.5	----	----	<0.5	----
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg	**0.6**	----	----	**0.6**	----
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg	**1.2**	----	----	**1.2**	----
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	----	----	<10	----
C10 - C14 Fraction	----	50	mg/kg	<50	----	----	<50	----
C15 - C28 Fraction	----	100	mg/kg	<100	----	----	<100	----
C29 - C36 Fraction	----	100	mg/kg	<100	----	----	<100	----
^ C10 - C36 Fraction (sum)	----	50	mg/kg	<50	----	----	<50	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions								
C6 - C10 Fraction	C6_C10	10	mg/kg	<10	----	----	<10	----
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg	<10	----	----	<10	----
>C10 - C16 Fraction	----	50	mg/kg	<50	----	----	<50	----
>C16 - C34 Fraction	----	100	mg/kg	<100	----	----	<100	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	9/0.1	9/1.1	10/0.1	10/0.4	11/0.1
			Sampling date / time	15-Apr-2021 00:00	15-Apr-2021 00:00	15-Apr-2021 00:00	15-Apr-2021 00:00	13-Apr-2021 00:00
Compound	CAS Number	LOR	Unit	EB2110394-027	EB2110394-030	EB2110394-031	EB2110394-032	EB2110394-034
				Result	Result	Result	Result	Result
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions - Continued								
>C34 - C40 Fraction	----	100	mg/kg	<100	----	----	<100	----
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	<50	----	----	<50	----
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg	<50	----	----	<50	----
EP080: BTEXN								
Benzene	71-43-2	0.2	mg/kg	<0.2	----	----	<0.2	----
Toluene	108-88-3	0.5	mg/kg	<0.5	----	----	<0.5	----
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	----	----	<0.5	----
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	----	----	<0.5	----
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	----	----	<0.5	----
^ Sum of BTEX	----	0.2	mg/kg	<0.2	----	----	<0.2	----
^ Total Xylenes	----	0.5	mg/kg	<0.5	----	----	<0.5	----
Naphthalene	91-20-3	1	mg/kg	<1	----	----	<1	----
EP066S: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	----	----	----	119	----
EP068S: Organochlorine Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.05	%	----	----	----	116	----
EP068T: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.05	%	----	----	----	77.9	----
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.5	%	107	----	----	107	----
2-Chlorophenol-D4	93951-73-6	0.5	%	102	----	----	102	----
2.4.6-Tribromophenol	118-79-6	0.5	%	77.5	----	----	71.7	----
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.5	%	104	----	----	100	----
Anthracene-d10	1719-06-8	0.5	%	105	----	----	107	----
4-Terphenyl-d14	1718-51-0	0.5	%	115	----	----	116	----
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.2	%	93.3	----	----	98.7	----
Toluene-D8	2037-26-5	0.2	%	78.5	----	----	82.0	----
4-Bromofluorobenzene	460-00-4	0.2	%	101	----	----	105	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	11/0.5	12/0.1	12/0.25	13/0.1	14/0.1
			Sampling date / time	13-Apr-2021 00:00	13-Apr-2021 00:00	13-Apr-2021 00:00	15-Apr-2021 00:00	13-Apr-2021 00:00
Compound	CAS Number	LOR	Unit	EB2110394-037	EB2110394-040	EB2110394-041	EB2110394-045	EB2110394-048
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	41.6	----	28.9	24.4	28.3
EA200: AS 4964 - 2004 Identification of Asbestos in Soils								
Asbestos Detected	1332-21-4	0.1	g/kg	----	No	----	No	No
Asbestos (Trace)	1332-21-4	5	Fibres	----	No	----	No	No
Asbestos Type	1332-21-4	-	--	----	-	----	-	-
Synthetic Mineral Fibre	----	0.1	g/kg	----	No	----	No	No
Organic Fibre	----	0.1	g/kg	----	Yes	----	Yes	Yes
Sample weight (dry)	----	0.01	g	----	608	----	463	331
APPROVED IDENTIFIER:	----	-	--	----	U.DALKIN	----	U.DALKIN	U.DALKIN
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	<5	----	<5	5	<5
Cadmium	7440-43-9	1	mg/kg	<1	----	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	24	----	27	26	14
Copper	7440-50-8	5	mg/kg	9	----	6	11	7
Lead	7439-92-1	5	mg/kg	9	----	9	19	14
Nickel	7440-02-0	2	mg/kg	5	----	4	7	4
Zinc	7440-66-6	5	mg/kg	15	----	9	278	26
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	----	0.1	<0.1	<0.1
EP066: Polychlorinated Biphenyls (PCB)								
Total Polychlorinated biphenyls	----	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

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	11/0.5	12/0.1	12/0.25	13/0.1	14/0.1
				Sampling date / time	13-Apr-2021 00:00	13-Apr-2021 00:00	13-Apr-2021 00:00	15-Apr-2021 00:00	13-Apr-2021 00:00
Compound	CAS Number	LOR	Unit		EB2110394-037	EB2110394-040	EB2110394-041	EB2110394-045	EB2110394-048
					Result	Result	Result	Result	Result
EP068A: Organochlorine Pesticides (OC) - Continued									
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
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	72-54-8/72-55-9/50-2	0.05	mg/kg		----	----	<0.05	----	<0.05
EP068B: Organophosphorus Pesticides (OP)									
Dichlorvos	62-73-7	0.05	mg/kg		----	----	<0.05	----	<0.05
Demeton-S-methyl	919-86-8	0.05	mg/kg		----	----	<0.05	----	<0.05
Monocrotophos	6923-22-4	0.2	mg/kg		----	----	<0.2	----	<0.2
Dimethoate	60-51-5	0.05	mg/kg		----	----	<0.05	----	<0.05
Diazinon	333-41-5	0.05	mg/kg		----	----	<0.05	----	<0.05
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg		----	----	<0.05	----	<0.05
Parathion-methyl	298-00-0	0.2	mg/kg		----	----	<0.2	----	<0.2
Malathion	121-75-5	0.05	mg/kg		----	----	<0.05	----	<0.05
Fenthion	55-38-9	0.05	mg/kg		----	----	<0.05	----	<0.05
Chlorpyrifos	2921-88-2	0.05	mg/kg		----	----	<0.05	----	<0.05
Parathion	56-38-2	0.2	mg/kg		----	----	<0.2	----	<0.2
Pirimphos-ethyl	23505-41-1	0.05	mg/kg		----	----	<0.05	----	<0.05
Chlorfenvinphos	470-90-6	0.05	mg/kg		----	----	<0.05	----	<0.05
Bromophos-ethyl	4824-78-6	0.05	mg/kg		----	----	<0.05	----	<0.05
Fenamiphos	22224-92-6	0.05	mg/kg		----	----	<0.05	----	<0.05
Prothiofos	34643-46-4	0.05	mg/kg		----	----	<0.05	----	<0.05
Ethion	563-12-2	0.05	mg/kg		----	----	<0.05	----	<0.05
Carbophenothion	786-19-6	0.05	mg/kg		----	----	<0.05	----	<0.05
Azinphos Methyl	86-50-0	0.05	mg/kg		----	----	<0.05	----	<0.05
EP075(SIM)A: Phenolic Compounds									

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	11/0.5	12/0.1	12/0.25	13/0.1	14/0.1
			Sampling date / time	13-Apr-2021 00:00	13-Apr-2021 00:00	13-Apr-2021 00:00	15-Apr-2021 00:00	13-Apr-2021 00:00
Compound	CAS Number	LOR	Unit	EB2110394-037	EB2110394-040	EB2110394-041	EB2110394-045	EB2110394-048
				Result	Result	Result	Result	Result
EP075(SIM)A: Phenolic Compounds - Continued								
Phenol	108-95-2	0.5	mg/kg	----	----	<0.5	----	<0.5
2-Chlorophenol	95-57-8	0.5	mg/kg	----	----	<0.5	----	<0.5
2-Methylphenol	95-48-7	0.5	mg/kg	----	----	<0.5	----	<0.5
3- & 4-Methylphenol	1319-77-3	1	mg/kg	----	----	<1	----	<1
2-Nitrophenol	88-75-5	0.5	mg/kg	----	----	<0.5	----	<0.5
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	----	----	<0.5	----	<0.5
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	----	----	<0.5	----	<0.5
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	----	----	<0.5	----	<0.5
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	----	----	<0.5	----	<0.5
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	----	----	<0.5	----	<0.5
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	----	----	<0.5	----	<0.5
Pentachlorophenol	87-86-5	2	mg/kg	----	----	<2	----	<2
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	----	<0.5	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	----	<0.5	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	----	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg	<0.5	----	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	----	<0.5	<0.5	<0.5
Anthracene	120-12-7	0.5	mg/kg	<0.5	----	<0.5	<0.5	<0.5
Fluoranthene	206-44-0	0.5	mg/kg	<0.5	----	<0.5	<0.5	<0.5
Pyrene	129-00-0	0.5	mg/kg	<0.5	----	<0.5	**0.6**	<0.5
Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	----	<0.5	<0.5	<0.5
Chrysene	218-01-9	0.5	mg/kg	<0.5	----	<0.5	<0.5	<0.5
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	----	<0.5	**0.6**	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	----	<0.5	<0.5	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	----	<0.5	**0.6**	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	----	<0.5	**0.7**	<0.5
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	----	<0.5	<0.5	<0.5
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	----	<0.5	**1.1**	<0.5
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	----	<0.5	**3.6**	<0.5
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	<0.5	----	<0.5	**0.7**	<0.5
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg	**0.6**	----	**0.6**	**1.0**	**0.6**
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg	**1.2**	----	**1.2**	**1.3**	**1.2**
EP080/071: Total Petroleum Hydrocarbons								

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	11/0.5	12/0.1	12/0.25	13/0.1	14/0.1
				Sampling date / time	13-Apr-2021 00:00	13-Apr-2021 00:00	13-Apr-2021 00:00	15-Apr-2021 00:00	13-Apr-2021 00:00
Compound	CAS Number	LOR	Unit		EB2110394-037	EB2110394-040	EB2110394-041	EB2110394-045	EB2110394-048
					Result	Result	Result	Result	Result
EP080/071: Total Petroleum Hydrocarbons - Continued									
C6 - C9 Fraction	----	10	mg/kg		<10	----	<10	<10	<10
C10 - C14 Fraction	----	50	mg/kg		<50	----	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg		<100	----	<100	**190**	<100
C29 - C36 Fraction	----	100	mg/kg		<100	----	<100	**170**	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg		<50	----	<50	**360**	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	----	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg		<10	----	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg		<50	----	<50	**80**	<50
>C16 - C34 Fraction	----	100	mg/kg		<100	----	<100	**280**	<100
>C34 - C40 Fraction	----	100	mg/kg		<100	----	<100	<100	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg		<50	----	<50	**360**	<50
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg		<50	----	<50	**80**	<50
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	----	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg		<0.5	----	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	----	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	----	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	----	<0.5	<0.5	<0.5
^ Sum of BTEX	----	0.2	mg/kg		<0.2	----	<0.2	<0.2	<0.2
^ Total Xylenes	----	0.5	mg/kg		<0.5	----	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg		<1	----	<1	<1	<1
EP066S: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%		----	----	**118**	----	**115**
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.05	%		----	----	**118**	----	**119**
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.05	%		----	----	**74.1**	----	**72.7**
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		**97.0**	----	**107**	**105**	**106**
2-Chlorophenol-D4	93951-73-6	0.5	%		**82.5**	----	**101**	**99.4**	**101**
2.4.6-Tribromophenol	118-79-6	0.5	%		**74.3**	----	**72.9**	**84.1**	**74.2**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	11/0.5	12/0.1	12/0.25	13/0.1	14/0.1
				Sampling date / time	13-Apr-2021 00:00	13-Apr-2021 00:00	13-Apr-2021 00:00	15-Apr-2021 00:00	13-Apr-2021 00:00
Compound	CAS Number	LOR	Unit		EB2110394-037	EB2110394-040	EB2110394-041	EB2110394-045	EB2110394-048
					Result	Result	Result	Result	Result
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		**89.5**	**----**	**102**	**103**	**97.9**
Anthracene-d10	1719-06-8	0.5	%		**99.6**	**----**	**106**	**104**	**107**
4-Terphenyl-d14	1718-51-0	0.5	%		**109**	**----**	**116**	**112**	**117**
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.2	%		**93.6**	**----**	**90.4**	**93.7**	**90.7**
Toluene-D8	2037-26-5	0.2	%		**79.4**	**----**	**71.5**	**78.0**	**76.0**
4-Bromofluorobenzene	460-00-4	0.2	%		**99.1**	**----**	**91.9**	**101**	**96.9**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	15/0.1	15/0.7	16/0.1	17/0.25	18/0.4
			Sampling date / time	13-Apr-2021 00:00	13-Apr-2021 00:00	13-Apr-2021 00:00	13-Apr-2021 00:00	14-Apr-2021 00:00
Compound	CAS Number	LOR	Unit	EB2110394-052	EB2110394-054	EB2110394-057	EB2110394-060	EB2110394-063
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	----	36.0	20.8	28.4	<1.0
EA200: AS 4964 - 2004 Identification of Asbestos in Soils								
Asbestos Detected	1332-21-4	0.1	g/kg	No	----	No	No	No
Asbestos (Trace)	1332-21-4	5	Fibres	No	----	No	No	No
Asbestos Type	1332-21-4	-	--	-	----	-	-	-
Synthetic Mineral Fibre	----	0.1	g/kg	No	----	No	No	No
Organic Fibre	----	0.1	g/kg	Yes	----	Yes	Yes	Yes
Sample weight (dry)	----	0.01	g	581	----	701	994	589
APPROVED IDENTIFIER:	----	-	--	U.DALKIN	----	U.DALKIN	U.DALKIN	U.DALKIN
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	----	6	6	6	<5
Cadmium	7440-43-9	1	mg/kg	----	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	----	19	24	6	4
Copper	7440-50-8	5	mg/kg	----	14	11	6	<5
Lead	7439-92-1	5	mg/kg	----	6	22	6	<5
Nickel	7440-02-0	2	mg/kg	----	5	4	3	<2
Zinc	7440-66-6	5	mg/kg	----	8	45	12	<5
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	----	<0.1	0.1	<0.1	<0.1
EP066: Polychlorinated Biphenyls (PCB)								
Total Polychlorinated biphenyls	----	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

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	15/0.1	15/0.7	16/0.1	17/0.25	18/0.4
			Sampling date / time	13-Apr-2021 00:00	13-Apr-2021 00:00	13-Apr-2021 00:00	13-Apr-2021 00:00	14-Apr-2021 00:00
Compound	CAS Number	LOR	Unit	EB2110394-052	EB2110394-054	EB2110394-057	EB2110394-060	EB2110394-063
				Result	Result	Result	Result	Result
EP068A: Organochlorine Pesticides (OC) - Continued								
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
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	72-54-8/72-55-9/50-2	0.05	mg/kg	----	----	<0.05	----	<0.05
EP068B: Organophosphorus Pesticides (OP)								
Dichlorvos	62-73-7	0.05	mg/kg	----	----	<0.05	----	<0.05
Demeton-S-methyl	919-86-8	0.05	mg/kg	----	----	<0.05	----	<0.05
Monocrotophos	6923-22-4	0.2	mg/kg	----	----	<0.2	----	<0.2
Dimethoate	60-51-5	0.05	mg/kg	----	----	<0.05	----	<0.05
Diazinon	333-41-5	0.05	mg/kg	----	----	<0.05	----	<0.05
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	----	----	<0.05	----	<0.05
Parathion-methyl	298-00-0	0.2	mg/kg	----	----	<0.2	----	<0.2
Malathion	121-75-5	0.05	mg/kg	----	----	<0.05	----	<0.05
Fenthion	55-38-9	0.05	mg/kg	----	----	<0.05	----	<0.05
Chlorpyrifos	2921-88-2	0.05	mg/kg	----	----	<0.05	----	<0.05
Parathion	56-38-2	0.2	mg/kg	----	----	<0.2	----	<0.2
Pirimphos-ethyl	23505-41-1	0.05	mg/kg	----	----	<0.05	----	<0.05
Chlorfenvinphos	470-90-6	0.05	mg/kg	----	----	<0.05	----	<0.05
Bromophos-ethyl	4824-78-6	0.05	mg/kg	----	----	<0.05	----	<0.05
Fenamiphos	22224-92-6	0.05	mg/kg	----	----	<0.05	----	<0.05
Prothiofos	34643-46-4	0.05	mg/kg	----	----	<0.05	----	<0.05
Ethion	563-12-2	0.05	mg/kg	----	----	<0.05	----	<0.05
Carbophenothion	786-19-6	0.05	mg/kg	----	----	<0.05	----	<0.05
Azinphos Methyl	86-50-0	0.05	mg/kg	----	----	<0.05	----	<0.05
EP075(SIM)A: Phenolic Compounds								

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	15/0.1	15/0.7	16/0.1	17/0.25	18/0.4
			Sampling date / time	13-Apr-2021 00:00	13-Apr-2021 00:00	13-Apr-2021 00:00	13-Apr-2021 00:00	14-Apr-2021 00:00
Compound	CAS Number	LOR	Unit	EB2110394-052	EB2110394-054	EB2110394-057	EB2110394-060	EB2110394-063
				Result	Result	Result	Result	Result
EP075(SIM)A: Phenolic Compounds - Continued								
Phenol	108-95-2	0.5	mg/kg	----	----	<0.5	----	<0.5
2-Chlorophenol	95-57-8	0.5	mg/kg	----	----	<0.5	----	<0.5
2-Methylphenol	95-48-7	0.5	mg/kg	----	----	<0.5	----	<0.5
3- & 4-Methylphenol	1319-77-3	1	mg/kg	----	----	<1	----	<1
2-Nitrophenol	88-75-5	0.5	mg/kg	----	----	<0.5	----	<0.5
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	----	----	<0.5	----	<0.5
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	----	----	<0.5	----	<0.5
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	----	----	<0.5	----	<0.5
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	----	----	<0.5	----	<0.5
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	----	----	<0.5	----	<0.5
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	----	----	<0.5	----	<0.5
Pentachlorophenol	87-86-5	2	mg/kg	----	----	<2	----	<2
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	----	<0.5	<0.5	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	----	<0.5	<0.5	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg	----	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg	----	<0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	----	<0.5	<0.5	<0.5	<0.5
Anthracene	120-12-7	0.5	mg/kg	----	<0.5	<0.5	<0.5	<0.5
Fluoranthene	206-44-0	0.5	mg/kg	----	<0.5	<0.5	<0.5	<0.5
Pyrene	129-00-0	0.5	mg/kg	----	<0.5	<0.5	<0.5	<0.5
Benz(a)anthracene	56-55-3	0.5	mg/kg	----	<0.5	<0.5	<0.5	<0.5
Chrysene	218-01-9	0.5	mg/kg	----	<0.5	<0.5	<0.5	<0.5
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	----	<0.5	<0.5	<0.5	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	----	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg	----	<0.5	<0.5	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	----	<0.5	<0.5	<0.5	<0.5
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	----	<0.5	<0.5	<0.5	<0.5
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	----	<0.5	<0.5	<0.5	<0.5
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	----	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	----	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg	----	0.6	0.6	0.6	0.6
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg	----	1.2	1.2	1.2	1.2
EP080/071: Total Petroleum Hydrocarbons								

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	15/0.1	15/0.7	16/0.1	17/0.25	18/0.4
				Sampling date / time	13-Apr-2021 00:00	13-Apr-2021 00:00	13-Apr-2021 00:00	13-Apr-2021 00:00	14-Apr-2021 00:00
Compound	CAS Number	LOR	Unit		EB2110394-052	EB2110394-054	EB2110394-057	EB2110394-060	EB2110394-063
					Result	Result	Result	Result	Result
EP080/071: Total Petroleum Hydrocarbons - Continued									
C6 - C9 Fraction	----	10	mg/kg		----	<10	<10	<10	<10
C10 - C14 Fraction	----	50	mg/kg		----	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg		----	<100	<100	<100	<100
C29 - C36 Fraction	----	100	mg/kg		----	<100	<100	<100	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg		----	<50	<50	<50	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		----	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg		----	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg		----	<50	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg		----	<100	<100	<100	<100
>C34 - C40 Fraction	----	100	mg/kg		----	<100	<100	<100	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg		----	<50	<50	<50	<50
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg		----	<50	<50	<50	<50
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		----	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5
^ Sum of BTEX	----	0.2	mg/kg		----	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	----	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg		----	<1	<1	<1	<1
EP066S: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%		----	----	**114**	----	**115**
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.05	%		----	----	**119**	----	**115**
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.05	%		----	----	**77.6**	----	**63.7**
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		----	**106**	**107**	**105**	**105**
2-Chlorophenol-D4	93951-73-6	0.5	%		----	**97.8**	**102**	**97.2**	**96.2**
2.4.6-Tribromophenol	118-79-6	0.5	%		----	**70.7**	**81.5**	**72.5**	**70.7**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	15/0.1	15/0.7	16/0.1	17/0.25	18/0.4
				Sampling date / time	13-Apr-2021 00:00	13-Apr-2021 00:00	13-Apr-2021 00:00	13-Apr-2021 00:00	14-Apr-2021 00:00
Compound	CAS Number	LOR	Unit		EB2110394-052	EB2110394-054	EB2110394-057	EB2110394-060	EB2110394-063
					Result	Result	Result	Result	Result
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		----	89.2	102	97.2	92.2
Anthracene-d10	1719-06-8	0.5	%		----	104	104	104	99.6
4-Terphenyl-d14	1718-51-0	0.5	%		----	113	110	112	108
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.2	%		----	95.6	95.1	102	94.4
Toluene-D8	2037-26-5	0.2	%		----	76.8	81.2	86.3	79.3
4-Bromofluorobenzene	460-00-4	0.2	%		----	96.7	103	109	102

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	19/0.4	20/0.3	20/0.8	21/0.4	21/1.5
			Sampling date / time	14-Apr-2021 00:00	13-Apr-2021 00:00	13-Apr-2021 00:00	13-Apr-2021 00:00	13-Apr-2021 00:00
Compound	CAS Number	LOR	Unit	EB2110394-066	EB2110394-070	EB2110394-072	EB2110394-075	EB2110394-077
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	20.6	----	17.9	----	22.7
EA200: AS 4964 - 2004 Identification of Asbestos in Soils								
Asbestos Detected	1332-21-4	0.1	g/kg	No	No	----	No	----
Asbestos (Trace)	1332-21-4	5	Fibres	No	No	----	No	----
Asbestos Type	1332-21-4	-	--	-	-	----	-	----
Synthetic Mineral Fibre	----	0.1	g/kg	No	No	----	No	----
Organic Fibre	----	0.1	g/kg	Yes	Yes	----	Yes	----
Sample weight (dry)	----	0.01	g	941	208	----	707	----
APPROVED IDENTIFIER:	----	-	--	U.DALKIN	U.DALKIN	----	U.DALKIN	----
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	8	----	8	----	<5
Cadmium	7440-43-9	1	mg/kg	<1	----	<1	----	<1
Chromium	7440-47-3	2	mg/kg	4	----	8	----	3
Copper	7440-50-8	5	mg/kg	12	----	9	----	6
Lead	7439-92-1	5	mg/kg	12	----	9	----	7
Nickel	7440-02-0	2	mg/kg	<2	----	3	----	<2
Zinc	7440-66-6	5	mg/kg	<5	----	14	----	18
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	----	<0.1	----	<0.1
EP066: Polychlorinated Biphenyls (PCB)								
Total Polychlorinated biphenyls	----	0.1	mg/kg	----	----	<0.1	----	----
EP068A: Organochlorine Pesticides (OC)								
alpha-BHC	319-84-6	0.05	mg/kg	----	----	<0.05	----	----
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	----	----	<0.05	----	----
beta-BHC	319-85-7	0.05	mg/kg	----	----	<0.05	----	----
gamma-BHC	58-89-9	0.05	mg/kg	----	----	<0.05	----	----
delta-BHC	319-86-8	0.05	mg/kg	----	----	<0.05	----	----
Heptachlor	76-44-8	0.05	mg/kg	----	----	<0.05	----	----
Aldrin	309-00-2	0.05	mg/kg	----	----	<0.05	----	----
Heptachlor epoxide	1024-57-3	0.05	mg/kg	----	----	<0.05	----	----
^ Total Chlordane (sum)	----	0.05	mg/kg	----	----	<0.05	----	----
trans-Chlordane	5103-74-2	0.05	mg/kg	----	----	<0.05	----	----
alpha-Endosulfan	959-98-8	0.05	mg/kg	----	----	<0.05	----	----
cis-Chlordane	5103-71-9	0.05	mg/kg	----	----	<0.05	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	19/0.4	20/0.3	20/0.8	21/0.4	21/1.5
				Sampling date / time	14-Apr-2021 00:00	13-Apr-2021 00:00	13-Apr-2021 00:00	13-Apr-2021 00:00	13-Apr-2021 00:00
Compound	CAS Number	LOR	Unit		EB2110394-066	EB2110394-070	EB2110394-072	EB2110394-075	EB2110394-077
					Result	Result	Result	Result	Result
EP068A: Organochlorine Pesticides (OC) - Continued									
Dieldrin	60-57-1	0.05	mg/kg		----	----	<0.05	----	----
4.4`-DDE	72-55-9	0.05	mg/kg		----	----	<0.05	----	----
Endrin	72-20-8	0.05	mg/kg		----	----	<0.05	----	----
beta-Endosulfan	33213-65-9	0.05	mg/kg		----	----	<0.05	----	----
^ Endosulfan (sum)	115-29-7	0.05	mg/kg		----	----	<0.05	----	----
4.4`-DDD	72-54-8	0.05	mg/kg		----	----	<0.05	----	----
Endrin aldehyde	7421-93-4	0.05	mg/kg		----	----	<0.05	----	----
Endosulfan sulfate	1031-07-8	0.05	mg/kg		----	----	<0.05	----	----
4.4`-DDT	50-29-3	0.2	mg/kg		----	----	<0.2	----	----
Endrin ketone	53494-70-5	0.05	mg/kg		----	----	<0.05	----	----
Methoxychlor	72-43-5	0.2	mg/kg		----	----	<0.2	----	----
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg		----	----	<0.05	----	----
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-2	0.05	mg/kg		----	----	<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	----	----
EP075(SIM)A: Phenolic Compounds									

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	19/0.4	20/0.3	20/0.8	21/0.4	21/1.5
				Sampling date / time	14-Apr-2021 00:00	13-Apr-2021 00:00	13-Apr-2021 00:00	13-Apr-2021 00:00	13-Apr-2021 00:00
Compound	CAS Number	LOR	Unit		EB2110394-066	EB2110394-070	EB2110394-072	EB2110394-075	EB2110394-077
					Result	Result	Result	Result	Result
EP075(SIM)A: Phenolic Compounds - Continued									
Phenol	108-95-2	0.5	mg/kg		----	----	<0.5	----	----
2-Chlorophenol	95-57-8	0.5	mg/kg		----	----	<0.5	----	----
2-Methylphenol	95-48-7	0.5	mg/kg		----	----	<0.5	----	----
3- & 4-Methylphenol	1319-77-3	1	mg/kg		----	----	<1	----	----
2-Nitrophenol	88-75-5	0.5	mg/kg		----	----	<0.5	----	----
2.4-Dimethylphenol	105-67-9	0.5	mg/kg		----	----	<0.5	----	----
2.4-Dichlorophenol	120-83-2	0.5	mg/kg		----	----	<0.5	----	----
2.6-Dichlorophenol	87-65-0	0.5	mg/kg		----	----	<0.5	----	----
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg		----	----	<0.5	----	----
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg		----	----	<0.5	----	----
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg		----	----	<0.5	----	----
Pentachlorophenol	87-86-5	2	mg/kg		----	----	<2	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg		<0.5	----	<0.5	----	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg		<0.5	----	<0.5	----	<0.5
Acenaphthene	83-32-9	0.5	mg/kg		<0.5	----	<0.5	----	<0.5
Fluorene	86-73-7	0.5	mg/kg		<0.5	----	<0.5	----	<0.5
Phenanthrene	85-01-8	0.5	mg/kg		<0.5	----	<0.5	----	<0.5
Anthracene	120-12-7	0.5	mg/kg		<0.5	----	<0.5	----	<0.5
Fluoranthene	206-44-0	0.5	mg/kg		<0.5	----	<0.5	----	<0.5
Pyrene	129-00-0	0.5	mg/kg		<0.5	----	<0.5	----	<0.5
Benz(a)anthracene	56-55-3	0.5	mg/kg		<0.5	----	<0.5	----	<0.5
Chrysene	218-01-9	0.5	mg/kg		<0.5	----	<0.5	----	<0.5
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg		<0.5	----	<0.5	----	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg		<0.5	----	<0.5	----	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg		<0.5	----	<0.5	----	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		<0.5	----	<0.5	----	<0.5
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		<0.5	----	<0.5	----	<0.5
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		<0.5	----	<0.5	----	<0.5
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg		<0.5	----	<0.5	----	<0.5
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		<0.5	----	<0.5	----	<0.5
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		**0.6**	----	**0.6**	----	**0.6**
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		**1.2**	----	**1.2**	----	**1.2**
EP080/071: Total Petroleum Hydrocarbons									

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	19/0.4	20/0.3	20/0.8	21/0.4	21/1.5
				Sampling date / time	14-Apr-2021 00:00	13-Apr-2021 00:00	13-Apr-2021 00:00	13-Apr-2021 00:00	13-Apr-2021 00:00
Compound	CAS Number	LOR	Unit		EB2110394-066	EB2110394-070	EB2110394-072	EB2110394-075	EB2110394-077
					Result	Result	Result	Result	Result
EP080/071: Total Petroleum Hydrocarbons - Continued									
C6 - C9 Fraction	----	10	mg/kg		<10	----	<10	----	<10
C10 - C14 Fraction	----	50	mg/kg		<50	----	<50	----	<50
C15 - C28 Fraction	----	100	mg/kg		<100	----	<100	----	<100
C29 - C36 Fraction	----	100	mg/kg		<100	----	<100	----	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg		<50	----	<50	----	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	----	<10	----	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg		<10	----	<10	----	<10
>C10 - C16 Fraction	----	50	mg/kg		<50	----	<50	----	<50
>C16 - C34 Fraction	----	100	mg/kg		<100	----	<100	----	<100
>C34 - C40 Fraction	----	100	mg/kg		<100	----	<100	----	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg		<50	----	<50	----	<50
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg		<50	----	<50	----	<50
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	----	<0.2	----	<0.2
Toluene	108-88-3	0.5	mg/kg		<0.5	----	<0.5	----	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	----	<0.5	----	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	----	<0.5	----	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	----	<0.5	----	<0.5
^ Sum of BTEX	----	0.2	mg/kg		<0.2	----	<0.2	----	<0.2
^ Total Xylenes	----	0.5	mg/kg		<0.5	----	<0.5	----	<0.5
Naphthalene	91-20-3	1	mg/kg		<1	----	<1	----	<1
EP066S: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%		----	----	**120**	----	----
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.05	%		----	----	**118**	----	----
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.05	%		----	----	**71.5**	----	----
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		**105**	----	**107**	----	**90.9**
2-Chlorophenol-D4	93951-73-6	0.5	%		**85.9**	----	**102**	----	**89.2**
2.4.6-Tribromophenol	118-79-6	0.5	%		**68.9**	----	**68.4**	----	**108**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	19/0.4	20/0.3	20/0.8	21/0.4	21/1.5
			Sampling date / time	14-Apr-2021 00:00	13-Apr-2021 00:00	13-Apr-2021 00:00	13-Apr-2021 00:00	13-Apr-2021 00:00
Compound	CAS Number	LOR	Unit	EB2110394-066	EB2110394-070	EB2110394-072	EB2110394-075	EB2110394-077
				Result	Result	Result	Result	Result
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.5	%	91.1	----	101	----	102
Anthracene-d10	1719-06-8	0.5	%	105	----	101	----	87.7
4-Terphenyl-d14	1718-51-0	0.5	%	114	----	112	----	94.2
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.2	%	94.0	----	93.8	----	120
Toluene-D8	2037-26-5	0.2	%	79.6	----	78.2	----	101
4-Bromofluorobenzene	460-00-4	0.2	%	99.7	----	98.2	----	115

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	22/0.1	22/1.4	23/0.1	24/0.1	24/0.2
			Sampling date / time	14-Apr-2021 00:00	14-Apr-2021 00:00	14-Apr-2021 00:00	14-Apr-2021 00:00	14-Apr-2021 00:00
Compound	CAS Number	LOR	Unit	EB2110394-078	EB2110394-081	EB2110394-082	EB2110394-085	EB2110394-086
				Result	Result	Result	Result	Result
EA001: pH in soil using 0.01M CaCl extract								
pH (CaCl2)	----	0.1	pH Unit	----	4.3	----	----	----
EA002: pH 1:5 (Soils)								
pH Value	----	0.1	pH Unit	----	5.4	----	----	----
EA010: Conductivity (1:5)								
Electrical Conductivity @ 25°C	----	1	µS/cm	----	19	----	----	----
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	28.7	26.5	22.7	----	15.1
EA150: Soil Classification based on Particle Size								
Clay (<2 µm)	----	1	%	----	36	----	----	----
EA152: Soil Particle Density								
Soil Particle Density (Clay/Silt/Sand)	----	0.01	g/cm3	----	2.79	----	----	----
EA200: AS 4964 - 2004 Identification of Asbestos in Soils								
Asbestos Detected	1332-21-4	0.1	g/kg	No	----	No	No	----
Asbestos (Trace)	1332-21-4	5	Fibres	No	----	No	No	----
Asbestos Type	1332-21-4	-	--	-	----	-	-	----
Synthetic Mineral Fibre	----	0.1	g/kg	No	----	No	No	----
Organic Fibre	----	0.1	g/kg	Yes	----	Yes	Yes	----
Sample weight (dry)	----	0.01	g	512	----	361	453	----
APPROVED IDENTIFIER:	----	-	--	U.DALKIN	----	U.DALKIN	U.DALKIN	----
ED005: Exchange Acidity								
ø Exchange Acidity	----	0.1	meq/100g	----	1.6	----	----	----
ø Exchangeable Aluminium	----	0.1	meq/100g	----	0.5	----	----	----
ED007: Exchangeable Cations								
Exchangeable Calcium	----	0.1	meq/100g	----	0.7	----	----	----
Exchangeable Magnesium	----	0.1	meq/100g	----	0.8	----	----	----
Exchangeable Potassium	----	0.1	meq/100g	----	<0.1	----	----	----
Exchangeable Sodium	----	0.1	meq/100g	----	0.1	----	----	----
Cation Exchange Capacity	----	0.1	meq/100g	----	3.4	----	----	----
EG005(ED093)T: Total Metals by ICP-AES								
Iron	7439-89-6	0.005	%	----	2.96	----	----	----
Arsenic	7440-38-2	5	mg/kg	8	6	22	----	40
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	----	<1
Chromium	7440-47-3	2	mg/kg	11	16	9	----	2
Copper	7440-50-8	5	mg/kg	13	<5	10	----	16

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	22/0.1	22/1.4	23/0.1	24/0.1	24/0.2
			Sampling date / time	14-Apr-2021 00:00	14-Apr-2021 00:00	14-Apr-2021 00:00	14-Apr-2021 00:00	14-Apr-2021 00:00
Compound	CAS Number	LOR	Unit	EB2110394-078	EB2110394-081	EB2110394-082	EB2110394-085	EB2110394-086
				Result	Result	Result	Result	Result
EG005(ED093)T: Total Metals by ICP-AES - Continued								
Lead	7439-92-1	5	mg/kg	**34**	**8**	**129**	----	**32**
Nickel	7440-02-0	2	mg/kg	**3**	<2	**2**	----	<2
Zinc	7440-66-6	5	mg/kg	**58**	<5	**82**	----	**15**
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	**0.1**	<0.1	<0.1	----	<0.1
EP004: Organic Matter								
Organic Matter	----	0.5	%	**----**	**0.6**	**----**	**----**	**----**
Total Organic Carbon	----	0.5	%	**----**	<0.5	**----**	**----**	**----**
EP066: Polychlorinated Biphenyls (PCB)								
Total Polychlorinated biphenyls	----	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
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

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	22/0.1	22/1.4	23/0.1	24/0.1	24/0.2
			Sampling date / time	14-Apr-2021 00:00	14-Apr-2021 00:00	14-Apr-2021 00:00	14-Apr-2021 00:00	14-Apr-2021 00:00
Compound	CAS Number	LOR	Unit	EB2110394-078	EB2110394-081	EB2110394-082	EB2110394-085	EB2110394-086
				Result	Result	Result	Result	Result
EP068A: Organochlorine Pesticides (OC) - Continued								
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg	<0.05	----	----	----	<0.05
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-2	0.05	mg/kg	<0.05	----	----	----	<0.05
EP068B: Organophosphorus Pesticides (OP)								
Dichlorvos	62-73-7	0.05	mg/kg	<0.05	----	----	----	<0.05
Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	----	----	----	<0.05
Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	----	----	----	<0.2
Dimethoate	60-51-5	0.05	mg/kg	<0.05	----	----	----	<0.05
Diazinon	333-41-5	0.05	mg/kg	<0.05	----	----	----	<0.05
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	----	----	----	<0.05
Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	----	----	----	<0.2
Malathion	121-75-5	0.05	mg/kg	<0.05	----	----	----	<0.05
Fenthion	55-38-9	0.05	mg/kg	<0.05	----	----	----	<0.05
Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	----	----	----	<0.05
Parathion	56-38-2	0.2	mg/kg	<0.2	----	----	----	<0.2
Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	----	----	----	<0.05
Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	----	----	----	<0.05
Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	----	----	----	<0.05
Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	----	----	----	<0.05
Prothiofos	34643-46-4	0.05	mg/kg	<0.05	----	----	----	<0.05
Ethion	563-12-2	0.05	mg/kg	<0.05	----	----	----	<0.05
Carbophenothion	786-19-6	0.05	mg/kg	<0.05	----	----	----	<0.05
Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	----	----	----	<0.05
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	<0.5	----	----	----	<0.5
2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	----	----	----	<0.5
2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	----	----	----	<0.5
3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	----	----	----	<1
2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	----	----	----	<0.5
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	----	----	----	<0.5
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	----	----	----	<0.5
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	----	----	----	<0.5
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	----	----	----	<0.5
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	----	----	----	<0.5
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	----	----	----	<0.5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	22/0.1	22/1.4	23/0.1	24/0.1	24/0.2
			Sampling date / time	14-Apr-2021 00:00	14-Apr-2021 00:00	14-Apr-2021 00:00	14-Apr-2021 00:00	14-Apr-2021 00:00
Compound	CAS Number	LOR	Unit	EB2110394-078	EB2110394-081	EB2110394-082	EB2110394-085	EB2110394-086
				Result	Result	Result	Result	Result
EP075(SIM)A: Phenolic Compounds - Continued								
Pentachlorophenol	87-86-5	2	mg/kg	<2	----	----	----	<2
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	----	<0.5	----	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	----	<0.5	----	<0.5
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	----	<0.5	----	<0.5
Fluorene	86-73-7	0.5	mg/kg	<0.5	----	<0.5	----	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	----	<0.5	----	<0.5
Anthracene	120-12-7	0.5	mg/kg	<0.5	----	<0.5	----	<0.5
Fluoranthene	206-44-0	0.5	mg/kg	<0.5	----	<0.5	----	<0.5
Pyrene	129-00-0	0.5	mg/kg	<0.5	----	<0.5	----	<0.5
Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	----	<0.5	----	<0.5
Chrysene	218-01-9	0.5	mg/kg	<0.5	----	<0.5	----	<0.5
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	----	<0.5	----	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	----	<0.5	----	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	----	<0.5	----	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	----	<0.5	----	<0.5
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	----	<0.5	----	<0.5
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	----	<0.5	----	<0.5
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	----	<0.5	----	<0.5
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	<0.5	----	<0.5	----	<0.5
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg	**0.6**	----	**0.6**	----	**0.6**
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg	**1.2**	----	**1.2**	----	**1.2**
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	----	<10	----	<10
C10 - C14 Fraction	----	50	mg/kg	<50	----	<50	----	<50
C15 - C28 Fraction	----	100	mg/kg	<100	----	<100	----	<100
C29 - C36 Fraction	----	100	mg/kg	<100	----	<100	----	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg	<50	----	<50	----	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions								
C6 - C10 Fraction	C6_C10	10	mg/kg	<10	----	<10	----	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg	<10	----	<10	----	<10
>C10 - C16 Fraction	----	50	mg/kg	<50	----	<50	----	<50
>C16 - C34 Fraction	----	100	mg/kg	<100	----	<100	----	<100

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	22/0.1	22/1.4	23/0.1	24/0.1	24/0.2
			Sampling date / time	14-Apr-2021 00:00	14-Apr-2021 00:00	14-Apr-2021 00:00	14-Apr-2021 00:00	14-Apr-2021 00:00
Compound	CAS Number	LOR	Unit	EB2110394-078	EB2110394-081	EB2110394-082	EB2110394-085	EB2110394-086
				Result	Result	Result	Result	Result
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions - Continued								
>C34 - C40 Fraction	----	100	mg/kg	<100	----	<100	----	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	<50	----	<50	----	<50
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg	<50	----	<50	----	<50
EP080: BTEXN								
Benzene	71-43-2	0.2	mg/kg	<0.2	----	<0.2	----	<0.2
Toluene	108-88-3	0.5	mg/kg	<0.5	----	<0.5	----	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	----	<0.5	----	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	----	<0.5	----	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	----	<0.5	----	<0.5
^ Sum of BTEX	----	0.2	mg/kg	<0.2	----	<0.2	----	<0.2
^ Total Xylenes	----	0.5	mg/kg	<0.5	----	<0.5	----	<0.5
Naphthalene	91-20-3	1	mg/kg	<1	----	<1	----	<1
EP066S: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	**109**	----	----	----	**106**
EP068S: Organochlorine Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.05	%	**94.4**	----	----	----	**96.5**
EP068T: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.05	%	**84.6**	----	----	----	**96.0**
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.5	%	**91.3**	----	**86.2**	----	**88.7**
2-Chlorophenol-D4	93951-73-6	0.5	%	**90.6**	----	**84.8**	----	**84.6**
2.4.6-Tribromophenol	118-79-6	0.5	%	**116**	----	**117**	----	**115**
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.5	%	**106**	----	**99.7**	----	**102**
Anthracene-d10	1719-06-8	0.5	%	**90.0**	----	**84.3**	----	**87.7**
4-Terphenyl-d14	1718-51-0	0.5	%	**94.6**	----	**92.2**	----	**94.5**
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.2	%	**112**	----	**119**	----	**116**
Toluene-D8	2037-26-5	0.2	%	**94.7**	----	**99.2**	----	**98.9**
4-Bromofluorobenzene	460-00-4	0.2	%	**111**	----	**118**	----	**115**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	25/0.1	25/0.3	----	----	----
			Sampling date / time	14-Apr-2021 00:00	14-Apr-2021 00:00	----	----	----
Compound	CAS Number	LOR	Unit	EB2110394-089	EB2110394-090	--------	--------	--------
				Result	Result	----	----	----
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	----	16.2	----	----	----
EA200: AS 4964 - 2004 Identification of Asbestos in Soils								
Asbestos Detected	1332-21-4	0.1	g/kg	No	----	----	----	----
Asbestos (Trace)	1332-21-4	5	Fibres	No	----	----	----	----
Asbestos Type	1332-21-4	-	--	-	----	----	----	----
Synthetic Mineral Fibre	----	0.1	g/kg	No	----	----	----	----
Organic Fibre	----	0.1	g/kg	Yes	----	----	----	----
Sample weight (dry)	----	0.01	g	683	----	----	----	----
APPROVED IDENTIFIER:	----	-	--	U.DALKIN	----	----	----	----
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	----	9	----	----	----
Cadmium	7440-43-9	1	mg/kg	----	<1	----	----	----
Chromium	7440-47-3	2	mg/kg	----	7	----	----	----
Copper	7440-50-8	5	mg/kg	----	6	----	----	----
Lead	7439-92-1	5	mg/kg	----	9	----	----	----
Nickel	7440-02-0	2	mg/kg	----	<2	----	----	----
Zinc	7440-66-6	5	mg/kg	----	6	----	----	----
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	----	<0.1	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	----	<0.5	----	----	----
Acenaphthylene	208-96-8	0.5	mg/kg	----	<0.5	----	----	----
Acenaphthene	83-32-9	0.5	mg/kg	----	<0.5	----	----	----
Fluorene	86-73-7	0.5	mg/kg	----	<0.5	----	----	----
Phenanthrene	85-01-8	0.5	mg/kg	----	<0.5	----	----	----
Anthracene	120-12-7	0.5	mg/kg	----	<0.5	----	----	----
Fluoranthene	206-44-0	0.5	mg/kg	----	<0.5	----	----	----
Pyrene	129-00-0	0.5	mg/kg	----	<0.5	----	----	----
Benz(a)anthracene	56-55-3	0.5	mg/kg	----	<0.5	----	----	----
Chrysene	218-01-9	0.5	mg/kg	----	<0.5	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	----	<0.5	----	----	----
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	----	<0.5	----	----	----
Benzo(a)pyrene	50-32-8	0.5	mg/kg	----	<0.5	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	----	<0.5	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	25/0.1	25/0.3	----	----	----
			Sampling date / time	14-Apr-2021 00:00	14-Apr-2021 00:00	----	----	----
Compound	CAS Number	LOR	Unit	EB2110394-089	EB2110394-090	--------	--------	--------
				Result	Result	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued								
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	----	<0.5	----	----	----
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	----	<0.5	----	----	----
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	----	<0.5	----	----	----
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	----	<0.5	----	----	----
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg	----	**0.6**	----	----	----
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg	----	**1.2**	----	----	----
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	----	<10	----	----	----
C10 - C14 Fraction	----	50	mg/kg	----	<50	----	----	----
C15 - C28 Fraction	----	100	mg/kg	----	<100	----	----	----
C29 - C36 Fraction	----	100	mg/kg	----	<100	----	----	----
^ C10 - C36 Fraction (sum)	----	50	mg/kg	----	<50	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions								
C6 - C10 Fraction	C6_C10	10	mg/kg	----	<10	----	----	----
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg	----	<10	----	----	----
>C10 - C16 Fraction	----	50	mg/kg	----	<50	----	----	----
>C16 - C34 Fraction	----	100	mg/kg	----	<100	----	----	----
>C34 - C40 Fraction	----	100	mg/kg	----	<100	----	----	----
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	----	<50	----	----	----
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg	----	<50	----	----	----
EP080: BTEXN								
Benzene	71-43-2	0.2	mg/kg	----	<0.2	----	----	----
Toluene	108-88-3	0.5	mg/kg	----	<0.5	----	----	----
Ethylbenzene	100-41-4	0.5	mg/kg	----	<0.5	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	----	<0.5	----	----	----
ortho-Xylene	95-47-6	0.5	mg/kg	----	<0.5	----	----	----
^ Sum of BTEX	----	0.2	mg/kg	----	<0.2	----	----	----
^ Total Xylenes	----	0.5	mg/kg	----	<0.5	----	----	----
Naphthalene	91-20-3	1	mg/kg	----	<1	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.5	%	----	**86.6**	----	----	----
2-Chlorophenol-D4	93951-73-6	0.5	%	----	**85.5**	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	25/0.1	25/0.3	----	----	----
			Sampling date / time	14-Apr-2021 00:00	14-Apr-2021 00:00	----	----	----
Compound	CAS Number	LOR	Unit	EB2110394-089	EB2110394-090	--------	--------	--------
				Result	Result	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates - Continued								
2.4.6-Tribromophenol	118-79-6	0.5	%	----	109	----	----	----
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.5	%	----	98.1	----	----	----
Anthracene-d10	1719-06-8	0.5	%	----	84.1	----	----	----
4-Terphenyl-d14	1718-51-0	0.5	%	----	91.1	----	----	----
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.2	%	----	111	----	----	----
Toluene-D8	2037-26-5	0.2	%	----	90.2	----	----	----
4-Bromofluorobenzene	460-00-4	0.2	%	----	110	----	----	----

Analytical Results

Descriptive Results

Sub-Matrix: **SOIL**

Method: Compound	Sample ID - Sampling date / time	Analytical Results
EA200: AS 4964 - 2004 Identification of Asbestos in Soils		
EA200: Description	1/0.1 - 15-Apr-2021 00:00	Brown soil with rock and organic matter.
EA200: Description	2/0.1 - 15-Apr-2021 00:00	Brown soil with rock and organic matter.
EA200: Description	3/0.3 - 13-Apr-2021 00:00	Orange clay like soil with rock and organic matter.
EA200: Description	4/0.1 - 16-Apr-2021 00:00	Brown orange clay like soil with rock and organic matter.
EA200: Description	5/0.1 - 16-Apr-2021 00:00	Brown soil with rock and organic matter.
EA200: Description	6/0.1 - 16-Apr-2021 00:00	Brown red soil with rock and organic matter.
EA200: Description	7/0.1 - 16-Apr-2021 00:00	Brown tan soil with rock and organic matter.
EA200: Description	8/0.1 - 16-Apr-2021 00:00	Brown red soil with rock and organic matter.
EA200: Description	9/0.1 - 15-Apr-2021 00:00	Brown clay like soil with rock and organic matter.
EA200: Description	10/0.1 - 15-Apr-2021 00:00	Brown clay like soil with rock and organic matter.
EA200: Description	11/0.1 - 13-Apr-2021 00:00	Brown clay like soil with rock and organic matter.
EA200: Description	12/0.1 - 13-Apr-2021 00:00	Brown clay like soil with rock and organic matter.
EA200: Description	13/0.1 - 15-Apr-2021 00:00	Brown tan clay like soil with rock and organic matter.
EA200: Description	14/0.1 - 13-Apr-2021 00:00	Brown tan clay like soil with rock and organic matter.
EA200: Description	15/0.1 - 13-Apr-2021 00:00	Brown tan clay like soil with rock and organic matter.
EA200: Description	16/0.1 - 13-Apr-2021 00:00	Brown clay like soil with rock and organic matter.
EA200: Description	17/0.25 - 13-Apr-2021 00:00	Beige soil with rock and organic matter.
EA200: Description	18/0.4 - 14-Apr-2021 00:00	Yellow clay like soil with rock and organic matter.
EA200: Description	19/0.4 - 14-Apr-2021 00:00	Yellow clay like soil with rock and organic matter.
EA200: Description	20/0.3 - 13-Apr-2021 00:00	Beige soil with rock and organic matter.
EA200: Description	21/0.4 - 13-Apr-2021 00:00	Beige soil with rock and ogranic matter.
EA200: Description	22/0.1 - 14-Apr-2021 00:00	Brown soil with rock and organic matter.
EA200: Description	23/0.1 - 14-Apr-2021 00:00	Brown soil with rock and organic matter.
EA200: Description	24/0.1 - 14-Apr-2021 00:00	Brown beige soil with rock and organic matter.
EA200: Description	25/0.1 - 14-Apr-2021 00:00	Brown beige soil with rock and organic matter.

Surrogate Control Limits

Sub-Matrix: **SOIL**		Recovery Limits (%)	
Compound	*CAS Number*	*Low*	*High*
EP066S: PCB Surrogate			
Decachlorobiphenyl	2051-24-3	16	134
EP068S: Organochlorine Pesticide Surrogate			
Dibromo-DDE	21655-73-2	10	138
EP068T: Organophosphorus Pesticide Surrogate			
DEF	78-48-8	23	134
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	35	154
2-Chlorophenol-D4	93951-73-6	42	153
2.4.6-Tribromophenol	118-79-6	26	157
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	34	156
Anthracene-d10	1719-06-8	37	153
4-Terphenyl-d14	1718-51-0	42	172
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	53	134
Toluene-D8	2037-26-5	60	131
4-Bromofluorobenzene	460-00-4	59	127

Inter-Laboratory Testing

Analysis conducted by ALS Melbourne, NATA accreditation no. 825, site no. 13778 (Chemistry).

(SOIL) EA200: AS 4964 - 2004 Identification of Asbestos in Soils

ALS Environmental

QUALITY CONTROL REPORT

Work Order	: **EB2110394**	Page	: 1 of 21
Client	: **DOUGLAS PARTNERS PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	: ROB MULLER	Contact	: John Pickering
Address	: 439 MONTAGUE ROAD WEST END QLD, AUSTRALIA 4101	Address	: 2 Byth Street Stafford QLD Australia 4053
Telephone	: ----	Telephone	: +61 7 3552 8634
Project	: 203033.01	Date Samples Received	: 20-Apr-2021
Order number	: 203033.01	Date Analysis Commenced	: 22-Apr-2021
C-O-C number	: ----	Issue Date	: 05-May-2021
Sampler	: SARAH McKAY		
Site	: ----		
Quote number	: EN/222		
No. of samples received	: 90		
No. of samples analysed	: 37		

ilac-MRA NATA
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 Quality Control Report contains the following information:

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

Signatories

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

Signatories	*Position*	*Accreditation Category*
Mark Hallas	Senior Inorganic Chemist	Brisbane Acid Sulphate Soils, Stafford, QLD
Mark Hallas	Senior Inorganic Chemist	Brisbane Inorganics, Stafford, QLD
Matt Frost	Assistant Laboratory Manager	Brisbane Inorganics, Stafford, QLD
Matt Frost	Assistant Laboratory Manager	Brisbane Organics, Stafford, QLD
Satishkumar Trivedi	Senior Acid Sulfate Soil Chemist	Brisbane Acid Sulphate Soils, Stafford, QLD
Satishkumar Trivedi	Senior Acid Sulfate Soil Chemist	Brisbane Inorganics, Stafford, QLD
Uyen Dalkin	Approved Asbestos Identifier	Melbourne Asbestos, Springvale, VIC

General Comments

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

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

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

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: 3635253)									
EB2110394-001	1/0.1	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.00	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	19	18	7.09	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	5	5	0.00	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	7	6	0.00	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	15	14	0.00	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	18	19	0.00	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	20	21	8.53	No Limit
		EG005T: Iron	7439-89-6	50	mg/kg	42000	40100	4.72	0% - 20%
EB2110394-037	11/0.5	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.00	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	24	27	14.1	0% - 50%
		EG005T: Nickel	7440-02-0	2	mg/kg	5	5	0.00	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	<5	<5	0.00	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	9	10	0.00	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	9	8	0.00	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	15	17	10.7	No Limit
		EG005T: Iron	7439-89-6	50	mg/kg	54600	56800	3.88	0% - 20%
EG005(ED093)T: Total Metals by ICP-AES (QC Lot: 3635269)									
EB2110394-030	9/1.1	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.00	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	47	# 35	28.2	0% - 20%
		EG005T: Nickel	7440-02-0	2	mg/kg	5	4	0.00	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	<5	<5	0.00	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	5	6	0.00	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	12	12	0.00	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	6	7	0.00	No Limit
		EG005T: Iron	7439-89-6	50	mg/kg	5.72 %	54600	4.64	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: 3635269) - continued									
EB2110706-018	Anonymous	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.00	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	62	53	14.2	0% - 20%
		EG005T: Nickel	7440-02-0	2	mg/kg	6	5	24.9	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	8	7	0.00	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	12	10	16.6	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	12	14	17.6	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	35	32	10.7	No Limit
		EG005T: Iron	7439-89-6	50	mg/kg	33600	32100	4.53	0% - 20%
EA001: pH in soil using 0.01M CaCl extract (QC Lot: 3635008)									
EB2110394-030	9/1.1	EA001: pH (CaCl2)	----	0.1	pH Unit	4.5	4.6	0.00	0% - 20%
EA002: pH 1:5 (Soils) (QC Lot: 3635274)									
EB2110394-030	9/1.1	EA002: pH Value	----	0.1	pH Unit	5.7	5.6	0.00	0% - 20%
EA010: Conductivity (1:5) (QC Lot: 3635273)									
EB2110394-030	9/1.1	EA010: Electrical Conductivity @ 25°C	----	1	µS/cm	8	8	0.00	No Limit
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 3635262)									
EB2110394-001	1/0.1	EA055: Moisture Content	----	0.1	%	21.9	22.3	1.88	0% - 20%
EB2110394-037	11/0.5	EA055: Moisture Content	----	0.1	%	41.6	42.2	1.45	0% - 20%
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 3635282)									
EB2110394-030	9/1.1	EA055: Moisture Content	----	0.1	%	20.7	21.3	3.07	0% - 20%
EB2110706-018	Anonymous	EA055: Moisture Content	----	0.1	%	25.3	25.5	0.804	0% - 20%
ED005: Exchange Acidity (QC Lot: 3649732)									
EB2110394-030	9/1.1	ED005: Exchange Acidity	----	0.1	meq/100g	0.7	0.6	0.00	No Limit
		ED005: Exchangeable Aluminium	----	0.1	meq/100g	0.2	0.2	0.00	No Limit
ED007: Exchangeable Cations (QC Lot: 3649731)									
EB2110394-030	9/1.1	ED007: Exchangeable Calcium	----	0.1	meq/100g	1.1	1.1	0.00	0% - 50%
		ED007: Exchangeable Magnesium	----	0.1	meq/100g	0.8	0.8	0.00	No Limit
		ED007: Exchangeable Potassium	----	0.1	meq/100g	<0.1	<0.1	0.00	No Limit
		ED007: Exchangeable Sodium	----	0.1	meq/100g	<0.1	<0.1	0.00	No Limit
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 3635254)									
EB2110394-001	1/0.1	EG035T: Mercury	7439-97-6	0.1	mg/kg	0.1	0.1	0.00	No Limit
EB2110394-037	11/0.5	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.00	No Limit
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 3635270)									
EB2110394-030	9/1.1	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.00	No Limit
EB2110706-018	Anonymous	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.00	No Limit
EP004: Organic Matter (QC Lot: 3638298)									
EB2110255-001	Anonymous	EP004: Organic Matter	----	0.5	%	<0.5	<0.5	0.00	No Limit
		EP004: Total Organic Carbon	----	0.5	%	<0.5	<0.5	0.00	No Limit
EP066: Polychlorinated Biphenyls (PCB) (QC Lot: 3635259)									

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 (%)*
EP066: Polychlorinated Biphenyls (PCB) (QC Lot: 3635259) - continued									
EB2110394-004	2/0.1	EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	<0.1	0.00	No Limit
EP066: Polychlorinated Biphenyls (PCB) (QC Lot: 3635280)									
EB2110394-078	22/0.1	EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	<0.1	0.00	No Limit
EP068A: Organochlorine Pesticides (OC) (QC Lot: 3635258)									
EB2110394-004	2/0.1	EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Total Chlordane (sum)	----	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: 4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endosulfan (sum)	115-29-7	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: 4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: 4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
EP068A: Organochlorine Pesticides (OC) (QC Lot: 3635281)									
EB2110394-078	22/0.1	EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	0.00	No Limit

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: 3635281) - continued									
EB2110394-078	22/0.1	EP068: Total Chlordane (sum)	----	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: 4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endosulfan (sum)	115-29-7	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: 4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: 4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
EP068B: Organophosphorus Pesticides (OP) (QC Lot: 3635258)									
EB2110394-004	2/0.1	EP068: Dichlorvos	62-73-7	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Dimethoate	60-51-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Diazinon	333-41-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Malathion	121-75-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Fenthion	55-38-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Prothiofos	34643-46-4	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Ethion	563-12-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Carbophenothion	786-19-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP068: Parathion	56-38-2	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
EP068B: Organophosphorus Pesticides (OP) (QC Lot: 3635281)									
EB2110394-078	22/0.1	EP068: Dichlorvos	62-73-7	0.05	mg/kg	<0.05	<0.05	0.00	No Limit

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: 3635281) - continued									
EB2110394-078	22/0.1	EP068: Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Dimethoate	60-51-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Diazinon	333-41-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Malathion	121-75-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Fenthion	55-38-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Prothiofos	34643-46-4	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Ethion	563-12-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Carbophenothion	786-19-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP068: Parathion	56-38-2	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
EP075(SIM)A: Phenolic Compounds (QC Lot: 3635256)									
EB2110394-001	1/0.1	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	0.00	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	0.00	No Limit
EB2110394-037	11/0.5	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.00	No Limit

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 (%)*
EP075(SIM)A: Phenolic Compounds (QC Lot: 3635256) - continued									
EB2110394-037	11/0.5	EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	0.00	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	0.00	No Limit
EP075(SIM)A: Phenolic Compounds (QC Lot: 3635279)									
EB2110394-077	21/1.5	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	0.00	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	0.00	No Limit
EB2110706-024	Anonymous	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	0.00	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	0.00	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 3635256)									
EB2110394-001	1/0.1	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit

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 (%)*
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 3635256) - continued									
EB2110394-001	1/0.1	EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
EB2110394-037	11/0.5	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 3635279)									
EB2110394-077	21/1.5	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	0.00	No Limit

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 (%)*
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 3635279) - continued									
EB2110394-077	21/1.5	EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
EB2110706-024	Anonymous	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 3635255)									
EB2110394-001	1/0.1	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.00	No Limit
EB2110394-037	11/0.5	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.00	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 3635257)									
EB2110394-001	1/0.1	EP071: C15 - C28 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.00	No Limit
EB2110394-037	11/0.5	EP071: C15 - C28 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.00	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 3635277)									
EB2110394-077	21/1.5	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.00	No Limit
EB2110706-024	Anonymous	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.00	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 3635278)									
EB2110394-077	21/1.5	EP071: C15 - C28 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.00	No Limit
EB2110706-024	Anonymous	EP071: C15 - C28 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit

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 (%)*
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 3635278) - continued									
EB2110706-024	Anonymous	EP071: C29 - C36 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.00	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 3635255)									
EB2110394-001	1/0.1	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.00	No Limit
EB2110394-037	11/0.5	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.00	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 3635257)									
EB2110394-001	1/0.1	EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.00	No Limit
EB2110394-037	11/0.5	EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.00	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 3635277)									
EB2110394-077	21/1.5	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.00	No Limit
EB2110706-024	Anonymous	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.00	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 3635278)									
EB2110394-077	21/1.5	EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.00	No Limit
EB2110706-024	Anonymous	EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.00	No Limit
EP080: BTEXN (QC Lot: 3635255)									
EB2110394-001	1/0.1	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.00	No Limit
EB2110394-037	11/0.5	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.00	No Limit
EP080: BTEXN (QC Lot: 3635277)									
EB2110394-077	21/1.5	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.00	No Limit

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 (%)*
EP080: BTEXN (QC Lot: 3635277) - continued									
EB2110394-077	21/1.5	EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.00	No Limit
EB2110706-024	Anonymous	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.00	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: **SOIL**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 3635253)								
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	83.4 mg/kg	110	84.0	123
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	----	----	----	----
EG005T: Chromium	7440-47-3	2	mg/kg	<2	14.1 mg/kg	110	83.0	125
EG005T: Copper	7440-50-8	5	mg/kg	<5	50 mg/kg	96.5	86.0	122
EG005T: Iron	7439-89-6	50	mg/kg	<50	29422 mg/kg	102	70.0	120
EG005T: Lead	7439-92-1	5	mg/kg	<5	55.4 mg/kg	104	84.0	119
EG005T: Nickel	7440-02-0	2	mg/kg	<2	11.8 mg/kg	106	81.5	118
EG005T: Zinc	7440-66-6	5	mg/kg	<5	148.7 mg/kg	102	80.0	120
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 3635269)								
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	83.4 mg/kg	114	84.0	123
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	----	----	----	----
EG005T: Chromium	7440-47-3	2	mg/kg	<2	14.1 mg/kg	113	83.0	125
EG005T: Copper	7440-50-8	5	mg/kg	<5	50 mg/kg	102	86.0	122
EG005T: Iron	7439-89-6	50	mg/kg	<50	29422 mg/kg	106	70.0	120
EG005T: Lead	7439-92-1	5	mg/kg	<5	55.4 mg/kg	106	84.0	119
EG005T: Nickel	7440-02-0	2	mg/kg	<2	11.8 mg/kg	111	81.5	118
EG005T: Zinc	7440-66-6	5	mg/kg	<5	148.7 mg/kg	104	80.0	120
EA001: pH in soil using 0.01M CaCl extract (QCLot: 3635008)								
EA001: pH (CaCl2)	----	----	pH Unit	----	4 pH Unit	101	99.0	101
				----	7 pH Unit	100	99.0	101
EA002: pH 1:5 (Soils) (QCLot: 3635274)								
EA002: pH Value	----	----	pH Unit	----	4 pH Unit	101	98.0	102
				----	7 pH Unit	100	98.0	102
EA010: Conductivity (1:5) (QCLot: 3635273)								
EA010: Electrical Conductivity @ 25°C	----	1	µS/cm	<1	1412 µS/cm	98.3	97.0	103
EA152: Soil Particle Density (QCLot: 3636299)								
EA152: Soil Particle Density (Clay/Silt/Sand)	----	----	g/cm3	----	2.68 g/cm3	99.6	80.0	120
ED005: Exchange Acidity (QCLot: 3649732)								
ED005: Exchange Acidity	----	0.1	meq/100g	<0.1	----	----	----	----
ED005: Exchangeable Aluminium	----	0.1	meq/100g	<0.1	----	----	----	----
ED007: Exchangeable Cations (QCLot: 3649731)								
ED007: Exchangeable Calcium	----	0.1	meq/100g	<0.1	6.5 meq/100g	99.4	79.0	113
ED007: Exchangeable Magnesium	----	0.1	meq/100g	<0.1	8.6 meq/100g	96.0	85.0	115

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
ED007: Exchangeable Cations (QCLot: 3649731) - continued								
ED007: Exchangeable Potassium	----	0.1	meq/100g	<0.1	1.6 meq/100g	93.8	70.0	122
ED007: Exchangeable Sodium	----	0.1	meq/100g	<0.1	1.8 meq/100g	95.1	76.0	112
ED007: Cation Exchange Capacity	----	0.1	meq/100g	<0.1	18.5 meq/100g	96.9	82.0	112
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3635254)								
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	0.087 mg/kg	95.3	70.0	125
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3635270)								
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	0.087 mg/kg	104	70.0	125
EP004: Organic Matter (QCLot: 3638298)								
EP004: Organic Matter	----	0.5	%	<0.5	80 %	98.8	83.0	115
EP004: Total Organic Carbon	----	0.5	%	<0.5	46.4 %	98.8	85.0	115
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 3635259)								
EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	1 mg/kg	105	71.6	155
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 3635280)								
EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	1 mg/kg	97.4	71.6	155
EP068A: Organochlorine Pesticides (OC) (QCLot: 3635258)								
EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	0.5 mg/kg	111	72.8	127
EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	0.5 mg/kg	109	71.0	127
EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	0.5 mg/kg	104	67.5	126
EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	0.5 mg/kg	110	72.7	127
EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	0.5 mg/kg	109	70.6	122
EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	0.5 mg/kg	98.6	64.8	127
EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	0.5 mg/kg	103	72.4	122
EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	0.5 mg/kg	88.0	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	89.8	65.6	124
EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	0.5 mg/kg	91.0	70.4	122
EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	0.5 mg/kg	90.2	65.6	125
EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	0.5 mg/kg	105	69.1	124
EP068: 4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	0.5 mg/kg	108	72.4	125
EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	0.5 mg/kg	99.1	63.2	127
EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	0.5 mg/kg	101	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	107	61.2	124
EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	0.5 mg/kg	102	55.5	125
EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	0.5 mg/kg	106	57.1	117
EP068: 4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	0.5 mg/kg	83.2	51.9	125
EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	0.5 mg/kg	107	46.5	122
EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	0.5 mg/kg	63.0	34.0	130

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP068A: Organochlorine Pesticides (OC) (QCLot: 3635258) - 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: 3635281)								
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	106	71.0	127
EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	0.5 mg/kg	98.1	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	97.7	70.6	122
EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	0.5 mg/kg	106	64.8	127
EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	0.5 mg/kg	104	72.4	122
EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	0.5 mg/kg	98.4	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	102	65.6	124
EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	0.5 mg/kg	98.0	70.4	122
EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	0.5 mg/kg	100	65.6	125
EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	0.5 mg/kg	100	69.1	124
EP068: 4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	0.5 mg/kg	95.4	72.4	125
EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	0.5 mg/kg	105	63.2	127
EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	0.5 mg/kg	98.1	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	90.7	61.2	124
EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	0.5 mg/kg	97.0	55.5	125
EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	0.5 mg/kg	90.3	57.1	117
EP068: 4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	0.5 mg/kg	98.5	51.9	125
EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	0.5 mg/kg	84.8	46.5	122
EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	0.5 mg/kg	86.6	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: 3635258)								
EP068: Dichlorvos	62-73-7	0.05	mg/kg	<0.05	0.5 mg/kg	84.8	55.8	126
EP068: Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	0.5 mg/kg	70.7	45.9	136
EP068: Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	0.5 mg/kg	# 15.1	20.0	147
EP068: Dimethoate	60-51-5	0.05	mg/kg	<0.05	0.5 mg/kg	70.7	44.1	125
EP068: Diazinon	333-41-5	0.05	mg/kg	<0.05	0.5 mg/kg	102	70.3	125
EP068: Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	0.5 mg/kg	88.8	63.2	124

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP068B: Organophosphorus Pesticides (OP) (QCLot: 3635258) - continued								
EP068: Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	0.5 mg/kg	64.2	44.2	129
EP068: Malathion	121-75-5	0.05	mg/kg	<0.05	0.5 mg/kg	82.0	52.3	133
EP068: Fenthion	55-38-9	0.05	mg/kg	<0.05	0.5 mg/kg	88.2	62.9	126
EP068: Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	0.5 mg/kg	104	69.2	123
EP068: Parathion	56-38-2	0.2	mg/kg	<0.2	0.5 mg/kg	83.1	37.6	138
EP068: Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	0.5 mg/kg	86.4	59.6	131
EP068: Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	0.5 mg/kg	77.3	46.4	144
EP068: Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	0.5 mg/kg	82.3	56.8	128
EP068: Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	0.5 mg/kg	53.9	24.4	135
EP068: Prothiofos	34643-46-4	0.05	mg/kg	<0.05	0.5 mg/kg	91.4	55.9	123
EP068: Ethion	563-12-2	0.05	mg/kg	<0.05	0.5 mg/kg	96.6	45.0	138
EP068: Carbophenothion	786-19-6	0.05	mg/kg	<0.05	0.5 mg/kg	88.4	41.6	141
EP068: Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	0.5 mg/kg	42.8	20.0	145
EP068B: Organophosphorus Pesticides (OP) (QCLot: 3635281)								
EP068: Dichlorvos	62-73-7	0.05	mg/kg	<0.05	0.5 mg/kg	91.4	55.8	126
EP068: Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	0.5 mg/kg	81.7	45.9	136
EP068: Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	0.5 mg/kg	36.1	20.0	147
EP068: Dimethoate	60-51-5	0.05	mg/kg	<0.05	0.5 mg/kg	70.7	44.1	125
EP068: Diazinon	333-41-5	0.05	mg/kg	<0.05	0.5 mg/kg	102	70.3	125
EP068: Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	0.5 mg/kg	97.2	63.2	124
EP068: Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	0.5 mg/kg	82.2	44.2	129
EP068: Malathion	121-75-5	0.05	mg/kg	<0.05	0.5 mg/kg	85.9	52.3	133
EP068: Fenthion	55-38-9	0.05	mg/kg	<0.05	0.5 mg/kg	89.6	62.9	126
EP068: Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	0.5 mg/kg	91.0	69.2	123
EP068: Parathion	56-38-2	0.2	mg/kg	<0.2	0.5 mg/kg	102	37.6	138
EP068: Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	0.5 mg/kg	91.6	59.6	131
EP068: Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	0.5 mg/kg	99.4	46.4	144
EP068: Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	0.5 mg/kg	85.0	56.8	128
EP068: Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	0.5 mg/kg	80.2	24.4	135
EP068: Prothiofos	34643-46-4	0.05	mg/kg	<0.05	0.5 mg/kg	85.6	55.9	123
EP068: Ethion	563-12-2	0.05	mg/kg	<0.05	0.5 mg/kg	90.9	45.0	138
EP068: Carbophenothion	786-19-6	0.05	mg/kg	<0.05	0.5 mg/kg	106	41.6	141
EP068: Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	0.5 mg/kg	55.7	20.0	145
EP075(SIM)A: Phenolic Compounds (QCLot: 3635256)								
EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	1.5 mg/kg	105	78.0	134
EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	1.5 mg/kg	102	78.0	132
EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	1.5 mg/kg	102	78.0	132
EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	3 mg/kg	104	77.2	135
EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	1.5 mg/kg	106	42.9	156

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP075(SIM)A: Phenolic Compounds (QCLot: 3635256) - continued								
EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	1.5 mg/kg	99.3	70.3	141
EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	1.5 mg/kg	84.2	69.9	135
EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	1.5 mg/kg	95.6	72.9	136
EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	1.5 mg/kg	75.4	53.3	138
EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	1.5 mg/kg	69.1	50.9	140
EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	1.5 mg/kg	86.9	45.5	140
EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	3 mg/kg	94.9	20.0	130
EP075(SIM)A: Phenolic Compounds (QCLot: 3635279)								
EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	1.5 mg/kg	89.4	78.0	134
EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	1.5 mg/kg	86.2	78.0	132
EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	1.5 mg/kg	86.1	78.0	132
EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	3 mg/kg	87.9	77.2	135
EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	1.5 mg/kg	104	42.9	156
EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	1.5 mg/kg	83.4	70.3	141
EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	1.5 mg/kg	92.8	69.9	135
EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	1.5 mg/kg	99.9	72.9	136
EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	1.5 mg/kg	91.9	53.3	138
EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	1.5 mg/kg	93.1	50.9	140
EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	1.5 mg/kg	89.1	45.5	140
EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	3 mg/kg	80.1	20.0	130
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 3635256)								
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	1.5 mg/kg	96.7	72.6	133
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	1.5 mg/kg	88.7	63.2	144
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	1.5 mg/kg	94.4	73.0	117
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	1.5 mg/kg	91.0	76.2	134
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	1.5 mg/kg	96.7	71.8	137
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	1.5 mg/kg	98.4	77.1	143
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	1.5 mg/kg	98.2	74.1	140
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	1.5 mg/kg	98.0	72.0	139
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	1.5 mg/kg	105	58.0	145
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	1.5 mg/kg	108	63.0	147
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	1.5 mg/kg	102	70.5	142
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	1.5 mg/kg	109	75.5	138
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	1.5 mg/kg	96.4	68.5	140
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	1.5 mg/kg	132	58.4	143
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	1.5 mg/kg	145	52.1	149
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	1.5 mg/kg	127	64.6	140

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 3635279)								
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	1.5 mg/kg	94.9	72.6	133
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	1.5 mg/kg	86.9	63.2	144
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	1.5 mg/kg	97.1	73.0	117
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	1.5 mg/kg	95.4	76.2	134
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	1.5 mg/kg	98.2	71.8	137
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	1.5 mg/kg	89.9	77.1	143
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	1.5 mg/kg	92.2	74.1	140
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	1.5 mg/kg	93.6	72.0	139
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	1.5 mg/kg	85.9	58.0	145
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	1.5 mg/kg	89.8	63.0	147
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	1.5 mg/kg	84.4	70.5	142
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	1.5 mg/kg	95.8	75.5	138
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	1.5 mg/kg	92.6	68.5	140
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	1.5 mg/kg	92.6	58.4	143
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	1.5 mg/kg	85.0	52.1	149
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	1.5 mg/kg	98.9	64.6	140
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3635255)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	18 mg/kg	97.5	59.7	125
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3635257)								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	310 mg/kg	113	79.4	125
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	490 mg/kg	110	78.8	122
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	----	----	----	----
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3635277)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	18 mg/kg	109	59.7	125
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3635278)								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	310 mg/kg	105	79.4	125
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	490 mg/kg	113	78.8	122
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	----	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3635255)								
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	22.5 mg/kg	93.2	58.1	124
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3635257)								
EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	450 mg/kg	112	81.3	122
EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	320 mg/kg	112	75.6	125
EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	----	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3635277)								
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	22.5 mg/kg	104	58.1	124
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3635278)								

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3635278) - continued								
EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	450 mg/kg	109	81.3	122
EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	320 mg/kg	115	75.6	125
EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	----	----	----	----
EP080: BTEXN (QCLot: 3635255)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	1 mg/kg	87.5	66.8	115
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	1 mg/kg	89.5	68.8	116
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	1 mg/kg	92.5	68.5	116
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	2 mg/kg	98.3	69.7	118
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	1 mg/kg	106	72.2	116
EP080: Naphthalene	91-20-3	1	mg/kg	<1	1 mg/kg	98.3	73.2	116
EP080: BTEXN (QCLot: 3635277)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	1 mg/kg	99.1	66.8	115
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	1 mg/kg	97.2	68.8	116
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	1 mg/kg	95.5	68.5	116
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	2 mg/kg	99.5	69.7	118
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	1 mg/kg	104	72.2	116
EP080: Naphthalene	91-20-3	1	mg/kg	<1	1 mg/kg	91.9	73.2	116

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: **SOIL**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	SpikeRecovery(%): MS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 3635253)							
EB2110394-004	2/0.1	EG005T: Arsenic	7440-38-2	100 mg/kg	80.7	70.0	130
		EG005T: Cadmium	7440-43-9	25 mg/kg	91.3	70.0	130
		EG005T: Chromium	7440-47-3	100 mg/kg	90.9	70.0	130
		EG005T: Copper	7440-50-8	100 mg/kg	112	70.0	130
		EG005T: Lead	7439-92-1	100 mg/kg	89.1	70.0	130
		EG005T: Nickel	7440-02-0	100 mg/kg	92.2	70.0	130
		EG005T: Zinc	7440-66-6	100 mg/kg	90.3	70.0	130
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 3635269)							
EB2110394-077	21/1.5	EG005T: Arsenic	7440-38-2	100 mg/kg	94.2	70.0	130
		EG005T: Cadmium	7440-43-9	25 mg/kg	94.3	70.0	130

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: 3635269) - continued							
EB2110394-077	21/1.5	EG005T: Chromium	7440-47-3	100 mg/kg	93.9	70.0	130
		EG005T: Copper	7440-50-8	100 mg/kg	95.3	70.0	130
		EG005T: Lead	7439-92-1	100 mg/kg	94.8	70.0	130
		EG005T: Nickel	7440-02-0	100 mg/kg	93.8	70.0	130
		EG005T: Zinc	7440-66-6	100 mg/kg	93.5	70.0	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3635254)							
EB2110394-004	2/0.1	EG035T: Mercury	7439-97-6	0.5 mg/kg	86.9	70.0	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3635270)							
EB2110394-077	21/1.5	EG035T: Mercury	7439-97-6	0.5 mg/kg	91.7	70.0	130
EP004: Organic Matter (QCLot: 3638298)							
EB2110255-002	Anonymous	EP004: Organic Matter	----	4 %	98.5	70.0	130
		EP004: Total Organic Carbon	----	2.32 %	98.6	70.0	130
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 3635259)							
EB2110394-013	4/0.1	EP066: Total Polychlorinated biphenyls	----	1 mg/kg	111	70.0	130
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 3635280)							
EB2110394-086	24/0.2	EP066: Total Polychlorinated biphenyls	----	1 mg/kg	105	70.0	130
EP068A: Organochlorine Pesticides (OC) (QCLot: 3635258)							
EB2110394-013	4/0.1	EP068: gamma-BHC	58-89-9	0.5 mg/kg	114	70.0	136
		EP068: Heptachlor	76-44-8	0.5 mg/kg	104	65.0	130
		EP068: Aldrin	309-00-2	0.5 mg/kg	110	70.0	130
		EP068: Dieldrin	60-57-1	0.5 mg/kg	107	67.0	129
		EP068: Endrin	72-20-8	0.5 mg/kg	106	60.0	137
		EP068: 4.4`-DDT	50-29-3	0.5 mg/kg	90.7	70.0	130
EP068A: Organochlorine Pesticides (OC) (QCLot: 3635281)							
EB2110394-086	24/0.2	EP068: gamma-BHC	58-89-9	0.5 mg/kg	102	70.0	136
		EP068: Heptachlor	76-44-8	0.5 mg/kg	107	65.0	130
		EP068: Aldrin	309-00-2	0.5 mg/kg	104	70.0	130
		EP068: Dieldrin	60-57-1	0.5 mg/kg	101	67.0	129
		EP068: Endrin	72-20-8	0.5 mg/kg	107	60.0	137
		EP068: 4.4`-DDT	50-29-3	0.5 mg/kg	98.4	70.0	130
EP068B: Organophosphorus Pesticides (OP) (QCLot: 3635258)							
EB2110394-013	4/0.1	EP068: Diazinon	333-41-5	0.5 mg/kg	104	70.0	131
		EP068: Chlorpyrifos-methyl	5598-13-0	0.5 mg/kg	93.6	70.0	130
		EP068: Pirimphos-ethyl	23505-41-1	0.5 mg/kg	91.3	70.0	130
		EP068: Bromophos-ethyl	4824-78-6	0.5 mg/kg	86.1	70.0	130
		EP068: Prothiofos	34643-46-4	0.5 mg/kg	92.9	70.0	134

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP068B: Organophosphorus Pesticides (OP) (QCLot: 3635281)							
EB2110394-086	24/0.2	EP068: Diazinon	333-41-5	0.5 mg/kg	101	70.0	131
		EP068: Chlorpyrifos-methyl	5598-13-0	0.5 mg/kg	97.4	70.0	130
		EP068: Pirimphos-ethyl	23505-41-1	0.5 mg/kg	92.8	70.0	130
		EP068: Bromophos-ethyl	4824-78-6	0.5 mg/kg	87.6	70.0	130
		EP068: Prothiofos	34643-46-4	0.5 mg/kg	85.2	70.0	134
EP075(SIM)A: Phenolic Compounds (QCLot: 3635256)							
EB2110394-004	2/0.1	EP075(SIM): Phenol	108-95-2	1.5 mg/kg	103	70.0	130
		EP075(SIM): 2-Chlorophenol	95-57-8	1.5 mg/kg	100	70.0	130
		EP075(SIM): 2-Nitrophenol	88-75-5	1.5 mg/kg	125	70.0	130
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	1.5 mg/kg	80.4	70.0	130
		EP075(SIM): Pentachlorophenol	87-86-5	3 mg/kg	120	20.0	130
EP075(SIM)A: Phenolic Compounds (QCLot: 3635279)							
EB2110394-078	22/0.1	EP075(SIM): Phenol	108-95-2	1.5 mg/kg	88.1	70.0	130
		EP075(SIM): 2-Chlorophenol	95-57-8	1.5 mg/kg	85.5	70.0	130
		EP075(SIM): 2-Nitrophenol	88-75-5	1.5 mg/kg	90.8	70.0	130
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	1.5 mg/kg	86.3	70.0	130
		EP075(SIM): Pentachlorophenol	87-86-5	3 mg/kg	90.6	20.0	130
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 3635256)							
EB2110394-004	2/0.1	EP075(SIM): Acenaphthene	83-32-9	1.5 mg/kg	92.4	70.0	130
		EP075(SIM): Pyrene	129-00-0	1.5 mg/kg	93.9	70.0	130
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 3635279)							
EB2110394-078	22/0.1	EP075(SIM): Acenaphthene	83-32-9	1.5 mg/kg	95.4	70.0	130
		EP075(SIM): Pyrene	129-00-0	1.5 mg/kg	94.6	70.0	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3635255)							
EB2110394-004	2/0.1	EP080: C6 - C9 Fraction	----	8 mg/kg	78.0	70.0	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3635257)							
EB2110394-004	2/0.1	EP071: C10 - C14 Fraction	----	310 mg/kg	114	70.0	130
		EP071: C15 - C28 Fraction	----	490 mg/kg	108	70.0	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3635277)							
EB2110394-078	22/0.1	EP080: C6 - C9 Fraction	----	8 mg/kg	94.3	70.0	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3635278)							
EB2110394-078	22/0.1	EP071: C10 - C14 Fraction	----	310 mg/kg	106	70.0	130
		EP071: C15 - C28 Fraction	----	490 mg/kg	113	70.0	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3635255)							
EB2110394-004	2/0.1	EP080: C6 - C10 Fraction	C6_C10	8 mg/kg	82.6	70.0	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3635257)							

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*Concentration*	*MS*	*Low*	*High*
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3635257) - continued							
EB2110394-004	2/0.1	EP071: >C10 - C16 Fraction	----	450 mg/kg	112	70.0	130
		EP071: >C16 - C34 Fraction	----	320 mg/kg	110	70.0	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3635277)							
EB2110394-078	22/0.1	EP080: C6 - C10 Fraction	C6_C10	8 mg/kg	86.3	70.0	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3635278)							
EB2110394-078	22/0.1	EP071: >C10 - C16 Fraction	----	450 mg/kg	109	70.0	130
		EP071: >C16 - C34 Fraction	----	320 mg/kg	115	70.0	130
EP080: BTEXN (QCLot: 3635255)							
EB2110394-004	2/0.1	EP080: Benzene	71-43-2	2 mg/kg	80.3	70.0	130
		EP080: Toluene	108-88-3	2 mg/kg	82.2	70.0	130
EP080: BTEXN (QCLot: 3635277)							
EB2110394-078	22/0.1	EP080: Benzene	71-43-2	2 mg/kg	92.2	70.0	130
		EP080: Toluene	108-88-3	2 mg/kg	87.8	70.0	130

ALS Environmental

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **EB2110394**	Page	: 1 of 14
Client	: **DOUGLAS PARTNERS PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	: ROB MULLER	Telephone	: +61 7 3552 8634
Project	: 203033.01	Date Samples Received	: 20-Apr-2021
Site	: ----	Issue Date	: 05-May-2021
Sampler	: SARAH McKAY	No. of samples received	: 90
Order number	: 203033.01	No. of samples analysed	: 37

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 Matrix Spike outliers occur.**
- **Duplicate outliers exist - please see following pages for full details.**
- **Laboratory Control outliers exist - please see following pages for full details.**
- **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 : 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	EB2110394--030	9/1.1	**Chromium**	7440-47-3	28.2 %	0% - 20%	**RPD exceeds LOR based limits**
Laboratory Control Spike (LCS) Recoveries							
EP068B: Organophosphorus Pesticides (OP)	QC-3635258-002	----	**Monocrotophos**	6923-22-4	15.1 %	20.0-147%	**Recovery less than lower control limit**

Outliers : Analysis Holding Time Compliance

Matrix: **SOIL**

Method / Container / Client Sample ID(s)	Extraction / Preparation			Analysis		
	Date extracted	Due for extraction	Days overdue	Date analysed	Due for analysis	Days overdue
EA001: pH in soil using 0.01M CaCl extract						
Soil Glass Jar - Unpreserved						
22/1.4	22-Apr-2021	21-Apr-2021	**1**	----	----	----
EA002: pH 1:5 (Soils)						
Soil Glass Jar - Unpreserved						
22/1.4	27-Apr-2021	21-Apr-2021	**6**	----	----	----
Soil Glass Jar - Unpreserved						
9/1.1	27-Apr-2021	22-Apr-2021	**5**	----	----	----
EA010: Conductivity (1:5)						
Soil Glass Jar - Unpreserved						
22/1.4	27-Apr-2021	21-Apr-2021	**6**	----	----	----
Soil Glass Jar - Unpreserved						
9/1.1	27-Apr-2021	22-Apr-2021	**5**	----	----	----

Outliers : Frequency of Quality Control Samples

Matrix: **SOIL**

Quality Control Sample Type / Method	Count		Rate (%)		Quality Control Specification
	QC	Regular	Actual	Expected	
Laboratory Duplicates (DUP)					
Soil Particle Density	0	2	0.00	10.00	NEPM 2013 B3 & ALS QC Standard

Analysis Holding Time Compliance

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

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

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

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

Matrix: **SOIL** Evaluation: × = Holding time breach ; ✓ = Within holding time.

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA001: pH in soil using 0.01M CaCl extract							
Soil Glass Jar - Unpreserved (EA001) 22/1.4	**14-Apr-2021**	**22-Apr-2021**	21-Apr-2021	×	**22-Apr-2021**	22-Apr-2021	✓
Soil Glass Jar - Unpreserved (EA001) 9/1.1	**15-Apr-2021**	**22-Apr-2021**	22-Apr-2021	✓	**22-Apr-2021**	22-Apr-2021	✓
EA002: pH 1:5 (Soils)							
Soil Glass Jar - Unpreserved (EA002) 22/1.4	**14-Apr-2021**	**27-Apr-2021**	21-Apr-2021	×	**27-Apr-2021**	27-Apr-2021	✓
Soil Glass Jar - Unpreserved (EA002) 9/1.1	**15-Apr-2021**	**27-Apr-2021**	22-Apr-2021	×	**27-Apr-2021**	27-Apr-2021	✓
EA010: Conductivity (1:5)							
Soil Glass Jar - Unpreserved (EA010) 22/1.4	**14-Apr-2021**	**27-Apr-2021**	21-Apr-2021	×	**27-Apr-2021**	25-May-2021	✓
Soil Glass Jar - Unpreserved (EA010) 9/1.1	**15-Apr-2021**	**27-Apr-2021**	22-Apr-2021	×	**27-Apr-2021**	25-May-2021	✓
EA055: Moisture Content (Dried @ 105-110°C)							
Soil Glass Jar - Unpreserved (EA055) 3/0.4, 11/0.5, 12/0.25, 14/0.1, 15/0.7, 16/0.1, 17/0.25, 20/0.8, 21/1.5	**13-Apr-2021**	**----**	----	----	**22-Apr-2021**	27-Apr-2021	✓
Soil Glass Jar - Unpreserved (EA055) 18/0.4, 19/0.4, 22/0.1, 22/1.4, 23/0.1, 24/0.2, 25/0.3	**14-Apr-2021**	**----**	----	----	**22-Apr-2021**	28-Apr-2021	✓
Soil Glass Jar - Unpreserved (EA055) 1/0.1, 2/0.1, 9/0.1, 9/1.1, 10/0.4, 13/0.1	**15-Apr-2021**	**----**	----	----	**22-Apr-2021**	29-Apr-2021	✓
Soil Glass Jar - Unpreserved (EA055) 4/0.1, 5/0.1, 6/0.1, 7/0.2, 8/0.1	**16-Apr-2021**	**----**	----	----	**22-Apr-2021**	30-Apr-2021	✓
EA150: Soil Classification based on Particle Size							
Soil Glass Jar - Unpreserved (EA150H) 22/1.4	**14-Apr-2021**	**----**	----	----	**30-Apr-2021**	11-Oct-2021	✓
Soil Glass Jar - Unpreserved (EA150H) 9/1.1	**15-Apr-2021**	**----**	----	----	**30-Apr-2021**	12-Oct-2021	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA152: Soil Particle Density							
Soil Glass Jar - Unpreserved (EA152) 22/1.4	**14-Apr-2021**	**----**	----	----	**30-Apr-2021**	11-Oct-2021	✓
Soil Glass Jar - Unpreserved (EA152) 9/1.1	**15-Apr-2021**	**----**	----	----	**30-Apr-2021**	12-Oct-2021	✓
EA200: AS 4964 - 2004 Identification of Asbestos in Soils							
Snap Lock Bag (EA200) 12/0.1, 14/0.1, 15/0.1, 16/0.1, 17/0.25, 21/0.4	**13-Apr-2021**	**----**	----	----	**23-Apr-2021**	10-Oct-2021	✓
Snap Lock Bag (EA200) 22/0.1, 23/0.1, 24/0.1, 25/0.1	**14-Apr-2021**	**----**	----	----	**23-Apr-2021**	11-Oct-2021	✓
Snap Lock Bag (EA200) 18/0.4, 19/0.4	**14-Apr-2021**	**----**	----	----	**26-Apr-2021**	11-Oct-2021	✓
Snap Lock Bag (EA200) 1/0.1, 2/0.1, 9/0.1, 10/0.1, 13/0.1	**15-Apr-2021**	**----**	----	----	**23-Apr-2021**	12-Oct-2021	✓
Snap Lock Bag (EA200) 4/0.1, 5/0.1, 6/0.1, 7/0.1, 8/0.1	**16-Apr-2021**	**----**	----	----	**23-Apr-2021**	13-Oct-2021	✓
Soil Glass Jar - Unpreserved (EA200) 3/0.3, 11/0.1, 20/0.3	**13-Apr-2021**	**----**	----	----	**23-Apr-2021**	10-Oct-2021	✓
ED005: Exchange Acidity							
Soil Glass Jar - Unpreserved (ED005) 22/1.4	**14-Apr-2021**	**29-Apr-2021**	12-May-2021	✓	**04-May-2021**	12-May-2021	✓
Soil Glass Jar - Unpreserved (ED005) 9/1.1	**15-Apr-2021**	**29-Apr-2021**	13-May-2021	✓	**04-May-2021**	13-May-2021	✓
ED006: Exchangeable Cations on Alkaline Soils							
Soil Glass Jar - Unpreserved (ED006) 22/1.4	**14-Apr-2021**	**29-Apr-2021**	12-May-2021	✓	**29-Apr-2021**	12-May-2021	✓
Soil Glass Jar - Unpreserved (ED006) 9/1.1	**15-Apr-2021**	**29-Apr-2021**	13-May-2021	✓	**29-Apr-2021**	13-May-2021	✓
ED007: Exchangeable Cations							
Soil Glass Jar - Unpreserved (ED007) 22/1.4	**14-Apr-2021**	**29-Apr-2021**	12-May-2021	✓	**04-May-2021**	12-May-2021	✓
Soil Glass Jar - Unpreserved (ED007) 9/1.1	**15-Apr-2021**	**29-Apr-2021**	13-May-2021	✓	**04-May-2021**	13-May-2021	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
ED008: Exchangeable Cations							
Soil Glass Jar - Unpreserved (ED008)							
22/1.4	**14-Apr-2021**	**29-Apr-2021**	12-May-2021	✓	**04-May-2021**	12-May-2021	✓
Soil Glass Jar - Unpreserved (ED008)							
9/1.1	**15-Apr-2021**	**29-Apr-2021**	13-May-2021	✓	**04-May-2021**	13-May-2021	✓
EG005(ED093)T: Total Metals by ICP-AES							
Soil Glass Jar - Unpreserved (EG005T)							
3/0.4, 11/0.5, 12/0.25, 14/0.1, 15/0.7, 16/0.1, 17/0.25, 20/0.8	**13-Apr-2021**	**24-Apr-2021**	10-Oct-2021	✓	**27-Apr-2021**	10-Oct-2021	✓
Soil Glass Jar - Unpreserved (EG005T)							
21/1.5	**13-Apr-2021**	**24-Apr-2021**	10-Oct-2021	✓	**28-Apr-2021**	10-Oct-2021	✓
Soil Glass Jar - Unpreserved (EG005T)							
18/0.4, 19/0.4	**14-Apr-2021**	**24-Apr-2021**	11-Oct-2021	✓	**27-Apr-2021**	11-Oct-2021	✓
Soil Glass Jar - Unpreserved (EG005T)							
22/0.1, 22/1.4, 23/0.1, 24/0.2, 25/0.3	**14-Apr-2021**	**24-Apr-2021**	11-Oct-2021	✓	**28-Apr-2021**	11-Oct-2021	✓
Soil Glass Jar - Unpreserved (EG005T)							
1/0.1, 2/0.1, 9/0.1, 10/0.4, 13/0.1	**15-Apr-2021**	**24-Apr-2021**	12-Oct-2021	✓	**27-Apr-2021**	12-Oct-2021	✓
Soil Glass Jar - Unpreserved (EG005T)							
9/1.1	**15-Apr-2021**	**24-Apr-2021**	12-Oct-2021	✓	**28-Apr-2021**	12-Oct-2021	✓
Soil Glass Jar - Unpreserved (EG005T)							
4/0.1, 5/0.1, 6/0.1, 7/0.2, 8/0.1	**16-Apr-2021**	**24-Apr-2021**	13-Oct-2021	✓	**27-Apr-2021**	13-Oct-2021	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG035T: Total Recoverable Mercury by FIMS							
Soil Glass Jar - Unpreserved (EG035T)							
3/0.4, 11/0.5, 12/0.25, 14/0.1, 15/0.7, 16/0.1, 17/0.25, 20/0.8, 21/1.5	**13-Apr-2021**	**24-Apr-2021**	11-May-2021	✓	**28-Apr-2021**	11-May-2021	✓
Soil Glass Jar - Unpreserved (EG035T)							
18/0.4, 19/0.4, 22/0.1, 22/1.4, 23/0.1, 24/0.2, 25/0.3	**14-Apr-2021**	**24-Apr-2021**	12-May-2021	✓	**28-Apr-2021**	12-May-2021	✓
Soil Glass Jar - Unpreserved (EG035T)							
1/0.1, 2/0.1, 9/0.1, 9/1.1, 10/0.4, 13/0.1	**15-Apr-2021**	**24-Apr-2021**	13-May-2021	✓	**28-Apr-2021**	13-May-2021	✓
Soil Glass Jar - Unpreserved (EG035T)							
4/0.1, 5/0.1, 6/0.1, 7/0.2, 8/0.1	**16-Apr-2021**	**24-Apr-2021**	14-May-2021	✓	**28-Apr-2021**	14-May-2021	✓
EP004: Organic Matter							
Soil Glass Jar - Unpreserved (EP004)							
22/1.4	**14-Apr-2021**	**23-Apr-2021**	12-May-2021	✓	**23-Apr-2021**	12-May-2021	✓
Soil Glass Jar - Unpreserved (EP004)							
9/1.1	**15-Apr-2021**	**23-Apr-2021**	13-May-2021	✓	**23-Apr-2021**	13-May-2021	✓
EP066: Polychlorinated Biphenyls (PCB)							
Soil Glass Jar - Unpreserved (EP066)							
12/0.25, 14/0.1, 16/0.1, 20/0.8	**13-Apr-2021**	**23-Apr-2021**	27-Apr-2021	✓	**27-Apr-2021**	02-Jun-2021	✓
Soil Glass Jar - Unpreserved (EP066)							
18/0.4	**14-Apr-2021**	**23-Apr-2021**	28-Apr-2021	✓	**27-Apr-2021**	02-Jun-2021	✓
Soil Glass Jar - Unpreserved (EP066)							
22/0.1, 24/0.2	**14-Apr-2021**	**27-Apr-2021**	28-Apr-2021	✓	**27-Apr-2021**	06-Jun-2021	✓
Soil Glass Jar - Unpreserved (EP066)							
2/0.1, 10/0.4	**15-Apr-2021**	**23-Apr-2021**	29-Apr-2021	✓	**27-Apr-2021**	02-Jun-2021	✓
Soil Glass Jar - Unpreserved (EP066)							
4/0.1, 6/0.1, 8/0.1	**16-Apr-2021**	**23-Apr-2021**	30-Apr-2021	✓	**27-Apr-2021**	02-Jun-2021	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP068A: Organochlorine Pesticides (OC)							
Soil Glass Jar - Unpreserved (EP068) 12/0.25, 14/0.1, 16/0.1, 20/0.8	**13-Apr-2021**	**23-Apr-2021**	27-Apr-2021	✓	**27-Apr-2021**	02-Jun-2021	✓
Soil Glass Jar - Unpreserved (EP068) 18/0.4	**14-Apr-2021**	**23-Apr-2021**	28-Apr-2021	✓	**27-Apr-2021**	02-Jun-2021	✓
Soil Glass Jar - Unpreserved (EP068) 22/0.1, 24/0.2	**14-Apr-2021**	**27-Apr-2021**	28-Apr-2021	✓	**27-Apr-2021**	06-Jun-2021	✓
Soil Glass Jar - Unpreserved (EP068) 2/0.1, 10/0.4	**15-Apr-2021**	**23-Apr-2021**	29-Apr-2021	✓	**27-Apr-2021**	02-Jun-2021	✓
Soil Glass Jar - Unpreserved (EP068) 4/0.1, 6/0.1, 8/0.1	**16-Apr-2021**	**23-Apr-2021**	30-Apr-2021	✓	**27-Apr-2021**	02-Jun-2021	✓
EP068B: Organophosphorus Pesticides (OP)							
Soil Glass Jar - Unpreserved (EP068) 12/0.25, 14/0.1, 16/0.1, 20/0.8	**13-Apr-2021**	**23-Apr-2021**	27-Apr-2021	✓	**27-Apr-2021**	02-Jun-2021	✓
Soil Glass Jar - Unpreserved (EP068) 18/0.4	**14-Apr-2021**	**23-Apr-2021**	28-Apr-2021	✓	**27-Apr-2021**	02-Jun-2021	✓
Soil Glass Jar - Unpreserved (EP068) 22/0.1, 24/0.2	**14-Apr-2021**	**27-Apr-2021**	28-Apr-2021	✓	**27-Apr-2021**	06-Jun-2021	✓
Soil Glass Jar - Unpreserved (EP068) 2/0.1, 10/0.4	**15-Apr-2021**	**23-Apr-2021**	29-Apr-2021	✓	**27-Apr-2021**	02-Jun-2021	✓
Soil Glass Jar - Unpreserved (EP068) 4/0.1, 6/0.1, 8/0.1	**16-Apr-2021**	**23-Apr-2021**	30-Apr-2021	✓	**27-Apr-2021**	02-Jun-2021	✓
EP075(SIM)A: Phenolic Compounds							
Soil Glass Jar - Unpreserved (EP075(SIM)) 12/0.25, 14/0.1, 16/0.1, 20/0.8	**13-Apr-2021**	**23-Apr-2021**	27-Apr-2021	✓	**27-Apr-2021**	02-Jun-2021	✓
Soil Glass Jar - Unpreserved (EP075(SIM)) 18/0.4	**14-Apr-2021**	**23-Apr-2021**	28-Apr-2021	✓	**27-Apr-2021**	02-Jun-2021	✓
Soil Glass Jar - Unpreserved (EP075(SIM)) 22/0.1, 24/0.2	**14-Apr-2021**	**27-Apr-2021**	28-Apr-2021	✓	**27-Apr-2021**	06-Jun-2021	✓
Soil Glass Jar - Unpreserved (EP075(SIM)) 2/0.1, 10/0.4	**15-Apr-2021**	**23-Apr-2021**	29-Apr-2021	✓	**27-Apr-2021**	02-Jun-2021	✓
Soil Glass Jar - Unpreserved (EP075(SIM)) 4/0.1, 6/0.1, 8/0.1	**16-Apr-2021**	**23-Apr-2021**	30-Apr-2021	✓	**27-Apr-2021**	02-Jun-2021	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons							
Soil Glass Jar - Unpreserved (EP075(SIM))							
3/0.4, 11/0.5, 12/0.25, 14/0.1, 15/0.7, 16/0.1, 17/0.25, 20/0.8	**13-Apr-2021**	**23-Apr-2021**	27-Apr-2021	✓	**27-Apr-2021**	02-Jun-2021	✓
Soil Glass Jar - Unpreserved (EP075(SIM))							
21/1.5	**13-Apr-2021**	**27-Apr-2021**	27-Apr-2021	✓	**27-Apr-2021**	06-Jun-2021	✓
Soil Glass Jar - Unpreserved (EP075(SIM))							
18/0.4, 19/0.4	**14-Apr-2021**	**23-Apr-2021**	28-Apr-2021	✓	**27-Apr-2021**	02-Jun-2021	✓
Soil Glass Jar - Unpreserved (EP075(SIM))							
22/0.1, 23/0.1, 24/0.2, 25/0.3	**14-Apr-2021**	**27-Apr-2021**	28-Apr-2021	✓	**27-Apr-2021**	06-Jun-2021	✓
Soil Glass Jar - Unpreserved (EP075(SIM))							
1/0.1, 2/0.1, 9/0.1, 10/0.4, 13/0.1	**15-Apr-2021**	**23-Apr-2021**	29-Apr-2021	✓	**27-Apr-2021**	02-Jun-2021	✓
Soil Glass Jar - Unpreserved (EP075(SIM))							
4/0.1, 5/0.1, 6/0.1, 7/0.2, 8/0.1	**16-Apr-2021**	**23-Apr-2021**	30-Apr-2021	✓	**27-Apr-2021**	02-Jun-2021	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP080/071: Total Petroleum Hydrocarbons							
Soil Glass Jar - Unpreserved (EP080)							
3/0.4, 11/0.5, 12/0.25, 14/0.1, 15/0.7, 16/0.1, 17/0.25, 20/0.8, 21/1.5	**13-Apr-2021**	**23-Apr-2021**	27-Apr-2021	✓	**27-Apr-2021**	27-Apr-2021	✓
Soil Glass Jar - Unpreserved (EP071)							
21/1.5	**13-Apr-2021**	**27-Apr-2021**	27-Apr-2021	✓	**27-Apr-2021**	06-Jun-2021	✓
Soil Glass Jar - Unpreserved (EP080)							
18/0.4, 19/0.4, 22/0.1, 23/0.1, 24/0.2, 25/0.3	**14-Apr-2021**	**23-Apr-2021**	28-Apr-2021	✓	**27-Apr-2021**	28-Apr-2021	✓
Soil Glass Jar - Unpreserved (EP071)							
22/0.1, 23/0.1, 24/0.2, 25/0.3	**14-Apr-2021**	**27-Apr-2021**	28-Apr-2021	✓	**27-Apr-2021**	06-Jun-2021	✓
Soil Glass Jar - Unpreserved (EP080)							
1/0.1, 2/0.1, 9/0.1, 10/0.4, 13/0.1	**15-Apr-2021**	**23-Apr-2021**	29-Apr-2021	✓	**27-Apr-2021**	29-Apr-2021	✓
Soil Glass Jar - Unpreserved (EP080)							
4/0.1, 5/0.1, 6/0.1, 7/0.2, 8/0.1	**16-Apr-2021**	**23-Apr-2021**	30-Apr-2021	✓	**27-Apr-2021**	30-Apr-2021	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions							
Soil Glass Jar - Unpreserved (EP080)							
3/0.4, 11/0.5, 12/0.25, 14/0.1, 15/0.7, 16/0.1, 17/0.25, 20/0.8, 21/1.5	**13-Apr-2021**	**23-Apr-2021**	27-Apr-2021	✓	**27-Apr-2021**	27-Apr-2021	✓
Soil Glass Jar - Unpreserved (EP071)							
21/1.5	**13-Apr-2021**	**27-Apr-2021**	27-Apr-2021	✓	**27-Apr-2021**	06-Jun-2021	✓
Soil Glass Jar - Unpreserved (EP080)							
18/0.4, 19/0.4, 22/0.1, 23/0.1, 24/0.2, 25/0.3	**14-Apr-2021**	**23-Apr-2021**	28-Apr-2021	✓	**27-Apr-2021**	28-Apr-2021	✓
Soil Glass Jar - Unpreserved (EP071)							
22/0.1, 23/0.1, 24/0.2, 25/0.3	**14-Apr-2021**	**27-Apr-2021**	28-Apr-2021	✓	**27-Apr-2021**	06-Jun-2021	✓
Soil Glass Jar - Unpreserved (EP080)							
1/0.1, 2/0.1, 9/0.1, 10/0.4, 13/0.1	**15-Apr-2021**	**23-Apr-2021**	29-Apr-2021	✓	**27-Apr-2021**	29-Apr-2021	✓
Soil Glass Jar - Unpreserved (EP080)							
4/0.1, 5/0.1, 6/0.1, 7/0.2, 8/0.1	**16-Apr-2021**	**23-Apr-2021**	30-Apr-2021	✓	**27-Apr-2021**	30-Apr-2021	✓
EP080: BTEXN							
Soil Glass Jar - Unpreserved (EP080)							
3/0.4, 11/0.5, 12/0.25, 14/0.1, 15/0.7, 16/0.1, 17/0.25, 20/0.8, 21/1.5	**13-Apr-2021**	**23-Apr-2021**	27-Apr-2021	✓	**27-Apr-2021**	27-Apr-2021	✓
Soil Glass Jar - Unpreserved (EP080)							
18/0.4, 19/0.4, 22/0.1, 23/0.1, 24/0.2, 25/0.3	**14-Apr-2021**	**23-Apr-2021**	28-Apr-2021	✓	**27-Apr-2021**	28-Apr-2021	✓
Soil Glass Jar - Unpreserved (EP080)							
1/0.1, 2/0.1, 9/0.1, 10/0.4, 13/0.1	**15-Apr-2021**	**23-Apr-2021**	29-Apr-2021	✓	**27-Apr-2021**	29-Apr-2021	✓
Soil Glass Jar - Unpreserved (EP080)							
4/0.1, 5/0.1, 6/0.1, 7/0.2, 8/0.1	**16-Apr-2021**	**23-Apr-2021**	30-Apr-2021	✓	**27-Apr-2021**	30-Apr-2021	✓

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)							
Electrical Conductivity (1:5)	EA010	1	3	**33.33**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Exchange Acidity by 1M Potassium Chloride	ED005	1	4	**25.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Exchangeable Cations	ED007	1	4	**25.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Moisture Content	EA055	4	40	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Organic Matter	EP004	1	7	**14.29**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	4	38	**10.53**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	2	18	**11.11**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
pH (1:5)	EA002	1	10	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
pH in soil using a 0.01M CaCl2 extract	EA001	1	3	**33.33**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	2	18	**11.11**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Soil Particle Density	EA152	0	2	**0.00**	**10.00**	×	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	4	40	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	4	40	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	4	38	**10.53**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	4	39	**10.26**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Electrical Conductivity (1:5)	EA010	1	3	**33.33**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Exchangeable Cations	ED007	1	4	**25.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Organic Matter	EP004	1	7	**14.29**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	2	38	**5.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	2	18	**11.11**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
pH (1:5)	EA002	2	10	**20.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
pH in soil using a 0.01M CaCl2 extract	EA001	2	3	**66.67**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	2	18	**11.11**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Soil Particle Density	EA152	1	2	**50.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	2	40	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	2	40	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	2	38	**5.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	2	39	**5.13**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Electrical Conductivity (1:5)	EA010	1	3	**33.33**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Exchange Acidity by 1M Potassium Chloride	ED005	1	4	**25.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Exchangeable Cations	ED007	1	4	**25.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Organic Matter	EP004	1	7	**14.29**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	2	38	**5.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	2	18	**11.11**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

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*	
Method Blanks (MB) - Continued							
Polychlorinated Biphenyls (PCB)	EP066	2	18	**11.11**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	2	40	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	2	40	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	2	38	**5.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	2	39	**5.13**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Organic Matter	EP004	1	7	**14.29**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	2	38	**5.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	2	18	**11.11**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	2	18	**11.11**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	2	40	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	2	40	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	2	38	**5.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	2	39	**5.13**	**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
pH in soil using a 0.01M CaCl2 extract	EA001	SOIL	In house: Referenced to Rayment and Lyons 4B3 (mod.) or 4B4 (mod.) 10 g of soil is mixed with 50 mL of 0.01M CaCl2 and tumbled end over end for 1 hour. pH is measured from the continuous suspension. This method is compliant with NEPM Schedule B(3).
pH (1:5)	EA002	SOIL	In house: Referenced to Rayment and Lyons 4A1 and APHA 4500H+. pH is determined on soil samples after a 1:5 soil/water leach. This method is compliant with NEPM Schedule B(3).
Electrical Conductivity (1:5)	EA010	SOIL	In house: Referenced to Rayment and Lyons 3A1 and APHA 2510. Conductivity is determined on soil samples using a 1:5 soil/water leach. This method is compliant with NEPM Schedule B(3).
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).
Particle Size Analysis by Hydrometer	EA150H	SOIL	Particle Size Analysis by Hydrometer according to AS1289.3.6.3
Soil Particle Density	EA152	SOIL	Soil Particle Density by AS 1289.3.5.1: Methods of testing soils for engineering purposes - Soil classification tests - Determination of the soil particle density of a soil - Standard method
Asbestos Identification in Soils	EA200	SOIL	AS 4964 Method for the qualitative identification of asbestos in bulk samples Analysis by Polarised Light Microscopy including dispersion staining
Exchange Acidity by 1M Potassium Chloride	* ED005	SOIL	In house: referenced to Rayment and Lyons, method 15G1. This method is unsuitable for near neutral and alkaline soils. NATA accreditation does not cover performance of this service.
Exchangeable Cations on Alkaline Soils	* ED006	SOIL	In house: Referenced to Soil Survey Test Method C5. Soluble salts are removed from the sample prior to analysis. Cations are exchanged from the sample by contact with alcoholic ammonium chloride at pH 8.5. They are then quantitated in the final solution by ICPAES and reported as meq/100g of original soil.
Exchangeable Cations	ED007	SOIL	In house: Referenced to Rayment & Lyons Method 15A1. Cations are exchanged from the sample by contact with Ammonium Chloride. They are then quantitated in the final solution by ICPAES and reported as meq/100g of original soil. This method is compliant with NEPM Schedule B(3).
Exchangeable Cations with pre-treatment	ED008	SOIL	In house: Referenced to Rayment & Lyons Method 15A2. Soluble salts are removed from the sample prior to analysis. Cations are exchanged from the sample by contact with Ammonium Chloride. They are then quantitated in the final solution by ICPAES and reported as meq/100g of original soil. 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 AS 3550, APHA 3112 Hg - B (Flow-injection (SnCl2) (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 SnCl2 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)
Organic Matter	EP004	SOIL	In house: Referenced to AS1289.4.1.1. Dichromate oxidation method after Walkley and Black. This method is compliant with NEPM Schedule B(3)

Analytical Methods	Method	Matrix	Method Descriptions
Polychlorinated Biphenyls (PCB)	EP066	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 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).
TRH - Semivolatile Fraction	EP071	SOIL	In house: Referenced to USEPA SW 846 - 8015 Sample extracts are analysed by Capillary GC/FID and quantified against alkane standards over the range C10 - C40. Compliant with NEPM Schedule B(3).
PAH/Phenols (SIM)	EP075(SIM)	SOIL	In house: Referenced to USEPA SW 846 - 8270. Extracts are analysed by Capillary GC/MS in Selective Ion Mode (SIM) and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3)
TRH Volatiles/BTEX	EP080	SOIL	In house: Referenced to USEPA SW 846 - 8260. Extracts are analysed by Purge and Trap, Capillary GC/MS. Quantification is by comparison against an established 5 point calibration curve. Compliant with NEPM Schedule B(3) amended.

Preparation Methods	Method	Matrix	Method Descriptions
pH in soil using a 0.01M CaCl2 extract	EA001-PR	SOIL	In house: Referenced to Rayment and Lyons 4B1, 10 g of soil is mixed with 50 mL of 0.01M CaCl2 and tumbled end over end for 1 hour. pH is measured from the continuous suspension. This method is compliant with NEPM Schedule B(3).
Exchangeable Cations Preparation Method (Alkaline Soils)	ED006PR	SOIL	In house: Referenced to Rayment and Lyons method 15C1.
Exchangeable Cations Preparation Method	ED007PR	SOIL	In house: Referenced to Rayment & Lyons method 15A1. A 1M NH4Cl extraction by end over end tumbling at a ratio of 1:20. There is no pretreatment for soluble salts. Extracts can be run by ICP for cations.
1:5 solid / water leach for soluble analytes	EN34	SOIL	10 g of soil is mixed with 50 mL of reagent grade water and tumbled end over end for 1 hour. Water soluble salts are leached from the soil by the continuous suspension. Samples are settled and the water filtered off for analysis.
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).
Organic Matter	EP004-PR	SOIL	In house: Referenced to AS1289.4.1.1. Dichromate oxidation method after Walkley and Black. This method is compliant with NEPM Schedule B(3).
Methanolic Extraction of Soils for Purge and Trap	ORG16	SOIL	In house: Referenced to USEPA SW 846 - 5030A. 5g of solid is shaken with surrogate and 10mL methanol prior to analysis by Purge and Trap - GC/MS.
Tumbler Extraction of Solids	ORG17	SOIL	In house: Mechanical agitation (tumbler). 10g of sample, Na2SO4 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.

SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order : **EB2110394**

Client	: **DOUGLAS PARTNERS PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	: ROB MULLER	Contact	: John Pickering
Address	: 439 MONTAGUE ROAD WEST END QLD, AUSTRALIA 4101	Address	: 2 Byth Street Stafford QLD Australia 4053
E-mail	: rob.muller@douglaspartners.com.au	E-mail	: john.pickering@alsglobal.com
Telephone	: ----	Telephone	: +61 7 3552 8634
Facsimile	: ----	Facsimile	: +61-7-3243 7218
Project	: 203033.01	Page	: 1 of 5
Order number	: 203033.01	Quote number	: EM2017DOUPAR0002 (EN/222)
C-O-C number	: ----	QC Level	: NEPM 2013 B3 & ALS QC Standard
Site	: ----		
Sampler	: SARAH McKAY		

Dates

Date Samples Received	: 20-Apr-2021 14:15	Issue Date	: 21-Apr-2021
Client Requested Due Date	: 30-Apr-2021	Scheduled Reporting Date	: **30-Apr-2021**

Delivery Details

Mode of Delivery	: Client Drop Off	Security Seal	: Not Available
No. of coolers/boxes	: 11	Temperature	: -1.3°<->23.1°C - Ice present
Receipt Detail	: MEDIUM ESKY	No. of samples received / analysed	: 90 / 37

General Comments

- This report contains the following information:
  - Sample Container(s)/Preservation Non-Compliances
  - Summary of Sample(s) and Requested Analysis
  - Proactive Holding Time Report
  - Requested Deliverables
- **Please be advised that for samples 18/0.4 and 19/0.4, Asbestos analysis as not been assigned as only one container was submitted for analysis. If you would like to proceed with this analysis, please contact client services at ALSEnviro.Brisabne@alsglobal.com**
- **SPLIT WORK ORDER: It should be noted that ALS has split this work order over the following work orders EB2110394 & EB2110706 due to the size of the sample numbers. For any further information regarding this processing of samples please contact ALS client services division on ALSEnviro.Brisbane@alsglobal.com**
- Discounted Package Prices apply only when specific ALS Group Codes ('W', 'S', 'NT' suites) are referenced on COCs.
- **Asbestos analysis will be conducted by ALS Environmental, Melbourne, NATA accreditation No. 825, Site No. 13778.**
- 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.**
- **Samples "S1<->S5 " has been forwarded to Eurofins , as requested. Please note that this will incur a freight forwarding fee.**
- Please be aware that APHA/NEPM recommends water and soil samples be chilled to less than or equal to 6°C for chemical analysis, and less than or equal to 10°C but unfrozen for Microbiological analysis. Where samples are received above this temperature, it should be taken into consideration when interpreting results. Refer to ALS EnviroMail 85 for ALS recommendations of the best practice for chilling samples after sampling and for maintaining a cool temperature during transit.

Sample Container(s)/Preservation Non-Compliances

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

- **No sample container / preservation non-compliance exists.**

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process necessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.
If no sampling time is provided, the sampling time will default 00:00 on the date of sampling. If no sampling date is provided, the sampling date will be assumed by the laboratory and displayed in brackets without a time component

Matrix: **SOIL**

Laboratory sample ID	Sampling date / time	Sample ID	(On Hold) SOIL No analysis requested	SOIL - EA055-103 Moisture Content	SOIL - EA200 Asbestos Identification in Soils -	SOIL - P-22 EB Only NEPM Screen for Soil Classification EB Only	SOIL - S-02 8 Metals (incl. Digestion)	SOIL - S-19 TRH/BTEXN/PAH/Ph/OC/OP/PCB/8 metals	SOIL - S-26 8 metals/TRH/BTEXN/PAH
EB2110394-001	15-Apr-2021 00:00	1/0.1		✓	✓				✓
EB2110394-002	15-Apr-2021 00:00	1/0.3	✓						
EB2110394-003	15-Apr-2021 00:00	1/0.7	✓						
EB2110394-004	15-Apr-2021 00:00	2/0.1		✓	✓			✓	
EB2110394-005	15-Apr-2021 00:00	2/0.5	✓						
EB2110394-006	15-Apr-2021 00:00	2/0.8	✓						
EB2110394-007	15-Apr-2021 00:00	2/1.2	✓						
EB2110394-008	15-Apr-2021 00:00	2/2.1	✓						
EB2110394-009	13-Apr-2021 00:00	3/0.3			✓				
EB2110394-010	13-Apr-2021 00:00	3/0.4		✓					✓
EB2110394-011	13-Apr-2021 00:00	3/1.7	✓						
EB2110394-012	13-Apr-2021 00:00	3/2.0	✓						
EB2110394-013	16-Apr-2021 00:00	4/0.1		✓	✓			✓	
EB2110394-014	16-Apr-2021 00:00	4/0.3	✓						
EB2110394-015	16-Apr-2021 00:00	5/0.1		✓	✓				✓
EB2110394-016	16-Apr-2021 00:00	6/0.1		✓	✓			✓	
EB2110394-017	16-Apr-2021 00:00	6/0.2	✓						
EB2110394-018	16-Apr-2021 00:00	6/0.5	✓						
EB2110394-019	16-Apr-2021 00:00	7/0.1			✓				
EB2110394-020	16-Apr-2021 00:00	7/0.2		✓					✓
EB2110394-021	16-Apr-2021 00:00	7/0.3	✓						
EB2110394-022	16-Apr-2021 00:00	7/0.5	✓						
EB2110394-023	16-Apr-2021 00:00	7/1.0	✓						
EB2110394-024	16-Apr-2021 00:00	8/0.1		✓	✓			✓	
EB2110394-025	16-Apr-2021 00:00	8/0.3	✓						
EB2110394-026	16-Apr-2021 00:00	8/0.7	✓						
EB2110394-027	15-Apr-2021 00:00	9/0.1		✓	✓				✓
EB2110394-028	15-Apr-2021 00:00	9/0.3	✓						
EB2110394-029	15-Apr-2021 00:00	9/0.5	✓						
EB2110394-030	15-Apr-2021 00:00	9/1.1		✓		✓	✓		
EB2110394-031	15-Apr-2021 00:00	10/0.1			✓				
EB2110394-032	15-Apr-2021 00:00	10/0.4		✓				✓	
EB2110394-033	15-Apr-2021 00:00	10/1.0	✓						
EB2110394-034	13-Apr-2021 00:00	11/0.1			✓				
EB2110394-035	13-Apr-2021 00:00	11/0.2	✓						

			(On Hold) SOIL No analysis requested	SOIL - EA055-103 Moisture Content	SOIL - EA200 Asbestos Identification in Soils -	SOIL - P-22 EB Only NEPM Screen for Soil Classification EB Only	SOIL - S-02 8 Metals (incl. Digestion)	SOIL - S-19 TRH/BTEXN/PAH/Ph/OC/OP/PCB/8 metals	SOIL - S-26 8 metals/TRH/BTEXN/PAH
EB2110394-036	13-Apr-2021 00:00	11/0.4	✓						
EB2110394-037	13-Apr-2021 00:00	11/0.5		✓					✓
EB2110394-038	13-Apr-2021 00:00	11/0.8	✓						
EB2110394-039	13-Apr-2021 00:00	11/1.5	✓						
EB2110394-040	13-Apr-2021 00:00	12/0.1			✓				
EB2110394-041	13-Apr-2021 00:00	12/0.25		✓				✓	
EB2110394-042	13-Apr-2021 00:00	12/0.5	✓						
EB2110394-043	13-Apr-2021 00:00	12/1.0	✓						
EB2110394-044	13-Apr-2021 00:00	12/1.5	✓						
EB2110394-045	15-Apr-2021 00:00	13/0.1		✓	✓				✓
EB2110394-046	15-Apr-2021 00:00	13/0.3	✓						
EB2110394-047	15-Apr-2021 00:00	13/0.8	✓						
EB2110394-048	13-Apr-2021 00:00	14/0.1		✓	✓			✓	
EB2110394-049	13-Apr-2021 00:00	14/0.5	✓						
EB2110394-050	13-Apr-2021 00:00	14/1.0	✓						
EB2110394-051	13-Apr-2021 00:00	14/1.5	✓						
EB2110394-052	13-Apr-2021 00:00	15/0.1			✓				
EB2110394-053	13-Apr-2021 00:00	15/0.2	✓						
EB2110394-054	13-Apr-2021 00:00	15/0.7		✓					✓
EB2110394-055	13-Apr-2021 00:00	15/1.1	✓						
EB2110394-056	13-Apr-2021 00:00	15/1.6	✓						
EB2110394-057	13-Apr-2021 00:00	16/0.1		✓	✓			✓	
EB2110394-058	13-Apr-2021 00:00	16/0.2	✓						
EB2110394-059	13-Apr-2021 00:00	16/0.6	✓						
EB2110394-060	13-Apr-2021 00:00	17/0.25		✓	✓				✓
EB2110394-061	13-Apr-2021 00:00	17/0.4	✓						
EB2110394-062	13-Apr-2021 00:00	17/1.0	✓						
EB2110394-063	14-Apr-2021 00:00	18/0.4		✓				✓	
EB2110394-064	14-Apr-2021 00:00	18/1.0	✓						
EB2110394-065	14-Apr-2021 00:00	18/1.5	✓						
EB2110394-066	14-Apr-2021 00:00	19/0.4		✓					✓
EB2110394-067	14-Apr-2021 00:00	19/1.0	✓						
EB2110394-068	14-Apr-2021 00:00	19/1.5	✓						
EB2110394-069	13-Apr-2021 00:00	20/0.15	✓						
EB2110394-070	13-Apr-2021 00:00	20/0.3			✓				
EB2110394-071	13-Apr-2021 00:00	20/0.5	✓						
EB2110394-072	13-Apr-2021 00:00	20/0.8		✓				✓	
EB2110394-073	13-Apr-2021 00:00	20/1.0	✓						
EB2110394-074	13-Apr-2021 00:00	20/1.7	✓						
EB2110394-075	13-Apr-2021 00:00	21/0.4			✓				
EB2110394-076	13-Apr-2021 00:00	21/0.6	✓						

			(On Hold) SOIL No analysis requested	SOIL - EA055-103 Moisture Content	SOIL - EA200 Asbestos Identification in Soils -	SOIL - P-22 EB Only NEPM Screen for Soil Classification EB Only	SOIL - S-02 8 Metals (incl. Digestion)	SOIL - S-19 TRH/BTEXN/PAH/Ph/OC/OP/PCB/8 metals	SOIL - S-26 8 metals/TRH/BTEXN/PAH
EB2110394-077	13-Apr-2021 00:00	21/1.5		✓					✓
EB2110394-078	14-Apr-2021 00:00	22/0.1		✓	✓			✓	
EB2110394-079	14-Apr-2021 00:00	22/0.5	✓						
EB2110394-080	14-Apr-2021 00:00	22/0.7	✓						
EB2110394-081	14-Apr-2021 00:00	22/1.4		✓		✓	✓		
EB2110394-082	14-Apr-2021 00:00	23/0.1		✓	✓				✓
EB2110394-083	14-Apr-2021 00:00	23/0.5	✓						
EB2110394-084	14-Apr-2021 00:00	23/1.4	✓						
EB2110394-085	14-Apr-2021 00:00	24/0.1			✓				
EB2110394-086	14-Apr-2021 00:00	24/0.2		✓				✓	
EB2110394-087	14-Apr-2021 00:00	24/0.5	✓						
EB2110394-088	14-Apr-2021 00:00	24/0.9	✓						
EB2110394-089	14-Apr-2021 00:00	25/0.1			✓				
EB2110394-090	14-Apr-2021 00:00	25/0.3		✓					✓

Proactive Holding Time Report

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

Requested Deliverables

ACCOUNTS BRISBANE

- A4 - AU Tax Invoice (INV)	Email	brisbane@douglaspartners.com.au

ACCOUNTS PAYABLE INVOICES

- A4 - AU Tax Invoice (INV)	Email	apinvoices@douglaspartners.com.au

ROB MULLER

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

SARAH McKAY

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

SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order : **EB2110394**

Client	: **DOUGLAS PARTNERS PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	: ROB MULLER	Contact	: John Pickering
Address	: 439 MONTAGUE ROAD WEST END QLD, AUSTRALIA 4101	Address	: 2 Byth Street Stafford QLD Australia 4053
E-mail	: rob.muller@douglaspartners.com.au	E-mail	: john.pickering@alsglobal.com
Telephone	: ----	Telephone	: +61 7 3552 8634
Facsimile	: ----	Facsimile	: +61-7-3243 7218
Project	: 203033.01	Page	: 1 of 5
Order number	: 203033.01	Quote number	: EM2017DOUPAR0002 (EN/222)
C-O-C number	: ----	QC Level	: NEPM 2013 B3 & ALS QC Standard
Site	: ----		
Sampler	: SARAH McKAY		

Dates

Date Samples Received	: 20-Apr-2021 14:15	Issue Date	: 22-Apr-2021
Client Requested Due Date	: 05-May-2021	Scheduled Reporting Date	: **05-May-2021**

Delivery Details

Mode of Delivery	: Client Drop Off	Security Seal	: Not Available
No. of coolers/boxes	: 11	Temperature	: -1.3°<->23.1°C - Ice present
Receipt Detail	: MEDIUM ESKY	No. of samples received / analysed	: 90 / 37

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
- **22/4/21: SRN has been resent to acknowledge the addition of anlalysis as per Rob Muller, please note that the reporting date has been updated to allow for this analysis. For any further information regarding these adjustments please contact client services at ALSEnviro.Brisbane@alsglobal.com.**
- **Please be advised that for samples 18/0.4 and 19/0.4, Asbestos analysis as not been assigned as only one container was submitted for analysis. If you would like to proceed with this analysis, please contact client services at ALSEnviro.Brisabne@alsglobal.com**
- **SPLIT WORK ORDER: It should be noted that ALS has split this work order over the following work orders EB2110394 & EB2110706 due to the size of the sample numbers. For any further information regarding this processing of samples please contact ALS client services division on ALSEnviro.Brisbane@alsglobal.com**
- Discounted Package Prices apply only when specific ALS Group Codes ('W', 'S', 'NT' suites) are referenced on COCs.
- **Asbestos analysis will be conducted by ALS Environmental, Melbourne, NATA accreditation No. 825, Site No. 13778.**
- 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.**
- **Samples "S1<->S5 " has been forwarded to Eurofins , as requested. Please note that this will incur a freight forwarding fee.**
- Please be aware that APHA/NEPM recommends water and soil samples be chilled to less than or equal to 6°C for chemical analysis, and less than or equal to 10°C but unfrozen for Microbiological analysis. Where samples are received above this temperature, it should be taken into consideration when interpreting results. Refer to ALS EnviroMail 85 for ALS recommendations of the best practice for chilling samples after sampling and for maintaining a cool temperature during transit.

Sample Container(s)/Preservation Non-Compliances

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

- **No sample container / preservation non-compliance exists.**

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process necessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.
If no sampling time is provided, the sampling time will default 00:00 on the date of sampling. If no sampling date is provided, the sampling date will be assumed by the laboratory and displayed in brackets without a time component

Matrix: **SOIL**

Laboratory sample ID	Sampling date / time	Sample ID	(On Hold) SOIL No analysis requested	SOIL - EA055-103 Moisture Content	SOIL - EA200 Asbestos Identification in Soils -	SOIL - P-22 EB Only NEPM Screen for Soil Classification EB Only	SOIL - S-02 8 Metals (incl. Digestion)	SOIL - S-19 TRH/BTEXN/PAH/Ph/OC/OP/PCB/8 metals	SOIL - S-26 8 metals/TRH/BTEXN/PAH
EB2110394-001	15-Apr-2021 00:00	1/0.1		✓	✓				✓
EB2110394-002	15-Apr-2021 00:00	1/0.3	✓						
EB2110394-003	15-Apr-2021 00:00	1/0.7	✓						
EB2110394-004	15-Apr-2021 00:00	2/0.1		✓	✓			✓	
EB2110394-005	15-Apr-2021 00:00	2/0.5	✓						
EB2110394-006	15-Apr-2021 00:00	2/0.8	✓						
EB2110394-007	15-Apr-2021 00:00	2/1.2	✓						
EB2110394-008	15-Apr-2021 00:00	2/2.1	✓						
EB2110394-009	13-Apr-2021 00:00	3/0.3			✓				
EB2110394-010	13-Apr-2021 00:00	3/0.4		✓					✓
EB2110394-011	13-Apr-2021 00:00	3/1.7	✓						
EB2110394-012	13-Apr-2021 00:00	3/2.0	✓						
EB2110394-013	16-Apr-2021 00:00	4/0.1		✓	✓			✓	
EB2110394-014	16-Apr-2021 00:00	4/0.3	✓						
EB2110394-015	16-Apr-2021 00:00	5/0.1		✓	✓				✓
EB2110394-016	16-Apr-2021 00:00	6/0.1		✓	✓			✓	
EB2110394-017	16-Apr-2021 00:00	6/0.2	✓						
EB2110394-018	16-Apr-2021 00:00	6/0.5	✓						
EB2110394-019	16-Apr-2021 00:00	7/0.1			✓				
EB2110394-020	16-Apr-2021 00:00	7/0.2		✓					✓
EB2110394-021	16-Apr-2021 00:00	7/0.3	✓						
EB2110394-022	16-Apr-2021 00:00	7/0.5	✓						
EB2110394-023	16-Apr-2021 00:00	7/1.0	✓						
EB2110394-024	16-Apr-2021 00:00	8/0.1		✓	✓			✓	
EB2110394-025	16-Apr-2021 00:00	8/0.3	✓						
EB2110394-026	16-Apr-2021 00:00	8/0.7	✓						
EB2110394-027	15-Apr-2021 00:00	9/0.1		✓	✓				✓
EB2110394-028	15-Apr-2021 00:00	9/0.3	✓						
EB2110394-029	15-Apr-2021 00:00	9/0.5	✓						
EB2110394-030	15-Apr-2021 00:00	9/1.1		✓		✓	✓		
EB2110394-031	15-Apr-2021 00:00	10/0.1			✓				
EB2110394-032	15-Apr-2021 00:00	10/0.4		✓				✓	
EB2110394-033	15-Apr-2021 00:00	10/1.0	✓						
EB2110394-034	13-Apr-2021 00:00	11/0.1			✓				
EB2110394-035	13-Apr-2021 00:00	11/0.2	✓						

			(On Hold) SOIL No analysis requested	SOIL - EA055-103 Moisture Content	SOIL - EA200 Asbestos Identification in Soils -	SOIL - P-22 EB Only NEPM Screen for Soil Classification EB Only	SOIL - S-02 8 Metals (incl. Digestion)	SOIL - S-19 TRH/BTEXN/PAH/Ph/OC/OP/PCB/8 metals	SOIL - S-26 8 metals/TRH/BTEXN/PAH
EB2110394-036	13-Apr-2021 00:00	11/0.4	✓						
EB2110394-037	13-Apr-2021 00:00	11/0.5		✓					✓
EB2110394-038	13-Apr-2021 00:00	11/0.8	✓						
EB2110394-039	13-Apr-2021 00:00	11/1.5	✓						
EB2110394-040	13-Apr-2021 00:00	12/0.1			✓				
EB2110394-041	13-Apr-2021 00:00	12/0.25		✓				✓	
EB2110394-042	13-Apr-2021 00:00	12/0.5	✓						
EB2110394-043	13-Apr-2021 00:00	12/1.0	✓						
EB2110394-044	13-Apr-2021 00:00	12/1.5	✓						
EB2110394-045	15-Apr-2021 00:00	13/0.1		✓	✓				✓
EB2110394-046	15-Apr-2021 00:00	13/0.3	✓						
EB2110394-047	15-Apr-2021 00:00	13/0.8	✓						
EB2110394-048	13-Apr-2021 00:00	14/0.1		✓	✓			✓	
EB2110394-049	13-Apr-2021 00:00	14/0.5	✓						
EB2110394-050	13-Apr-2021 00:00	14/1.0	✓						
EB2110394-051	13-Apr-2021 00:00	14/1.5	✓						
EB2110394-052	13-Apr-2021 00:00	15/0.1			✓				
EB2110394-053	13-Apr-2021 00:00	15/0.2	✓						
EB2110394-054	13-Apr-2021 00:00	15/0.7		✓					✓
EB2110394-055	13-Apr-2021 00:00	15/1.1	✓						
EB2110394-056	13-Apr-2021 00:00	15/1.6	✓						
EB2110394-057	13-Apr-2021 00:00	16/0.1		✓	✓			✓	
EB2110394-058	13-Apr-2021 00:00	16/0.2	✓						
EB2110394-059	13-Apr-2021 00:00	16/0.6	✓						
EB2110394-060	13-Apr-2021 00:00	17/0.25		✓	✓				✓
EB2110394-061	13-Apr-2021 00:00	17/0.4	✓						
EB2110394-062	13-Apr-2021 00:00	17/1.0	✓						
EB2110394-063	14-Apr-2021 00:00	18/0.4		✓	✓			✓	
EB2110394-064	14-Apr-2021 00:00	18/1.0	✓						
EB2110394-065	14-Apr-2021 00:00	18/1.5	✓						
EB2110394-066	14-Apr-2021 00:00	19/0.4		✓	✓				✓
EB2110394-067	14-Apr-2021 00:00	19/1.0	✓						
EB2110394-068	14-Apr-2021 00:00	19/1.5	✓						
EB2110394-069	13-Apr-2021 00:00	20/0.15	✓						
EB2110394-070	13-Apr-2021 00:00	20/0.3			✓				
EB2110394-071	13-Apr-2021 00:00	20/0.5	✓						
EB2110394-072	13-Apr-2021 00:00	20/0.8		✓				✓	
EB2110394-073	13-Apr-2021 00:00	20/1.0	✓						
EB2110394-074	13-Apr-2021 00:00	20/1.7	✓						
EB2110394-075	13-Apr-2021 00:00	21/0.4			✓				
EB2110394-076	13-Apr-2021 00:00	21/0.6	✓						

			(On Hold) SOIL No analysis requested	SOIL - EA055-103 Moisture Content	SOIL - EA200 Asbestos Identification in Soils -	SOIL - P-22 EB Only NEPM Screen for Soil Classification EB Only	SOIL - S-02 8 Metals (incl. Digestion)	SOIL - S-19 TRH/BTEXN/PAH/Ph/OC/OP/PCB/8 metals	SOIL - S-26 8 metals/TRH/BTEXN/PAH
EB2110394-077	13-Apr-2021 00:00	21/1.5		✓					✓
EB2110394-078	14-Apr-2021 00:00	22/0.1		✓	✓			✓	
EB2110394-079	14-Apr-2021 00:00	22/0.5	✓						
EB2110394-080	14-Apr-2021 00:00	22/0.7	✓						
EB2110394-081	14-Apr-2021 00:00	22/1.4		✓		✓	✓		
EB2110394-082	14-Apr-2021 00:00	23/0.1		✓	✓				✓
EB2110394-083	14-Apr-2021 00:00	23/0.5	✓						
EB2110394-084	14-Apr-2021 00:00	23/1.4	✓						
EB2110394-085	14-Apr-2021 00:00	24/0.1			✓				
EB2110394-086	14-Apr-2021 00:00	24/0.2		✓				✓	
EB2110394-087	14-Apr-2021 00:00	24/0.5	✓						
EB2110394-088	14-Apr-2021 00:00	24/0.9	✓						
EB2110394-089	14-Apr-2021 00:00	25/0.1			✓				
EB2110394-090	14-Apr-2021 00:00	25/0.3		✓					✓

Proactive Holding Time Report

The following table summarises breaches of recommended holding times that have occurred prior to samples/instructions being received at the laboratory.

Matrix: **SOIL** Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method **Client Sample ID(s)**	**Container**	**Due for extraction**	**Due for analysis**	**Samples Received**		**Instructions Received**	
				Date	**Evaluation**	**Date**	**Evaluation**
EA001: pH in soil using a 0.01M CaCl2 extract							
22/1.4	Soil Glass Jar - Unpreserved	21-Apr-2021	22-Apr-2021	20-Apr-2021	✓	22-Apr-2021	×
EA002: pH (1:5)							
22/1.4	Soil Glass Jar - Unpreserved	21-Apr-2021	22-Apr-2021	20-Apr-2021	✓	22-Apr-2021	×
EA010: Electrical Conductivity (1:5)							
22/1.4	Soil Glass Jar - Unpreserved	21-Apr-2021	20-May-2021	20-Apr-2021	✓	22-Apr-2021	×

Requested Deliverables

ACCOUNTS BRISBANE

- A4 - AU Tax Invoice (INV)	Email	brisbane@douglaspartners.com.au

ACCOUNTS PAYABLE INVOICES

- A4 - AU Tax Invoice (INV)	Email	apinvoices@douglaspartners.com.au

ROB MULLER

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

SARAH McKAY

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

CHAIN OF CUSTODY

ALS Laboratory: please tick →

☐ADELAIDE 3/1 Burma Road Pooraka SA 5095 Ph: 08 8162 5130 E: adelaide@alsglobal.com

☐BRISBANE 2 Byth Street Stafford QLD 4053 Ph: 07 3243 7222 E: samples.brisbane@alsglobal.com

☐GLADSTONE 46 Callemondah Drive Gladstone QLD 4680 Ph: 07 4978 7944 E: ALSEnviro.Gladstone@alsglobal.com

☐MACKAY Unit 2/20 Caterpillar Drive Paget QLD 4740 Ph: 07 4952 5795 E: ALSEnviro.Mackay@alsglobal.com

☐MELBOURNE 2-4 Westall Road Springvale VIC 3171 Ph: 03 8549 9600 E: samples.melbourne@alsglobal.com

☐MUDGEE 1/29 Sydney Road Mudgee NSW 2850 Ph: 02 6372 6735 E: mudgee mail@alsglobal.com

☐NEWCASTLE 5/585 Maitland Road Mayfield West NSW 2304 Ph: 02 4014 2500 E: samples.newcastle@alsglobal.com

☐NOWRA 4/13 Geary Place North Nowra NSW 2541 Ph: 02 4423 2063 E: nowra@alsglobal.com

☐PERTH 10 Hod Way Malaga WA 6090 Ph: 08 9209 7655 E: samples.perth@alsglobal.com

☐SYDNEY 277-289 Woodpark Road Smithfield NSW 2164 Ph: 02 8784 8555 E: samples.sydney@alsglobal.com

☐TOWNSVILLE 14-15 Desma Court Bohle QLD 4818 Ph: 07 4796 0600 E: ALSEnviro.Townsville@alsglobal.com

☐WOLLONGONG 1/19-21 Ralph Black Drive, Nth Wollongong NSW 2500 Ph: 02 4225 3125 E: wollongong@alsglobal.com

CLIENT: Douglas Partners	TURNAROUND REQUIREMENTS: (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☑ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)
OFFICE: 439 Monkuque Rd West		☐ Non Standard or urgent TAT (List due date):	Custody seal intact? N/A
PROJECT: 203033.01 / 203303.01 PROJECT NO.:	ALS QUOTE NO.:	COC SEQUENCE NUMBER (Circle) COC: 1 2 3 4 5 6 7 OF: 1 2 3 4 5 6 7	Free ice / cold packs present? N/A
ORDER NUMBER: PURCHASE ORDER NO.:	COUNTRY OF ORIGIN:		Random Sample Temperature on Receipt?
PROJECT MANAGER: Sarah McKay c/o Paul Barfield	CONTACT PH: 0		Other comments:
SAMPLER:	SAMPLER MOBILE: 0428769065	RELINQUISHED BY: S.M	RECEIVED BY: K. Beaton
COC Emailed to ALS? (YES / NO)	EDD FORMAT (or default):	DATE/TIME: 16.04.21	DATE/TIME: 16/4/21 1827
Email Reports to (will default to PM if no other addresses are listed): sarah.mckay@douglaspartners.com.au			RELINQUISHED BY: DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): brisbane@douglaspartners.com.au			

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

Environmental Division Brisbane
Work Order Reference
EB2110394

Telephone : +61-7-3243 7222

ALS USE ONLY	SAMPLE DETAILS MATRIX: Solid(S) Water(W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered)								
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL BOTTLES									Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
				I will email it through										
	31 locations													
	5 boreholes													
	4 acid sulfate soil locations				1									
				TOTAL										

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag; LI = Lugols Iodine Preserved Bottles; STT = Sterile Sodium Thiosulfate Preserved Bottles.

CHAIN OF CUSTODY

ALS Laboratory: please tick →

☐ Sydney: 277 Woodpark Rd, Smithfield NSW 2176 Ph: 02 8784 8555 E: samples.sydney@alsenviro.com
☐ Newcastle: 5 Rosegum Rd, Warabrook NSW 2304 Ph: 02 4968 9433 E: samples.newcastle@alsenviro.com
☐ Brisbane: 32 Shand St, Stafford QLD 4053 Ph: 07 3243 7222 E: samples.brisbane@alsenviro.com
☐ Townsville: 14-15 Desma Ct, Bohle QLD 4818 Ph: 07 4796 0600 E: townsville.environmental@alsenviro.com
☐ Melbourne: 2-4 Westall Rd, Springvale VIC 3171 Ph: 03 8549 9600 E: samples.melbourne@alsenviro.com
☐ Adelaide: 2-4 Burma Rd, Pooraka SA 5095 Ph: 08 8359 0890 E: adelaide@alsenviro.com
☐ Perth: 10 Hod Way, Malaga WA 6090 Ph: 08 9209 7655 E: samples.perth@alsenviro.com
☐ Launceston: 27 Wellington St, Launceston TAS 7250 Ph: 03 6331 2158 E: launceston@alsenviro.com

30/4 (1)

CLIENT:	Douglas Partners Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g. Ultra Trace Organics)	☒ Standard TAT (List due date): ☐ Non Standard or urgent TAT (List due date):
OFFICE:	439 Montague Road, West End Qld 4101		
PROJECT:	203033.01 (may also be written as 203303.01 on some jars- my bad)	ALS QUOTE NO.:	
ORDER NUMBER:			
PROJECT MANAGER:	Rob Muller	CONTACT PH: (+61)417544122	
SAMPLER:	Sarah McKay	SAMPLER MOBILE: 428769065	
COC emailed to ALS? (YES / NO)		EDD FORMAT (or default):	
Email Reports to (will default to PM if no other addresses are listed):		sarah.mckay@douglaspartners.com.au	
Email Invoice to (will default to PM if no other addresses are listed):		brisbane@douglaspartners.com.au	

COC SEQUENCE NUMBER (Circle)

COC: 1 2 3 4 5 6 7

OF: 1 2 3 4 5 6 7

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY
Sarah McKay		
DATE/TIME: 16.04.2021	DATE/TIME:	DATE/TIME:

FOR LABORATORY USE ONLY (Circle)

Custody Seal Intact? / Free ice / frozen receipt? / Random Sample Temp / Other comment:

Environmental Division
Brisbane
Work Order Reference
EB2110394

Telephone : +61-7-3243 7222

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE ONLY	SAMPLE DETAILS MATRIX: Solid(S) Water(W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle requ							Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL BOTTLES	S-26	S-19	pHf and pHfox (Test Field Screen)	P22 and S-2	S-18	EA200	HOLD	
1	1/0.1	15.04.2021	S	Jar +Bag	2	X					X		X fast field screen
2	1/0.3	15.04.2021	S	Jar	1							X	for pHf & pHfox.
3	1/0.7	15.04.2021	S	Jar	1							X	
4	2/0.1	15.04.2021	S	Jar +Bag	1	X	X				X		
5	2/0.5	15.04.2021	S	Jar	1							X	
6	2/0.8	15.04.2021	S	Jar	1							X	
7	2/1.2	15.04.2021	S	Jar	1							X	
8	2/2.1	15.04.2021	S	Jar	1							X	
9	3/0.3	13.04.2021	S	Jar+Bag	1						X		
10	3/0.4	13.04.2021	S	Jar	1	X						X	
11	3/1.7	13.04.2021	S	Jar								X	
12	3/2.0	13.04.2021	S	Jar								X	
13	4/0.1	16.04.2021	S	Jar+Bag			X				X		
14	4/0.3	16.04.2021	S	Jar								X	
15	5/0.1	16.04.2021	S	Jar+Bag		X					X		

SPLIT BATCH
Test
Assoc. Batch No.
EB2110706

CHAIN OF CUSTODY

ALS Laboratory: please tick →

☐ Sydney: 277 Woodpark Rd, Smithfield NSW 2176 Ph: 02 8784 8555 E:samples.sydney@alsenviro.com
☐ Newcastle: 5 Rosegum Rd, Warabrook NSW 2304 Ph:02 4968 9433 E:samples.newcastle@alsenviro.com
☐ Brisbane: 32 Shand St, Stafford QLD 4053 Ph:07 3243 7222 E:samples.brisbane@alsenviro.com
☐ Townsville: 14-15 Desma Ct, Bohle QLD 4818 Ph:07 4796 0600 E: townsville.enquiries@alsenviro.com
☐ Melbourne: 2-4 Westall Rd, Springvale VIC 3171 Ph 03 8549 9600 E: samples.melbourne@alsenviro.com
☐ Adelaide: 2-1 Burma Rd, Pooraka SA 5095 Ph: 08 8359 0890 E: adelaide@alsenviro.com
☐ Perth: 10 Hod Way, Malaga WA 6090 Ph: 08 9209 7655 E: samples.perth@alsenviro.com
☐ Launceston: 27 Wellington St, Launceston TAS 7250 Ph: 03 6331 2158 E: launceston@alsenviro.com

2

CLIENT:	Douglas Partners Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☒ Standard TAT (List due date): ☐ Non Standard or urgent TAT (List due date):
OFFICE:	439 Montague Road, West End Qld 4101		
PROJECT:	203033.01 (may also be written as 203303.01 on some jars- my bad)	ALS QUOTE NO.:	
ORDER NUMBER:			
PROJECT MANAGER:	Rob Muller	CONTACT PH: (+61)417544122	
SAMPLER:	Sarah McKay	SAMPLER MOBILE: 428769065	
COC emailed to ALS? (YES / NO)		EDD FORMAT (or default):	
Email Reports to (will default to PM if no other addresses are listed):		sarah.mckay@douglaspartners.com.au	
Email Invoice to (will default to PM if no other addresses are listed):		brisbane@douglaspartners.com.au	

COC SEQUENCE NUMBER (Circle)

COC: 1 2 3 4 5 6 7

OF: 1 2 3 4 5 6 7

FOR LABORATORY USE ONLY (Circle)

Custody Seal Intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comment:

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Sarah McKay			
DATE/TIME: 16.04.2021	DATE/TIME:	DATE/TIME:	DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE ONLY	SAMPLE DETAILS MATRIX: Solid(S) Water(W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL BOTTLES	S-26	S-19	pH and pHfox (Field Screen)	P22 and S-2	S-18	EA200	HOLD		Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
16	6/0.1	16.04.2021	S	Jar+Bag			X				X			
17	6/0.2	16.04.2021	S	Jar								X		
18	6/0.5	16.04.2021	S	Jar								X		
19	7/0.1	16.04.2021	S	Jar+Bag							X			
20	7/0.2	16.04.2021	S	Jar		X								
21	7/0.3	16.04.2021	S	Jar								X		
22	7/0.5	16.04.2021	S	Jar								X		
23	7/1.0	16.04.2021	S	Jar								X		
24	8/0.1	16.04.2021	S	Jar+Bag			X				X			
25	8/0.3	16.04.2021	S	Jar								X		
26	8/0.7	16.04.2021	S	Jar								X		
27	9/0.1	15.04.2021	S	Jar+Bag		X					X			
28	9/0.3	15.04.2021	S	Jar								X		
29	9/0.5	15.04.2021	S	Jar								X		
30	9/1.1	15.04.2021	S	Jar					X					

CHAIN OF CUSTODY

ALS Laboratory: please tick →

☐ Sydney: 277 Woodpark Rd, Smithfield NSW 2176 Ph: 02 8784 8555 E:samples.sydney@alsenviro.com
☐ Newcastle: 5 Rosegum Rd, Warabrook NSW 2304 Ph:02 4968 9433 E:samples.newcastle@alsenviro.com
☐ Brisbane: 32 Shand St, Stafford QLD 4053 Ph 07 3243 7222 E samples.brisbane@alsenviro.com
☐ Townsville: 14-15 Desma Ct, Bohle QLD 4818 Ph:07 4796 0600 E: townsville.environmental@alsenviro.com
☐ Melbourne: 2-4 Westall Rd, Springvale VIC 3171 Ph 03 8549 9600 E: samples.melbourne@alsenviro.com
☐ Adelaide: 2-1 Burma Rd, Pooraka SA 5095 Ph: 08 8359 0890 E:adelaide@alsenviro.com
☐ Perth: 10 Hod Way, Malaga WA 6090 Ph: 08 9209 7655 E: samples.perth@alsenviro.com
☐ Launceston: 27 Wellington St, Launceston TAS 7250 Ph: 03 6331 2158 E: launceston@alsenviro.com

3

CLIENT:	Douglas Partners Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g. Ultra Trace Organics)	☒ Standard TAT (List due date): ☐ Non Standard or urgent TAT (List due date):
OFFICE:	439 Montague Road, West End Qld 4101		FOR LABORATORY USE ONLY (Circle): Custody Seal Intact? Yes No N/A
PROJECT:	203033.01 (may also be written as 203303.01 on some jars- my bad)	ALS QUOTE NO.:	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER:			COC SEQUENCE NUMBER (Circle): COC: 1 2 3 4 5 6 7 OF: 1 2 3 4 5 6 7
PROJECT MANAGER:	Rob Muller	CONTACT PH: (+61)417544122	Random Sample Temperature on Receipt: °C
SAMPLER:	Sarah McKay	SAMPLER MOBILE: 428769065	Other comment:
COC emailed to ALS? (YES / NO)		EDD FORMAT (or default):	
Email Reports to (will default to PM if no other addresses are listed):	sarah.mckay@douglaspartners.com.au		
Email Invoice to (will default to PM if no other addresses are listed):	brisbane@douglaspartners.com.au		

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Sarah McKay			
DATE/TIME: 16.04.2021	DATE/TIME:	DATE/TIME:	DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE ONLY	SAMPLE DETAILS MATRIX: Solid(S) Water(W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL BOTTLES	S-26	S-19	pHf and pHfox	P22 and S-2	S-18	EA200	HOLD		Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
31	10/0.1	15.04.2021	S	Jar+Bag			X				X			
32	10/0.4	15.04.2021	S	Jar			X							
33	10/1.0	15.04.2021	S	Jar								X		
34	11/0.1	13.04.2021	S	Jar+Bag							X			
35	11/0.2	13.04.2021	S	Jar								X		
36	11/0.4	13.04.2021	S	Jar								X		
37	11/0.5	13.04.2021	S	Jar		X								
38	11/0.8	13.04.2021	S	Jar								X		
39	11/1.5	13.04.2021	S	Jar								X		
40	12/0.1	13.04.2021	S	Jar+Bag							X			
41	12/0.25	13.04.2021	S	Jar			X							
42	12/0.5	13.04.2021	S	Jar								X		
43	12/1.0	13.04.2021	S	Jar								X		
44	12/1.5	13.04.2021	S	Jar								X		
45	13/0.1	15.04.2021	S	Jar+Bag		X					X			

CHAIN OF CUSTODY

ALS Laboratory: please tick →

☐ Sydney: 277 Woodpark Rd, Smithfield NSW 2176 Ph: 02 8784 8555 E: samples.sydney@alsenviro.com
☐ Newcastle: 5 Rosegum Rd, Warabrook NSW 2304 Ph: 02 4968 9433 E: samples.newcastle@alsenviro.com
☐ Brisbane: 32 Shand St, Stafford QLD 4053 Ph: 07 3243 7222 E: samples.brisbane@alsenviro.com
☐ Townsville: 14-15 Desma Ct, Bohle QLD 4818 Ph: 07 4796 0600 E: townsville.environmental@alsenviro.com
☐ Melbourne: 2-4 Westall Rd, Springvale VIC 3171 Ph: 03 8549 9600 E: samples.melbourne@alsenviro.com
☐ Adelaide: 2-1 Burma Rd, Pooraka SA 5095 Ph: 08 8359 0890 E: adelaide@alsenviro.com
☐ Perth: 10 Hod Way, Malaga WA 6090 Ph: 08 9209 7655 E: samples.perth@alsenviro.com
☐ Launceston: 27 Wellington St, Launceston TAS 7250 Ph: 03 6331 2158 E: launceston@alsenviro.com

4

CLIENT:	Douglas Partners Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☒ Standard TAT (List due date): ☐ Non Standard or urgent TAT (List due date):
OFFICE:	439 Montague Road, West End Qld 4101		
PROJECT:	203033.01 (may also be written as 203303.01 on some jars- my bad)	ALS QUOTE NO.:	
ORDER NUMBER:			
PROJECT MANAGER:	Rob Muller	CONTACT PH: (+61)417544122	
SAMPLER:	Sarah McKay	SAMPLER MOBILE: 428769065	
COC emailed to ALS? (YES / NO)		EDD FORMAT (or default):	
Email Reports to (will default to PM if no other addresses are listed):		sarah.mckay@douglaspartners.com.au	
Email Invoice to (will default to PM if no other addresses are listed):		brisbane@douglaspartners.com.au	

COC SEQUENCE NUMBER (Circle)
COC: 1 2 3 4 5 6 7
OF: 1 2 3 4 5 6 7

FOR LABORATORY USE ONLY (Circle)
Custody Seal Intact? Yes No N/A
Free Ice / frozen ice bricks present upon receipt? Yes No N/A
Random Sample Temperature on Receipt: °C
Other comment:

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Sarah McKay			
DATE/TIME: 16.04.2021	DATE/TIME:	DATE/TIME:	DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE ONLY	SAMPLE DETAILS MATRIX: Solid(S) Water(W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).							Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL BOTTLES	S-26	S-19	pHf and pHfox	P22 and S-2	S-18	EA200	HOLD	Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
46	13/0.3	15.04.2021	S	Jar								X	
47	13/0.8	15.04.2021	S	Jar								X	
48	14/0.1	13.04.2021	S	Jar+Bag		X	X				X		
49	14/0.5	13.04.2021	S	Jar								X	
50	14/1.0	13.04.2021	S	Jar								X	
51	14/1.5	13.04.2021	S	Jar								X	
52	15/0.1	13.04.2021	S	Jar+Bag							X	X	
53	15/0.2	13.04.2021	S	Jar								X	
54	15/0.7	13.04.2021	S	Jar~~+Bag~~		X							
55	15/1.1	13.04.2021	S	Jar								X	
56	15/1.6	13.04.2021	S	Jar								X	
57	16/0.1	13.04.2021	S	Jar+Bag			X				X		
58	16/0.2	13.04.2021	S	Jar								X	
59	16/0.6	13.04.2021	S	Jar								X	
60	17/0.25	13.04.2021	S	Jar+Bag		X					X		

CHAIN OF CUSTODY

ALS Laboratory: please tick →

☐ Sydney: 277 Woodpark Rd, Smithfield NSW 2176 Ph: 02 8784 8555 E: samples.sydney@alsenviro.com
☐ Newcastle: 5 Rosegum Rd, Warabrook NSW 2304 Ph: 02 4968 9433 E: samples.newcastle@alsenviro.com
☐ Brisbane: 32 Shand St, Stafford QLD 4053 Ph: 07 3243 7222 E: samples.brisbane@alsenviro.com
☐ Townsville: 14-15 Desma Ct, Bohle QLD 4818 Ph: 07 4796 0600 E: townsville.environmental@alsenviro.com
☐ Melbourne: 2-4 Westall Rd, Springvale VIC 3171 Ph: 03 8549 9600 E: samples.melbourne@alsenviro.com
☐ Adelaide: 2-1 Burma Rd, Pooraka SA 5095 Ph: 08 8359 0890 E: adelaide@alsenviro.com
☐ Perth: 10 Hod Way, Malaga WA 6090 Ph: 08 9209 7655 E: samples.perth@alsenviro.com
☐ Launceston: 27 Wellington St, Launceston TAS 7250 Ph: 03 6331 2158 E: launceston@alsenviro.com

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CLIENT:	Douglas Partners Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☒ Standard TAT (List due date): ☐ Non Standard or urgent TAT (List due date):
OFFICE:	439 Montague Road, West End Qld 4101		
PROJECT:	203033.01 (may also be written as 203303.01 on some jars- my bad)	ALS QUOTE NO.:	
ORDER NUMBER:			
PROJECT MANAGER:	Rob Muller	CONTACT PH: (+61)417544122	
SAMPLER:	Sarah McKay	SAMPLER MOBILE: 428769065	
COC emailed to ALS? (YES / NO)		EDD FORMAT (or default):	
Email Reports to (will default to PM if no other addresses are listed):	sarah.mckay@douglaspartners.com.au		
Email Invoice to (will default to PM if no other addresses are listed):	brisbane@douglaspartners.com.au		

COC SEQUENCE NUMBER (Circle)
COC: 1 2 3 4 5 6 7
OF: 1 2 3 4 5 6 7

FOR LABORATORY USE ONLY (Circle)
Custody Seal Intact? Yes No N/A
Free ice / frozen ice bricks present upon receipt? Yes No N/A
Random Sample Temperature on Receipt: °C
Other comment:

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Sarah McKay			
DATE/TIME: 16.04.2021	DATE/TIME:	DATE/TIME:	DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE ONLY	SAMPLE DETAILS MATRIX: Solid(S) Water(W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).							Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL BOTTLES	S-26	S-19	pHf and pHfox	P22 and S-2	S-18	EA200	HOLD	Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
6	17/0.4	13.04.2021	S	Jar								X	
62	17/1.0	13.04.2021	S	Jar								X	
63	18/0.4	14.04.2021	S	Jar+Bag			X				X		
64	18/1.0	14.04.2021	S	Jar								X	
65	18/1.5	14.04.2021	S	Jar								X	
66	19/0.4	14.04.2021	S	Jar+Bag		X	X				X		
67	19/1.0	14.04.2021	S	Jar								X	
68	19/1.5	14.04.2021	S	Jar								X	
69	20/0.15	13.04.2021	S	Jar								X	
70	20/0.3	13.04.2021	S	Jar+Bag							X		
71	20/0.5	13.04.2021	S	Jar								X	
72	20/0.8	13.04.2021	S	Jar			X						
73	20/1.0	13.04.2021	S	Jar								X	
74	20/1.7	13.04.2021	S	Jar								X	
75	21/0.4	13.04.2021	S	Jar+Bag							X		

CHAIN OF CUSTODY

ALS Laboratory: please tick →

☐ Sydney: 277 Woodpark Rd, Smithfield NSW 2176 Ph: 02 9784 8555 E: samples.sydney@alsenviro.com
☐ Newcastle: 5 Rosegum Rd, Warabrook NSW 2304 Ph: 02 4968 9433 E: samples.newcastle@alsenviro.com
☐ Brisbane: 32 Shand St, Stafford QLD 4053 Ph: 07 3243 7222 E: samples.brisbane@alsenviro.com
☐ Townsville: 14-15 Desma Ct, Bohle QLD 4818 Ph: 07 4796 0600 E: townsville.environmental@alsenviro.com
☐ Melbourne: 2-4 Westall Rd, Springvale VIC 3171 Ph: 03 8549 9600 E: samples.melbourne@alsenviro.com
☐ Adelaide: 2-4 Burma Rd, Pooraka SA 5095 Ph: 08 8359 0890 E: adelaide@alsenviro.com
☐ Perth: 10 Hod Way, Malaga WA 6090 Ph: 08 9209 7655 E: samples.perth@alsenviro.com
☐ Launceston: 27 Wellington St, Launceston TAS 7250 Ph: 03 6331 2158 E: launceston@alsenviro.com

6

CLIENT:	Douglas Partners Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g. Ultra Trace Organics)	☒ Standard TAT (List due date): ☐ Non Standard or urgent TAT (List due date):
OFFICE:	439 Montague Road, West End Qld 4101		
PROJECT:	203033.01 (may also be written as 203303.01 on some jars- my bad)	ALS QUOTE NO.:	
ORDER NUMBER:			
PROJECT MANAGER:	Rob Muller	CONTACT PH: (+61)417544122	
SAMPLER:	Sarah McKay	SAMPLER MOBILE: 428769065	
COC emailed to ALS? (YES / NO)		EDD FORMAT (or default):	
Email Reports to (will default to PM if no other addresses are listed):	sarah.mckay@douglaspartners.com.au		
Email Invoice to (will default to PM if no other addresses are listed):	brisbane@douglaspartners.com.au		

COC SEQUENCE NUMBER (Circle)
COC: 1 2 3 4 5 6 7
OF: 1 2 3 4 5 6 7

FOR LABORATORY USE ONLY (Circle)
Custody Seal Intact? Yes No N/A
Free ice / frozen ice bricks present upon receipt? Yes No N/A
Random Sample Temperature on Receipt: °C
Other comment:

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Sarah McKay			
DATE/TIME: 16.04.2021	DATE/TIME:	DATE/TIME:	DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE ONLY	SAMPLE DETAILS MATRIX: Solid(S) Water(W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL BOTTLES	S-26	S-19	pHf and pHfox	P22 and S-2	S-18	EA200	HOLD		Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc
76	21/0.6	13.04.2021	S	Jar								X		
77	21/1.5	13.04.2021	S	Jar		X								
78	22/0.1	14.04.2021	S	Jar+Bag			X							
79	22/0.5	14.04.2021	S	Jar							X			
80	22/0.7	14.04.2021	S	Jar								X		
81	22/1.4	14.04.2021	S	Jar					X			X		
82	23/0.1	14.04.2021	S	Jar+Bag		X								
83	23/0.5	14.04.2021	S	Jar							X			
84	23/1.4	14.04.2021	S	Jar								X		
85	24/0.1	14.04.2021	S	Jar+Bag								X		
86	24/0.2	14.04.2021	S	Jar							X			
87	24/0.5	14.04.2021	S	Jar			X							
88	24/0.9	14.04.2021	S	Jar								X		
89	25/0.1	14.04.2021	S	Jar+Bag								X		
90	25/0.3	14.04.2021	S	Jar		X								

ALS Environmental

CERTIFICATE OF ANALYSIS

Work Order	: **EB2110706**	Page	: 1 of 36
Client	: **DOUGLAS PARTNERS PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	: ROB MULLER	Contact	: John Pickering
Address	: 439 MONTAGUE ROAD WEST END QLD, AUSTRALIA 4101	Address	: 2 Byth Street Stafford QLD Australia 4053
Telephone	: ----	Telephone	: +61 7 3552 8634
Project	: 203033.01	Date Samples Received	: 20-Apr-2021 14:15
Order number	: 203033.01	Date Analysis Commenced	: 22-Apr-2021
C-O-C number	: ----	Issue Date	: 05-May-2021 16:50
Sampler	: SARAH McKAY		
Site	: ----		
Quote number	: EN/222		
No. of samples received	: 82		
No. of samples analysed	: 56		

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
- Descriptive Results
- Surrogate Control Limits

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

Signatories

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

Signatories	*Position*	*Accreditation Category*
Ben Felgendrejeris	Senior Acid Sulfate Soil Chemist	Brisbane Acid Sulphate Soils, Stafford, QLD
Mark Hallas	Senior Inorganic Chemist	Brisbane Acid Sulphate Soils, Stafford, QLD
Mark Hallas	Senior Inorganic Chemist	Brisbane Inorganics, Stafford, QLD
Matt Frost	Assistant Laboratory Manager	Brisbane Inorganics, Stafford, QLD
Matt Frost	Assistant Laboratory Manager	Brisbane Organics, Stafford, QLD
Satishkumar Trivedi	Senior Acid Sulfate Soil Chemist	Brisbane Acid Sulphate Soils, Stafford, QLD
Uyen Dalkin	Approved Asbestos Identifier	Melbourne Asbestos, Springvale, VIC

General Comments

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

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

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

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

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

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

- **SPLIT WORK ORDER: It should be noted that ALS has split this work order over the following work orders EB2110394 & EB2110706 due to the size of the sample numbers. For any further information regarding this processing of samples please contact ALS client services division on ALSEnviro.Brisbane@alsglobal.com**
- ALS is not NATA accredited for the analysis of Exchangeable Aluminium and Exchange Acidity in soils when performed under ALS Method ED005.
- ALS is not NATA accredited for the analysis of Exchangeable Cations on Alkaline Soils when performed under ALS Method ED006.
- Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) per the NEPM (2013) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero, for 'TEQ 1/2LOR' are treated as half the reported LOR, and for 'TEQ LOR' are treated as being equal to the reported LOR. Note: TEQ 1/2LOR and TEQ LOR will calculate as 0.6mg/Kg and 1.2mg/Kg respectively for samples with non-detects for all of the eight TEQ PAHs.
- EP080: Where reported, Total Xylenes is the sum of the reported concentrations of m&p-Xylene and o-Xylene at or above the 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.
- EP075(SIM): Where reported, Total Cresol is the sum of the reported concentrations of 2-Methylphenol and 3- & 4-Methylphenol at or above the LOR.
- EG005T (Total Metals by ICP-AES): Sample (EB2110394_030) shows poor duplicate results due to sample heterogeneity. Confirmed by visual inspection.
- ASS: EA037 (Rapid Field and F(ox) screening): pH F(ox) Reaction Rate: 1 - Slight; 2 - Moderate; 3 - Strong; 4 - Extreme
- EA037 ASS Field Screening: NATA accreditation does not cover performance of this service.
- EA200 'Am' Amosite (brown asbestos)
- EA200 'Cr' Crocidolite (blue asbestos)
- EA200 'Trace' - Asbestos fibres ("Free Fibres") detected by trace analysis per AS4964. The result can be interpreted that the sample contains detectable 'respirable' asbestos fibres
- EA200: Asbestos Identification Samples were analysed by Polarised Light Microscopy including dispersion staining.
- EA200 Legend
- EA200 'Ch' Chrysotile (white asbestos)
- EA200: 'UMF' Unknown Mineral Fibres. "-" indicates fibres detected may or may not be asbestos fibres. Confirmation by alternative techniques is recommended.
- EA200: For samples larger than 30g, the <2mm fraction may be sub-sampled prior to trace analysis as outlined in ISO23909:2008(E) Sect 6.3.2-2
- ED007 and ED008: When Exchangeable Al is reported from these methods, it should be noted that Rayment & Lyons (2011) suggests Exchange Acidity by 1M KCl - Method 15G1 (ED005) is a more suitable method for the determination of exchange acidity (H+ + Al3+).
- EA200: 'Yes' - Asbestos detected by polarised light microscopy including dispersion staining.

- EA200: 'No*' - No asbestos found, at the reporting limit of 0.1g/kg, by polarised light microscopy including dispersion staining. Asbestos material was detected and positively identified at concentrations estimated to be below 0.1g/kg.
- EA200: 'No' - No asbestos found at the reporting limit 0.1g/kg, by polarised light microscopy including dispersion staining.

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	26/0.1	27/0.1	28/0.1	28/0.5	29/0.1
			Sampling date / time	14-Apr-2021 00:00	15-Apr-2021 00:00	15-Apr-2021 00:00	15-Apr-2021 00:00	14-Apr-2021 00:00
Compound	CAS Number	LOR	Unit	EB2110706-004	EB2110706-009	EB2110706-013	EB2110706-014	EB2110706-018
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	16.6	20.8	----	22.2	25.3
EA200: AS 4964 - 2004 Identification of Asbestos in Soils								
Asbestos Detected	1332-21-4	0.1	g/kg	No	No	No	----	No
Asbestos (Trace)	1332-21-4	5	Fibres	No	No	No	----	No
Asbestos Type	1332-21-4	-	--	-	-	-	----	-
Synthetic Mineral Fibre	----	0.1	g/kg	No	No	No	----	No
Organic Fibre	----	0.1	g/kg	Yes	Yes	Yes	----	Yes
Sample weight (dry)	----	0.01	g	725	611	567	----	516
APPROVED IDENTIFIER:	----	-	--	V.PHUNG	V.PHUNG	V.PHUNG	----	V.PHUNG
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	19	9	----	9	8
Cadmium	7440-43-9	1	mg/kg	<1	<1	----	<1	<1
Chromium	7440-47-3	2	mg/kg	<2	9	----	13	62
Copper	7440-50-8	5	mg/kg	21	12	----	13	12
Lead	7439-92-1	5	mg/kg	42	45	----	35	12
Nickel	7440-02-0	2	mg/kg	<2	3	----	4	6
Zinc	7440-66-6	5	mg/kg	11	69	----	50	35
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	0.1	----	0.1	<0.1
EP066: Polychlorinated Biphenyls (PCB)								
Total Polychlorinated biphenyls	----	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	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	26/0.1	27/0.1	28/0.1	28/0.5	29/0.1
			Sampling date / time	14-Apr-2021 00:00	15-Apr-2021 00:00	15-Apr-2021 00:00	15-Apr-2021 00:00	14-Apr-2021 00:00
Compound	CAS Number	LOR	Unit	EB2110706-004	EB2110706-009	EB2110706-013	EB2110706-014	EB2110706-018
				Result	Result	Result	Result	Result
EP068A: Organochlorine Pesticides (OC) - Continued								
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	----
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	72-54-8/72-55-9/50-2	0.05	mg/kg	<0.05	----	----	<0.05	----
EP068B: Organophosphorus Pesticides (OP)								
Dichlorvos	62-73-7	0.05	mg/kg	<0.05	----	----	<0.05	----
Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	----	----	<0.05	----
Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	----	----	<0.2	----
Dimethoate	60-51-5	0.05	mg/kg	<0.05	----	----	<0.05	----
Diazinon	333-41-5	0.05	mg/kg	<0.05	----	----	<0.05	----
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	----	----	<0.05	----
Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	----	----	<0.2	----
Malathion	121-75-5	0.05	mg/kg	<0.05	----	----	<0.05	----
Fenthion	55-38-9	0.05	mg/kg	<0.05	----	----	<0.05	----
Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	----	----	<0.05	----
Parathion	56-38-2	0.2	mg/kg	<0.2	----	----	<0.2	----
Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	----	----	<0.05	----
Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	----	----	<0.05	----
Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	----	----	<0.05	----
Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	----	----	<0.05	----
Prothiofos	34643-46-4	0.05	mg/kg	<0.05	----	----	<0.05	----
Ethion	563-12-2	0.05	mg/kg	<0.05	----	----	<0.05	----
Carbophenothion	786-19-6	0.05	mg/kg	<0.05	----	----	<0.05	----
Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	----	----	<0.05	----
EP075(SIM)A: Phenolic Compounds								

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	26/0.1	27/0.1	28/0.1	28/0.5	29/0.1
			Sampling date / time	14-Apr-2021 00:00	15-Apr-2021 00:00	15-Apr-2021 00:00	15-Apr-2021 00:00	14-Apr-2021 00:00
Compound	CAS Number	LOR	Unit	EB2110706-004	EB2110706-009	EB2110706-013	EB2110706-014	EB2110706-018
				Result	Result	Result	Result	Result
EP075(SIM)A: Phenolic Compounds - Continued								
Phenol	108-95-2	0.5	mg/kg	<0.5	----	----	<0.5	----
2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	----	----	<0.5	----
2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	----	----	<0.5	----
3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	----	----	<1	----
2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	----	----	<0.5	----
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	----	----	<0.5	----
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	----	----	<0.5	----
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	----	----	<0.5	----
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	----	----	<0.5	----
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	----	----	<0.5	----
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	----	----	<0.5	----
Pentachlorophenol	87-86-5	2	mg/kg	<2	----	----	<2	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5
Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5
Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5
Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5
Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5
Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg	**0.6**	**0.6**	----	**0.6**	**0.6**
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg	**1.2**	**1.2**	----	**1.2**	**1.2**
EP080/071: Total Petroleum Hydrocarbons								

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	26/0.1	27/0.1	28/0.1	28/0.5	29/0.1
			Sampling date / time	14-Apr-2021 00:00	15-Apr-2021 00:00	15-Apr-2021 00:00	15-Apr-2021 00:00	14-Apr-2021 00:00
Compound	CAS Number	LOR	Unit	EB2110706-004	EB2110706-009	EB2110706-013	EB2110706-014	EB2110706-018
				Result	Result	Result	Result	Result
EP080/071: Total Petroleum Hydrocarbons - Continued								
C6 - C9 Fraction	----	10	mg/kg	<10	<10	----	<10	<10
C10 - C14 Fraction	----	50	mg/kg	<50	<50	----	<50	<50
C15 - C28 Fraction	----	100	mg/kg	<100	<100	----	<100	<100
C29 - C36 Fraction	----	100	mg/kg	<100	<100	----	<100	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg	<50	<50	----	<50	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions								
C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	----	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg	<10	<10	----	<10	<10
>C10 - C16 Fraction	----	50	mg/kg	<50	<50	----	<50	<50
>C16 - C34 Fraction	----	100	mg/kg	<100	<100	----	<100	<100
>C34 - C40 Fraction	----	100	mg/kg	<100	<100	----	<100	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	<50	<50	----	<50	<50
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg	<50	<50	----	<50	<50
EP080: BTEXN								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	----	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5
^ Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	----	<0.2	<0.2
^ Total Xylenes	----	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg	<1	<1	----	<1	<1
EP066S: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	**97.8**	----	----	**104**	----
EP068S: Organochlorine Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.05	%	**93.4**	----	----	**94.7**	----
EP068T: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.05	%	**96.2**	----	----	**90.0**	----
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.5	%	**84.4**	**87.3**	----	**85.8**	**83.6**
2-Chlorophenol-D4	93951-73-6	0.5	%	**82.8**	**85.0**	----	**84.8**	**81.8**
2.4.6-Tribromophenol	118-79-6	0.5	%	**107**	**118**	----	**110**	**108**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	26/0.1	27/0.1	28/0.1	28/0.5	29/0.1
			Sampling date / time	14-Apr-2021 00:00	15-Apr-2021 00:00	15-Apr-2021 00:00	15-Apr-2021 00:00	14-Apr-2021 00:00
Compound	CAS Number	LOR	Unit	EB2110706-004	EB2110706-009	EB2110706-013	EB2110706-014	EB2110706-018
				Result	Result	Result	Result	Result
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.5	%	97.1	100	----	98.7	94.2
Anthracene-d10	1719-06-8	0.5	%	82.5	84.6	----	82.8	80.3
4-Terphenyl-d14	1718-51-0	0.5	%	90.4	96.0	----	90.6	87.8
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.2	%	117	124	----	120	121
Toluene-D8	2037-26-5	0.2	%	97.3	105	----	99.4	104
4-Bromofluorobenzene	460-00-4	0.2	%	115	119	----	118	122

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	30/0.1	30/2.0	31/0.1	31/0.2	BH1/0.1
			Sampling date / time	14-Apr-2021 00:00	14-Apr-2021 00:00	15-Apr-2021 00:00	15-Apr-2021 00:00	14-Apr-2021 00:00
Compound	CAS Number	LOR	Unit	EB2110706-021	EB2110706-023	EB2110706-024	EB2110706-025	EB2110706-029
				Result	Result	Result	Result	Result
EA001: pH in soil using 0.01M CaCl extract								
pH (CaCl2)	----	0.1	pH Unit	----	3.9	----	----	----
EA002: pH 1:5 (Soils)								
pH Value	----	0.1	pH Unit	----	4.9	----	----	----
EA010: Conductivity (1:5)								
Electrical Conductivity @ 25°C	----	1	µS/cm	----	18	----	----	----
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	44.1	43.0	33.7	----	35.8
EA150: Soil Classification based on Particle Size								
Clay (<2 µm)	----	1	%	----	65	----	----	----
EA152: Soil Particle Density								
Soil Particle Density (Clay/Silt/Sand)	----	0.01	g/cm3	----	2.99	----	----	----
EA200: AS 4964 - 2004 Identification of Asbestos in Soils								
Asbestos Detected	1332-21-4	0.1	g/kg	No	----	----	No	No
Asbestos (Trace)	1332-21-4	5	Fibres	No	----	----	No	No
Asbestos Type	1332-21-4	-	--	-	----	----	-	-
Synthetic Mineral Fibre	----	0.1	g/kg	No	----	----	No	No
Organic Fibre	----	0.1	g/kg	Yes	----	----	Yes	Yes
Sample weight (dry)	----	0.01	g	466	----	----	332	96.0
APPROVED IDENTIFIER:	----	-	--	V.PHUNG	----	----	V.PHUNG	V.PHUNG
ED005: Exchange Acidity								
ø Exchange Acidity	----	0.1	meq/100g	----	10.8	----	----	----
ø Exchangeable Aluminium	----	0.1	meq/100g	----	4.7	----	----	----
ED007: Exchangeable Cations								
Exchangeable Calcium	----	0.1	meq/100g	----	0.6	----	----	----
Exchangeable Magnesium	----	0.1	meq/100g	----	1.2	----	----	----
Exchangeable Potassium	----	0.1	meq/100g	----	0.1	----	----	----
Exchangeable Sodium	----	0.1	meq/100g	----	0.3	----	----	----
Cation Exchange Capacity	----	0.1	meq/100g	----	19.0	----	----	----
EG005(ED093)T: Total Metals by ICP-AES								
Iron	7439-89-6	0.005	%	----	3.59	----	----	----
Arsenic	7440-38-2	5	mg/kg	6	<5	<5	----	<5
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	----	<1
Chromium	7440-47-3	2	mg/kg	17	23	14	----	61
Copper	7440-50-8	5	mg/kg	16	8	9	----	18

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	30/0.1	30/2.0	31/0.1	31/0.2	BH1/0.1
			Sampling date / time	14-Apr-2021 00:00	14-Apr-2021 00:00	15-Apr-2021 00:00	15-Apr-2021 00:00	14-Apr-2021 00:00
Compound	CAS Number	LOR	Unit	EB2110706-021	EB2110706-023	EB2110706-024	EB2110706-025	EB2110706-029
				Result	Result	Result	Result	Result
EG005(ED093)T: Total Metals by ICP-AES - Continued								
Lead	7439-92-1	5	mg/kg	36	10	12	----	13
Nickel	7440-02-0	2	mg/kg	6	4	5	----	3
Zinc	7440-66-6	5	mg/kg	61	10	95	----	5
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	0.1	0.4	<0.1	----	<0.1
EP004: Organic Matter								
Organic Matter	----	0.5	%	----	0.6	----	----	----
Total Organic Carbon	----	0.5	%	----	<0.5	----	----	----
EP066: Polychlorinated Biphenyls (PCB)								
Total Polychlorinated biphenyls	----	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
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

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	30/0.1	30/2.0	31/0.1	31/0.2	BH1/0.1
			Sampling date / time	14-Apr-2021 00:00	14-Apr-2021 00:00	15-Apr-2021 00:00	15-Apr-2021 00:00	14-Apr-2021 00:00
Compound	CAS Number	LOR	Unit	EB2110706-021	EB2110706-023	EB2110706-024	EB2110706-025	EB2110706-029
				Result	Result	Result	Result	Result
EP068A: Organochlorine Pesticides (OC) - Continued								
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg	<0.05	----	----	----	<0.05
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-2	0.05	mg/kg	<0.05	----	----	----	<0.05
EP068B: Organophosphorus Pesticides (OP)								
Dichlorvos	62-73-7	0.05	mg/kg	<0.05	----	----	----	<0.05
Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	----	----	----	<0.05
Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	----	----	----	<0.2
Dimethoate	60-51-5	0.05	mg/kg	<0.05	----	----	----	<0.05
Diazinon	333-41-5	0.05	mg/kg	<0.05	----	----	----	<0.05
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	----	----	----	<0.05
Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	----	----	----	<0.2
Malathion	121-75-5	0.05	mg/kg	<0.05	----	----	----	<0.05
Fenthion	55-38-9	0.05	mg/kg	<0.05	----	----	----	<0.05
Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	----	----	----	<0.05
Parathion	56-38-2	0.2	mg/kg	<0.2	----	----	----	<0.2
Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	----	----	----	<0.05
Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	----	----	----	<0.05
Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	----	----	----	<0.05
Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	----	----	----	<0.05
Prothiofos	34643-46-4	0.05	mg/kg	<0.05	----	----	----	<0.05
Ethion	563-12-2	0.05	mg/kg	<0.05	----	----	----	<0.05
Carbophenothion	786-19-6	0.05	mg/kg	<0.05	----	----	----	<0.05
Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	----	----	----	<0.05
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	<0.5	----	----	----	<0.5
2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	----	----	----	<0.5
2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	----	----	----	<0.5
3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	----	----	----	<1
2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	----	----	----	<0.5
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	----	----	----	<0.5
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	----	----	----	<0.5
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	----	----	----	<0.5
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	----	----	----	<0.5
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	----	----	----	<0.5
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	----	----	----	<0.5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	30/0.1	30/2.0	31/0.1	31/0.2	BH1/0.1
			Sampling date / time	14-Apr-2021 00:00	14-Apr-2021 00:00	15-Apr-2021 00:00	15-Apr-2021 00:00	14-Apr-2021 00:00
Compound	CAS Number	LOR	Unit	EB2110706-021	EB2110706-023	EB2110706-024	EB2110706-025	EB2110706-029
				Result	Result	Result	Result	Result
EP075(SIM)A: Phenolic Compounds - Continued								
Pentachlorophenol	87-86-5	2	mg/kg	<2	----	----	----	<2
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	----	<0.5	----	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	----	<0.5	----	<0.5
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	----	<0.5	----	<0.5
Fluorene	86-73-7	0.5	mg/kg	<0.5	----	<0.5	----	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	----	<0.5	----	<0.5
Anthracene	120-12-7	0.5	mg/kg	<0.5	----	<0.5	----	<0.5
Fluoranthene	206-44-0	0.5	mg/kg	<0.5	----	<0.5	----	<0.5
Pyrene	129-00-0	0.5	mg/kg	<0.5	----	<0.5	----	<0.5
Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	----	<0.5	----	<0.5
Chrysene	218-01-9	0.5	mg/kg	<0.5	----	<0.5	----	<0.5
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	----	<0.5	----	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	----	<0.5	----	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	----	<0.5	----	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	----	<0.5	----	<0.5
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	----	<0.5	----	<0.5
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	----	<0.5	----	<0.5
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	----	<0.5	----	<0.5
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	<0.5	----	<0.5	----	<0.5
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg	**0.6**	----	**0.6**	----	**0.6**
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg	**1.2**	----	**1.2**	----	**1.2**
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	----	<10	----	<10
C10 - C14 Fraction	----	50	mg/kg	<50	----	<50	----	<50
C15 - C28 Fraction	----	100	mg/kg	<100	----	<100	----	<100
C29 - C36 Fraction	----	100	mg/kg	<100	----	<100	----	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg	<50	----	<50	----	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions								
C6 - C10 Fraction	C6_C10	10	mg/kg	<10	----	<10	----	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg	<10	----	<10	----	<10
>C10 - C16 Fraction	----	50	mg/kg	<50	----	<50	----	<50
>C16 - C34 Fraction	----	100	mg/kg	<100	----	<100	----	<100

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	30/0.1	30/2.0	31/0.1	31/0.2	BH1/0.1
			Sampling date / time	14-Apr-2021 00:00	14-Apr-2021 00:00	15-Apr-2021 00:00	15-Apr-2021 00:00	14-Apr-2021 00:00
Compound	CAS Number	LOR	Unit	EB2110706-021	EB2110706-023	EB2110706-024	EB2110706-025	EB2110706-029
				Result	Result	Result	Result	Result
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions - Continued								
>C34 - C40 Fraction	----	100	mg/kg	<100	----	<100	----	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	<50	----	<50	----	<50
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg	<50	----	<50	----	<50
EP080: BTEXN								
Benzene	71-43-2	0.2	mg/kg	<0.2	----	<0.2	----	<0.2
Toluene	108-88-3	0.5	mg/kg	<0.5	----	<0.5	----	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	----	<0.5	----	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	----	<0.5	----	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	----	<0.5	----	<0.5
^ Sum of BTEX	----	0.2	mg/kg	<0.2	----	<0.2	----	<0.2
^ Total Xylenes	----	0.5	mg/kg	<0.5	----	<0.5	----	<0.5
Naphthalene	91-20-3	1	mg/kg	<1	----	<1	----	<1
EP066S: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	**112**	----	----	----	**99.3**
EP068S: Organochlorine Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.05	%	**103**	----	----	----	**87.1**
EP068T: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.05	%	**107**	----	----	----	**40.4**
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.5	%	**95.0**	----	**82.4**	----	**86.2**
2-Chlorophenol-D4	93951-73-6	0.5	%	**93.8**	----	**80.5**	----	**97.8**
2.4.6-Tribromophenol	118-79-6	0.5	%	**120**	----	**118**	----	**93.0**
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.5	%	**109**	----	**94.1**	----	**94.8**
Anthracene-d10	1719-06-8	0.5	%	**90.4**	----	**82.0**	----	**80.1**
4-Terphenyl-d14	1718-51-0	0.5	%	**101**	----	**81.5**	----	**102**
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.2	%	**117**	----	**118**	----	**110**
Toluene-D8	2037-26-5	0.2	%	**100**	----	**99.1**	----	**86.8**
4-Bromofluorobenzene	460-00-4	0.2	%	**117**	----	**116**	----	**108**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	BH1/0.5	BH2/0.1	BH3/0.1	BH4/0.1	BH4/0.2
			Sampling date / time	14-Apr-2021 00:00	14-Apr-2021 00:00	14-Apr-2021 00:00	14-Apr-2021 00:00	14-Apr-2021 00:00
Compound	CAS Number	LOR	Unit	EB2110706-030	EB2110706-031	EB2110706-033	EB2110706-035	EB2110706-036
				Result	Result	Result	Result	Result
EA002: pH 1:5 (Soils)								
pH Value	----	0.1	pH Unit	5.2	----	----	----	4.7
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	38.5	30.2	34.9	43.6	31.2
EA080: Resistivity								
Resistivity at 25°C	----	1	ohm cm	50000	----	----	----	55600
EA200: AS 4964 - 2004 Identification of Asbestos in Soils								
Asbestos Detected	1332-21-4	0.1	g/kg	----	No	No	No	----
Asbestos (Trace)	1332-21-4	5	Fibres	----	No	No	No	----
Asbestos Type	1332-21-4	-	--	----	-	-	-	----
Synthetic Mineral Fibre	----	0.1	g/kg	----	No	No	No	----
Organic Fibre	----	0.1	g/kg	----	Yes	Yes	Yes	----
Sample weight (dry)	----	0.01	g	----	210	148	135	----
APPROVED IDENTIFIER:	----	-	--	----	V.PHUNG	V.PHUNG	V.PHUNG	----
ED040S : Soluble Sulfate by ICPAES								
Sulfate as SO4 2-	14808-79-8	10	mg/kg	50	----	----	----	30
ED045G: Chloride by Discrete Analyser								
Chloride	16887-00-6	10	mg/kg	<10	----	----	----	<10
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	----	8	<5	<5	----
Cadmium	7440-43-9	1	mg/kg	----	<1	<1	<1	----
Chromium	7440-47-3	2	mg/kg	----	11	39	43	----
Copper	7440-50-8	5	mg/kg	----	21	11	17	----
Lead	7439-92-1	5	mg/kg	----	52	18	29	----
Nickel	7440-02-0	2	mg/kg	----	6	9	19	----
Zinc	7440-66-6	5	mg/kg	----	118	89	64	----
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	----	0.1	<0.1	<0.1	----
EP066: Polychlorinated Biphenyls (PCB)								
Total Polychlorinated biphenyls	----	0.1	mg/kg	----	----	<0.1	----	----
EP068A: Organochlorine Pesticides (OC)								
alpha-BHC	319-84-6	0.05	mg/kg	----	----	<0.05	----	----
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	----	----	<0.05	----	----
beta-BHC	319-85-7	0.05	mg/kg	----	----	<0.05	----	----
gamma-BHC	58-89-9	0.05	mg/kg	----	----	<0.05	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	BH1/0.5	BH2/0.1	BH3/0.1	BH4/0.1	BH4/0.2
				Sampling date / time	14-Apr-2021 00:00	14-Apr-2021 00:00	14-Apr-2021 00:00	14-Apr-2021 00:00	14-Apr-2021 00:00
Compound	CAS Number	LOR	Unit		EB2110706-030	EB2110706-031	EB2110706-033	EB2110706-035	EB2110706-036
					Result	Result	Result	Result	Result
EP068A: Organochlorine Pesticides (OC) - Continued									
delta-BHC	319-86-8	0.05	mg/kg		----	----	<0.05	----	----
Heptachlor	76-44-8	0.05	mg/kg		----	----	<0.05	----	----
Aldrin	309-00-2	0.05	mg/kg		----	----	<0.05	----	----
Heptachlor epoxide	1024-57-3	0.05	mg/kg		----	----	<0.05	----	----
^ Total Chlordane (sum)	----	0.05	mg/kg		----	----	<0.05	----	----
trans-Chlordane	5103-74-2	0.05	mg/kg		----	----	<0.05	----	----
alpha-Endosulfan	959-98-8	0.05	mg/kg		----	----	<0.05	----	----
cis-Chlordane	5103-71-9	0.05	mg/kg		----	----	<0.05	----	----
Dieldrin	60-57-1	0.05	mg/kg		----	----	<0.05	----	----
4.4`-DDE	72-55-9	0.05	mg/kg		----	----	<0.05	----	----
Endrin	72-20-8	0.05	mg/kg		----	----	<0.05	----	----
beta-Endosulfan	33213-65-9	0.05	mg/kg		----	----	<0.05	----	----
^ Endosulfan (sum)	115-29-7	0.05	mg/kg		----	----	<0.05	----	----
4.4`-DDD	72-54-8	0.05	mg/kg		----	----	<0.05	----	----
Endrin aldehyde	7421-93-4	0.05	mg/kg		----	----	<0.05	----	----
Endosulfan sulfate	1031-07-8	0.05	mg/kg		----	----	<0.05	----	----
4.4`-DDT	50-29-3	0.2	mg/kg		----	----	<0.2	----	----
Endrin ketone	53494-70-5	0.05	mg/kg		----	----	<0.05	----	----
Methoxychlor	72-43-5	0.2	mg/kg		----	----	<0.2	----	----
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg		----	----	<0.05	----	----
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-29-3	0.05	mg/kg		----	----	<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	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	BH1/0.5	BH2/0.1	BH3/0.1	BH4/0.1	BH4/0.2
			Sampling date / time	14-Apr-2021 00:00	14-Apr-2021 00:00	14-Apr-2021 00:00	14-Apr-2021 00:00	14-Apr-2021 00:00
Compound	CAS Number	LOR	Unit	EB2110706-030	EB2110706-031	EB2110706-033	EB2110706-035	EB2110706-036
				Result	Result	Result	Result	Result
EP068B: Organophosphorus Pesticides (OP) - Continued								
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	----	----
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	----	----	<0.5	----	----
2-Chlorophenol	95-57-8	0.5	mg/kg	----	----	<0.5	----	----
2-Methylphenol	95-48-7	0.5	mg/kg	----	----	<0.5	----	----
3- & 4-Methylphenol	1319-77-3	1	mg/kg	----	----	<1	----	----
2-Nitrophenol	88-75-5	0.5	mg/kg	----	----	<0.5	----	----
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	----	----	<0.5	----	----
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	----	----	<0.5	----	----
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	----	----	<0.5	----	----
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	----	----	<0.5	----	----
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	----	----	<0.5	----	----
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	----	----	<0.5	----	----
Pentachlorophenol	87-86-5	2	mg/kg	----	----	<2	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	----	<0.5	<0.5	<0.5	----
Acenaphthylene	208-96-8	0.5	mg/kg	----	<0.5	<0.5	<0.5	----
Acenaphthene	83-32-9	0.5	mg/kg	----	<0.5	<0.5	<0.5	----
Fluorene	86-73-7	0.5	mg/kg	----	<0.5	<0.5	<0.5	----
Phenanthrene	85-01-8	0.5	mg/kg	----	<0.5	<0.5	<0.5	----
Anthracene	120-12-7	0.5	mg/kg	----	<0.5	<0.5	<0.5	----
Fluoranthene	206-44-0	0.5	mg/kg	----	<0.5	<0.5	<0.5	----
Pyrene	129-00-0	0.5	mg/kg	----	<0.5	<0.5	<0.5	----
Benz(a)anthracene	56-55-3	0.5	mg/kg	----	<0.5	<0.5	<0.5	----
Chrysene	218-01-9	0.5	mg/kg	----	<0.5	<0.5	<0.5	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	----	<0.5	<0.5	<0.5	----
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	----	<0.5	<0.5	<0.5	----
Benzo(a)pyrene	50-32-8	0.5	mg/kg	----	<0.5	<0.5	<0.5	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	BH1/0.5	BH2/0.1	BH3/0.1	BH4/0.1	BH4/0.2
			Sampling date / time	14-Apr-2021 00:00	14-Apr-2021 00:00	14-Apr-2021 00:00	14-Apr-2021 00:00	14-Apr-2021 00:00
Compound	CAS Number	LOR	Unit	EB2110706-030	EB2110706-031	EB2110706-033	EB2110706-035	EB2110706-036
				Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued								
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	----	<0.5	<0.5	<0.5	----
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	----	<0.5	<0.5	<0.5	----
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	----	<0.5	<0.5	<0.5	----
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	----	<0.5	<0.5	<0.5	----
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	----	<0.5	<0.5	<0.5	----
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg	----	**0.6**	**0.6**	**0.6**	----
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg	----	**1.2**	**1.2**	**1.2**	----
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	----	<10	<10	<10	----
C10 - C14 Fraction	----	50	mg/kg	----	<50	<50	<50	----
C15 - C28 Fraction	----	100	mg/kg	----	<100	**220**	<100	----
C29 - C36 Fraction	----	100	mg/kg	----	<100	**150**	<100	----
^ C10 - C36 Fraction (sum)	----	50	mg/kg	----	<50	**370**	<50	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions								
C6 - C10 Fraction	C6_C10	10	mg/kg	----	<10	<10	<10	----
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg	----	<10	<10	<10	----
>C10 - C16 Fraction	----	50	mg/kg	----	<50	**120**	<50	----
>C16 - C34 Fraction	----	100	mg/kg	----	<100	**230**	<100	----
>C34 - C40 Fraction	----	100	mg/kg	----	<100	<100	<100	----
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	----	<50	**350**	<50	----
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg	----	<50	**120**	<50	----
EP080: BTEXN								
Benzene	71-43-2	0.2	mg/kg	----	<0.2	<0.2	<0.2	----
Toluene	108-88-3	0.5	mg/kg	----	<0.5	<0.5	<0.5	----
Ethylbenzene	100-41-4	0.5	mg/kg	----	<0.5	<0.5	<0.5	----
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	----	<0.5	<0.5	<0.5	----
ortho-Xylene	95-47-6	0.5	mg/kg	----	<0.5	<0.5	<0.5	----
^ Sum of BTEX	----	0.2	mg/kg	----	<0.2	<0.2	<0.2	----
^ Total Xylenes	----	0.5	mg/kg	----	<0.5	<0.5	<0.5	----
Naphthalene	91-20-3	1	mg/kg	----	<1	<1	<1	----
EP066S: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	----	----	**108**	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	BH1/0.5	BH2/0.1	BH3/0.1	BH4/0.1	BH4/0.2
				Sampling date / time	14-Apr-2021 00:00	14-Apr-2021 00:00	14-Apr-2021 00:00	14-Apr-2021 00:00	14-Apr-2021 00:00
Compound	CAS Number	LOR	Unit		EB2110706-030	EB2110706-031	EB2110706-033	EB2110706-035	EB2110706-036
					Result	Result	Result	Result	Result
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.05	%		----	----	104	----	----
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.05	%		----	----	109	----	----
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		----	87.2	91.5	90.4	----
2-Chlorophenol-D4	93951-73-6	0.5	%		----	82.8	89.3	86.9	----
2.4.6-Tribromophenol	118-79-6	0.5	%		----	109	133	114	----
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		----	97.9	104	99.7	----
Anthracene-d10	1719-06-8	0.5	%		----	87.2	92.8	87.6	----
4-Terphenyl-d14	1718-51-0	0.5	%		----	93.6	97.7	93.5	----
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.2	%		----	125	114	111	----
Toluene-D8	2037-26-5	0.2	%		----	107	89.4	92.6	----
4-Bromofluorobenzene	460-00-4	0.2	%		----	125	108	106	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	BH4/1.3	BH5/0.1	BH5/0.6	BH6/0.1	BH6/0.3
			Sampling date / time	14-Apr-2021 00:00	14-Apr-2021 00:00	14-Apr-2021 00:00	14-Apr-2021 00:00	14-Apr-2021 00:00
Compound	CAS Number	LOR	Unit	EB2110706-037	EB2110706-038	EB2110706-039	EB2110706-040	EB2110706-041
				Result	Result	Result	Result	Result
EA002: pH 1:5 (Soils)								
pH Value	----	0.1	pH Unit	4.8	----	----	----	5.2
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	35.4	----	27.0	26.9	36.3
EA080: Resistivity								
Resistivity at 25°C	----	1	ohm cm	41700	----	----	----	58800
EA200: AS 4964 - 2004 Identification of Asbestos in Soils								
Asbestos Detected	1332-21-4	0.1	g/kg	----	No	----	No	----
Asbestos (Trace)	1332-21-4	5	Fibres	----	No	----	No	----
Asbestos Type	1332-21-4	-	--	----	-	----	-	----
Synthetic Mineral Fibre	----	0.1	g/kg	----	No	----	No	----
Organic Fibre	----	0.1	g/kg	----	Yes	----	Yes	----
Sample weight (dry)	----	0.01	g	----	86.5	----	115	----
APPROVED IDENTIFIER:	----	-	--	----	V.PHUNG	----	V.PHUNG	----
ED040S : Soluble Sulfate by ICPAES								
Sulfate as SO4 2-	14808-79-8	10	mg/kg	50	----	----	----	40
ED045G: Chloride by Discrete Analyser								
Chloride	16887-00-6	10	mg/kg	10	----	----	----	<10
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	----	----	6	<5	----
Cadmium	7440-43-9	1	mg/kg	----	----	<1	<1	----
Chromium	7440-47-3	2	mg/kg	----	----	10	25	----
Copper	7440-50-8	5	mg/kg	----	----	<5	10	----
Lead	7439-92-1	5	mg/kg	----	----	8	19	----
Nickel	7440-02-0	2	mg/kg	----	----	<2	5	----
Zinc	7440-66-6	5	mg/kg	----	----	<5	48	----
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	----	----	<0.1	0.2	----
EP066: Polychlorinated Biphenyls (PCB)								
Total Polychlorinated biphenyls	----	0.1	mg/kg	----	----	<0.1	----	----
EP068A: Organochlorine Pesticides (OC)								
alpha-BHC	319-84-6	0.05	mg/kg	----	----	<0.05	----	----
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	----	----	<0.05	----	----
beta-BHC	319-85-7	0.05	mg/kg	----	----	<0.05	----	----
gamma-BHC	58-89-9	0.05	mg/kg	----	----	<0.05	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	BH4/1.3	BH5/0.1	BH5/0.6	BH6/0.1	BH6/0.3
				Sampling date / time	14-Apr-2021 00:00	14-Apr-2021 00:00	14-Apr-2021 00:00	14-Apr-2021 00:00	14-Apr-2021 00:00
Compound	CAS Number	LOR	Unit		EB2110706-037	EB2110706-038	EB2110706-039	EB2110706-040	EB2110706-041
					Result	Result	Result	Result	Result
EP068A: Organochlorine Pesticides (OC) - Continued									
delta-BHC	319-86-8	0.05	mg/kg		----	----	<0.05	----	----
Heptachlor	76-44-8	0.05	mg/kg		----	----	<0.05	----	----
Aldrin	309-00-2	0.05	mg/kg		----	----	<0.05	----	----
Heptachlor epoxide	1024-57-3	0.05	mg/kg		----	----	<0.05	----	----
^ Total Chlordane (sum)	----	0.05	mg/kg		----	----	<0.05	----	----
trans-Chlordane	5103-74-2	0.05	mg/kg		----	----	<0.05	----	----
alpha-Endosulfan	959-98-8	0.05	mg/kg		----	----	<0.05	----	----
cis-Chlordane	5103-71-9	0.05	mg/kg		----	----	<0.05	----	----
Dieldrin	60-57-1	0.05	mg/kg		----	----	<0.05	----	----
4.4`-DDE	72-55-9	0.05	mg/kg		----	----	<0.05	----	----
Endrin	72-20-8	0.05	mg/kg		----	----	<0.05	----	----
beta-Endosulfan	33213-65-9	0.05	mg/kg		----	----	<0.05	----	----
^ Endosulfan (sum)	115-29-7	0.05	mg/kg		----	----	<0.05	----	----
4.4`-DDD	72-54-8	0.05	mg/kg		----	----	<0.05	----	----
Endrin aldehyde	7421-93-4	0.05	mg/kg		----	----	<0.05	----	----
Endosulfan sulfate	1031-07-8	0.05	mg/kg		----	----	<0.05	----	----
4.4`-DDT	50-29-3	0.2	mg/kg		----	----	<0.2	----	----
Endrin ketone	53494-70-5	0.05	mg/kg		----	----	<0.05	----	----
Methoxychlor	72-43-5	0.2	mg/kg		----	----	<0.2	----	----
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg		----	----	<0.05	----	----
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-29-3	0.05	mg/kg		----	----	<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	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	BH4/1.3	BH5/0.1	BH5/0.6	BH6/0.1	BH6/0.3
			Sampling date / time	14-Apr-2021 00:00	14-Apr-2021 00:00	14-Apr-2021 00:00	14-Apr-2021 00:00	14-Apr-2021 00:00
Compound	CAS Number	LOR	Unit	EB2110706-037	EB2110706-038	EB2110706-039	EB2110706-040	EB2110706-041
				Result	Result	Result	Result	Result
EP068B: Organophosphorus Pesticides (OP) - Continued								
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	----	----
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	----	----	<0.5	----	----
2-Chlorophenol	95-57-8	0.5	mg/kg	----	----	<0.5	----	----
2-Methylphenol	95-48-7	0.5	mg/kg	----	----	<0.5	----	----
3- & 4-Methylphenol	1319-77-3	1	mg/kg	----	----	<1	----	----
2-Nitrophenol	88-75-5	0.5	mg/kg	----	----	<0.5	----	----
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	----	----	<0.5	----	----
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	----	----	<0.5	----	----
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	----	----	<0.5	----	----
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	----	----	<0.5	----	----
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	----	----	<0.5	----	----
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	----	----	<0.5	----	----
Pentachlorophenol	87-86-5	2	mg/kg	----	----	<2	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	----	----	<0.5	<0.5	----
Acenaphthylene	208-96-8	0.5	mg/kg	----	----	<0.5	<0.5	----
Acenaphthene	83-32-9	0.5	mg/kg	----	----	<0.5	<0.5	----
Fluorene	86-73-7	0.5	mg/kg	----	----	<0.5	<0.5	----
Phenanthrene	85-01-8	0.5	mg/kg	----	----	<0.5	<0.5	----
Anthracene	120-12-7	0.5	mg/kg	----	----	<0.5	<0.5	----
Fluoranthene	206-44-0	0.5	mg/kg	----	----	<0.5	<0.5	----
Pyrene	129-00-0	0.5	mg/kg	----	----	<0.5	<0.5	----
Benz(a)anthracene	56-55-3	0.5	mg/kg	----	----	<0.5	<0.5	----
Chrysene	218-01-9	0.5	mg/kg	----	----	<0.5	<0.5	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	----	----	<0.5	<0.5	----
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	----	----	<0.5	<0.5	----
Benzo(a)pyrene	50-32-8	0.5	mg/kg	----	----	<0.5	<0.5	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	BH4/1.3	BH5/0.1	BH5/0.6	BH6/0.1	BH6/0.3
			Sampling date / time	14-Apr-2021 00:00	14-Apr-2021 00:00	14-Apr-2021 00:00	14-Apr-2021 00:00	14-Apr-2021 00:00
Compound	CAS Number	LOR	Unit	EB2110706-037	EB2110706-038	EB2110706-039	EB2110706-040	EB2110706-041
				Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued								
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	----	----	<0.5	<0.5	----
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	----	----	<0.5	<0.5	----
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	----	----	<0.5	<0.5	----
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	----	----	<0.5	<0.5	----
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	----	----	<0.5	<0.5	----
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg	----	----	**0.6**	**0.6**	----
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg	----	----	**1.2**	**1.2**	----
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	----	----	<10	<10	----
C10 - C14 Fraction	----	50	mg/kg	----	----	<50	<50	----
C15 - C28 Fraction	----	100	mg/kg	----	----	<100	<100	----
C29 - C36 Fraction	----	100	mg/kg	----	----	<100	<100	----
^ C10 - C36 Fraction (sum)	----	50	mg/kg	----	----	<50	<50	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions								
C6 - C10 Fraction	C6_C10	10	mg/kg	----	----	<10	<10	----
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg	----	----	<10	<10	----
>C10 - C16 Fraction	----	50	mg/kg	----	----	<50	<50	----
>C16 - C34 Fraction	----	100	mg/kg	----	----	<100	<100	----
>C34 - C40 Fraction	----	100	mg/kg	----	----	<100	<100	----
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	----	----	<50	<50	----
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg	----	----	<50	<50	----
EP080: BTEXN								
Benzene	71-43-2	0.2	mg/kg	----	----	<0.2	<0.2	----
Toluene	108-88-3	0.5	mg/kg	----	----	<0.5	<0.5	----
Ethylbenzene	100-41-4	0.5	mg/kg	----	----	<0.5	<0.5	----
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	----	----	<0.5	<0.5	----
ortho-Xylene	95-47-6	0.5	mg/kg	----	----	<0.5	<0.5	----
^ Sum of BTEX	----	0.2	mg/kg	----	----	<0.2	<0.2	----
^ Total Xylenes	----	0.5	mg/kg	----	----	<0.5	<0.5	----
Naphthalene	91-20-3	1	mg/kg	----	----	<1	<1	----
EP066S: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	----	----	**112**	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	BH4/1.3	BH5/0.1	BH5/0.6	BH6/0.1	BH6/0.3
				Sampling date / time	14-Apr-2021 00:00	14-Apr-2021 00:00	14-Apr-2021 00:00	14-Apr-2021 00:00	14-Apr-2021 00:00
Compound	CAS Number	LOR	Unit		EB2110706-037	EB2110706-038	EB2110706-039	EB2110706-040	EB2110706-041
					Result	Result	Result	Result	Result
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.05	%		----	----	101	----	----
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.05	%		----	----	97.2	----	----
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		----	----	85.6	101	----
2-Chlorophenol-D4	93951-73-6	0.5	%		----	----	95.4	93.8	----
2.4.6-Tribromophenol	118-79-6	0.5	%		----	----	86.4	95.1	----
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		----	----	101	96.6	----
Anthracene-d10	1719-06-8	0.5	%		----	----	83.6	92.3	----
4-Terphenyl-d14	1718-51-0	0.5	%		----	----	108	107	----
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.2	%		----	----	105	85.7	----
Toluene-D8	2037-26-5	0.2	%		----	----	80.5	78.8	----
4-Bromofluorobenzene	460-00-4	0.2	%		----	----	97.8	106	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	BH6/1.9	BH7/0.1	BH7/0.5	30/0.25	30/0.5
			Sampling date / time	14-Apr-2021 00:00	14-Apr-2021 00:00	14-Apr-2021 00:00	14-Apr-2021 00:00	14-Apr-2021 00:00
Compound	CAS Number	LOR	Unit	EB2110706-043	EB2110706-045	EB2110706-046	EB2110706-047	EB2110706-048
				Result	Result	Result	Result	Result
EA002: pH 1:5 (Soils)								
pH Value	----	0.1	pH Unit	**5.4**	**7.1**	**7.1**	**----**	**----**
EA037: Ass Field Screening Analysis								
ø pH (F)	----	0.1	pH Unit	**----**	**----**	**----**	**5.2**	**5.3**
ø pH (Fox)	----	0.1	pH Unit	**----**	**----**	**----**	**4.0**	**4.0**
ø Reaction Rate	----	1	-	**----**	**----**	**----**	**2**	**1**
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	**39.2**	**34.5**	**29.5**	**----**	**----**
EA080: Resistivity								
Resistivity at 25°C	----	1	ohm cm	**66700**	**43500**	**40000**	**----**	**----**
ED040S : Soluble Sulfate by ICPAES								
Sulfate as SO4 2-	14808-79-8	10	mg/kg	**30**	<10	<10	**----**	**----**
ED045G: Chloride by Discrete Analyser								
Chloride	16887-00-6	10	mg/kg	<10	<10	<10	**----**	**----**

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)			Sample ID	30/0.75	30/1.0	30/1.25	30/1.5	30/1.75
			Sampling date / time	14-Apr-2021 00:00	14-Apr-2021 00:00	14-Apr-2021 00:00	14-Apr-2021 00:00	14-Apr-2021 00:00
Compound	*CAS Number*	*LOR*	*Unit*	**EB2110706-049**	**EB2110706-050**	**EB2110706-051**	**EB2110706-052**	**EB2110706-053**
				Result	Result	Result	Result	Result
EA037: Ass Field Screening Analysis								
ø **pH (F)**	----	0.1	pH Unit	**5.3**	**5.4**	**5.5**	**4.9**	**5.0**
ø **pH (Fox)**	----	0.1	pH Unit	**4.3**	**4.2**	**4.2**	**3.8**	**3.9**
ø **Reaction Rate**	----	1	-	**1**	**1**	**1**	**1**	**1**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	30/2.0	26/0.25	26/0.5	26/0.75	26/1.0
			Sampling date / time	14-Apr-2021 00:00	14-Apr-2021 00:00	14-Apr-2021 00:00	14-Apr-2021 00:00	14-Apr-2021 00:00
Compound	CAS Number	LOR	Unit	EB2110706-054	EB2110706-055	EB2110706-056	EB2110706-057	EB2110706-058
				Result	Result	Result	Result	Result
EA037: Ass Field Screening Analysis								
ø **pH (F)**	----	0.1	pH Unit	**5.0**	**7.6**	**7.2**	**7.5**	**7.4**
ø **pH (Fox)**	----	0.1	pH Unit	**3.8**	**5.6**	**5.4**	**5.4**	**5.4**
ø **Reaction Rate**	----	1	-	**1**	**2**	**2**	**2**	**2**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	26/1.25	26/1.5	12/0.25	12/0.5	12/0.75
			Sampling date / time	14-Apr-2021 00:00	14-Apr-2021 00:00	15-Apr-2021 00:00	15-Apr-2021 00:00	15-Apr-2021 00:00
Compound	CAS Number	LOR	Unit	EB2110706-059	EB2110706-060	EB2110706-061	EB2110706-062	EB2110706-063
				Result	Result	Result	Result	Result
EA037: Ass Field Screening Analysis								
ø **pH (F)**	----	0.1	pH Unit	**7.6**	**7.4**	**6.4**	**5.4**	**5.1**
ø **pH (Fox)**	----	0.1	pH Unit	**5.3**	**5.3**	**5.1**	**3.7**	**4.2**
ø **Reaction Rate**	----	1	-	**2**	**2**	**2**	**2**	**2**

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)			Sample ID	12/1.0	12/1.25	12/1.5	12/1.75	12/2.0
			Sampling date / time	15-Apr-2021 00:00	15-Apr-2021 00:00	15-Apr-2021 00:00	15-Apr-2021 00:00	15-Apr-2021 00:00
Compound	*CAS Number*	*LOR*	*Unit*	**EB2110706-064**	**EB2110706-065**	**EB2110706-066**	**EB2110706-067**	**EB2110706-068**
				Result	Result	Result	Result	Result
EA037: Ass Field Screening Analysis								
ø **pH (F)**	----	0.1	pH Unit	**5.2**	**5.0**	**4.8**	**5.0**	**5.0**
ø **pH (Fox)**	----	0.1	pH Unit	**3.8**	**3.9**	**3.5**	**3.6**	**3.5**
ø **Reaction Rate**	----	1	-	**1**	**1**	**1**	**2**	**1**

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)			Sample ID	2/0.25	2/0.5	2/0.75	2/1.0	2/1.25
			Sampling date / time	15-Apr-2021 00:00	15-Apr-2021 00:00	15-Apr-2021 00:00	15-Apr-2021 00:00	15-Apr-2021 00:00
Compound	*CAS Number*	*LOR*	*Unit*	**EB2110706-069**	**EB2110706-070**	**EB2110706-071**	**EB2110706-072**	**EB2110706-073**
				Result	Result	Result	Result	Result
EA037: Ass Field Screening Analysis								
ø **pH (F)**	----	0.1	pH Unit	**5.6**	**5.8**	**5.7**	**5.4**	**5.4**
ø **pH (Fox)**	----	0.1	pH Unit	**3.8**	**4.2**	**4.7**	**4.6**	**4.2**
ø **Reaction Rate**	----	1	-	**2**	**2**	**1**	**1**	**1**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	2/1.5	2/1.75	2/2.0	Trip Blank	R4
			Sampling date / time	15-Apr-2021 00:00	15-Apr-2021 00:00	15-Apr-2021 00:00	13-Apr-2021 00:00	15-Apr-2021 00:00
Compound	CAS Number	LOR	Unit	EB2110706-074	EB2110706-075	EB2110706-076	EB2110706-077	EB2110706-082
				Result	Result	Result	Result	Result
EA037: Ass Field Screening Analysis								
ø pH (F)	----	0.1	pH Unit	5.4	5.4	5.8	----	----
ø pH (Fox)	----	0.1	pH Unit	4.3	4.2	4.4	----	----
ø Reaction Rate	----	1	-	1	1	1	----	----
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	----	----	----	----	33.8
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	----	----	----	----	<5
Cadmium	7440-43-9	1	mg/kg	----	----	----	----	<1
Chromium	7440-47-3	2	mg/kg	----	----	----	----	38
Copper	7440-50-8	5	mg/kg	----	----	----	----	5
Lead	7439-92-1	5	mg/kg	----	----	----	----	14
Nickel	7440-02-0	2	mg/kg	----	----	----	----	5
Zinc	7440-66-6	5	mg/kg	----	----	----	----	7
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	----	----	----	----	0.1
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	----	----	----	----	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	----	----	----	----	<0.5
Acenaphthene	83-32-9	0.5	mg/kg	----	----	----	----	<0.5
Fluorene	86-73-7	0.5	mg/kg	----	----	----	----	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	----	----	----	----	<0.5
Anthracene	120-12-7	0.5	mg/kg	----	----	----	----	<0.5
Fluoranthene	206-44-0	0.5	mg/kg	----	----	----	----	<0.5
Pyrene	129-00-0	0.5	mg/kg	----	----	----	----	<0.5
Benz(a)anthracene	56-55-3	0.5	mg/kg	----	----	----	----	<0.5
Chrysene	218-01-9	0.5	mg/kg	----	----	----	----	<0.5
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	----	----	----	----	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	----	----	----	----	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg	----	----	----	----	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	----	----	----	----	<0.5
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	----	----	----	----	<0.5
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	----	----	----	----	<0.5
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	----	----	----	----	<0.5
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	----	----	----	----	<0.5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	2/1.5	2/1.75	2/2.0	Trip Blank	R4
				Sampling date / time	15-Apr-2021 00:00	15-Apr-2021 00:00	15-Apr-2021 00:00	13-Apr-2021 00:00	15-Apr-2021 00:00
Compound	CAS Number	LOR	Unit		EB2110706-074	EB2110706-075	EB2110706-076	EB2110706-077	EB2110706-082
					Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		----	----	----	----	**0.6**
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		----	----	----	----	**1.2**
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		----	----	----	<10	<10
C10 - C14 Fraction	----	50	mg/kg		----	----	----	----	<50
C15 - C28 Fraction	----	100	mg/kg		----	----	----	----	<100
C29 - C36 Fraction	----	100	mg/kg		----	----	----	----	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg		----	----	----	----	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		----	----	----	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg		----	----	----	<10	<10
>C10 - C16 Fraction	----	50	mg/kg		----	----	----	----	<50
>C16 - C34 Fraction	----	100	mg/kg		----	----	----	----	<100
>C34 - C40 Fraction	----	100	mg/kg		----	----	----	----	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg		----	----	----	----	<50
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg		----	----	----	----	<50
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		----	----	----	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg		----	----	----	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg		----	----	----	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		----	----	----	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg		----	----	----	<0.5	<0.5
^ Sum of BTEX	----	0.2	mg/kg		----	----	----	<0.2	<0.2
^ Total Xylenes	----	0.5	mg/kg		----	----	----	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg		----	----	----	<1	<1
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		----	----	----	----	**82.2**
2-Chlorophenol-D4	93951-73-6	0.5	%		----	----	----	----	**93.2**
2.4.6-Tribromophenol	118-79-6	0.5	%		----	----	----	----	**80.5**
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		----	----	----	----	**93.3**
Anthracene-d10	1719-06-8	0.5	%		----	----	----	----	**79.4**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	2/1.5	2/1.75	2/2.0	Trip Blank	R4
				Sampling date / time	15-Apr-2021 00:00	15-Apr-2021 00:00	15-Apr-2021 00:00	13-Apr-2021 00:00	15-Apr-2021 00:00
Compound	CAS Number	LOR	Unit		EB2110706-074	EB2110706-075	EB2110706-076	EB2110706-077	EB2110706-082
					Result	Result	Result	Result	Result
EP075(SIM)T: PAH Surrogates - Continued									
4-Terphenyl-d14	1718-51-0	0.5	%		----	----	----	----	101
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.2	%		----	----	----	122	116
Toluene-D8	2037-26-5	0.2	%		----	----	----	109	96.8
4-Bromofluorobenzene	460-00-4	0.2	%		----	----	----	124	116

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	R5	----	----	----	----
				Sampling date / time	15-Apr-2021 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit	EB2110706-083	--------	--------	--------	--------	
				Result	----	----	----	----	
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	1.0	%	**36.0**	----	----	----	----	
EG005(ED093)T: Total Metals by ICP-AES									
Arsenic	7440-38-2	5	mg/kg	**6**	----	----	----	----	
Cadmium	7440-43-9	1	mg/kg	<1	----	----	----	----	
Chromium	7440-47-3	2	mg/kg	**28**	----	----	----	----	
Copper	7440-50-8	5	mg/kg	**14**	----	----	----	----	
Lead	7439-92-1	5	mg/kg	**25**	----	----	----	----	
Nickel	7440-02-0	2	mg/kg	**10**	----	----	----	----	
Zinc	7440-66-6	5	mg/kg	**335**	----	----	----	----	
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg	**0.1**	----	----	----	----	
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg	<0.5	----	----	----	----	
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	----	----	----	----	
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	----	----	----	----	
Fluorene	86-73-7	0.5	mg/kg	<0.5	----	----	----	----	
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	----	----	----	----	
Anthracene	120-12-7	0.5	mg/kg	<0.5	----	----	----	----	
Fluoranthene	206-44-0	0.5	mg/kg	<0.5	----	----	----	----	
Pyrene	129-00-0	0.5	mg/kg	**0.7**	----	----	----	----	
Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	----	----	----	----	
Chrysene	218-01-9	0.5	mg/kg	<0.5	----	----	----	----	
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	----	----	----	----	
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	----	----	----	----	
Benzo(a)pyrene	50-32-8	0.5	mg/kg	**0.6**	----	----	----	----	
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	----	----	----	----	
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	----	----	----	----	
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	**0.6**	----	----	----	----	
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	**1.9**	----	----	----	----	
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	**0.6**	----	----	----	----	
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg	**1.0**	----	----	----	----	
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg	**1.3**	----	----	----	----	
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg	<10	----	----	----	----	

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	R5	----	----	----	----
				Sampling date / time	15-Apr-2021 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		EB2110706-083	--------	--------	--------	--------
					Result	----	----	----	----
EP080/071: Total Petroleum Hydrocarbons - Continued									
C10 - C14 Fraction	----	50	mg/kg		<50	----	----	----	----
C15 - C28 Fraction	----	100	mg/kg		**200**	----	----	----	----
C29 - C36 Fraction	----	100	mg/kg		**170**	----	----	----	----
^ **C10 - C36 Fraction (sum)**	----	50	mg/kg		**370**	----	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	----	----	----	----
^ **C6 - C10 Fraction minus BTEX (F1)**	C6_C10-BTEX	10	mg/kg		<10	----	----	----	----
>C10 - C16 Fraction	----	50	mg/kg		**80**	----	----	----	----
>C16 - C34 Fraction	----	100	mg/kg		**270**	----	----	----	----
>C34 - C40 Fraction	----	100	mg/kg		<100	----	----	----	----
^ **>C10 - C40 Fraction (sum)**	----	50	mg/kg		**350**	----	----	----	----
^ **>C10 - C16 Fraction minus Naphthalene (F2)**	----	50	mg/kg		**80**	----	----	----	----
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	----	----	----	----
Toluene	108-88-3	0.5	mg/kg		<0.5	----	----	----	----
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	----	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	----	----	----	----
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	----	----	----	----
^ **Sum of BTEX**	----	0.2	mg/kg		<0.2	----	----	----	----
^ **Total Xylenes**	----	0.5	mg/kg		<0.5	----	----	----	----
Naphthalene	91-20-3	1	mg/kg		<1	----	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		**93.7**	----	----	----	----
2-Chlorophenol-D4	93951-73-6	0.5	%		**100**	----	----	----	----
2.4.6-Tribromophenol	118-79-6	0.5	%		**103**	----	----	----	----
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		**110**	----	----	----	----
Anthracene-d10	1719-06-8	0.5	%		**101**	----	----	----	----
4-Terphenyl-d14	1718-51-0	0.5	%		**123**	----	----	----	----
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.2	%		**118**	----	----	----	----
Toluene-D8	2037-26-5	0.2	%		**98.7**	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	R5	----	----	----	----
				Sampling date / time	15-Apr-2021 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		EB2110706-083	--------	--------	--------	--------
					Result	----	----	----	----
EP080S: TPH(V)/BTEX Surrogates - Continued									
4-Bromofluorobenzene	460-00-4	0.2	%		**113**	**----**	**----**	**----**	**----**

Analytical Results

Descriptive Results

Sub-Matrix: **SOIL**

Method: Compound	Sample ID - Sampling date / time	Analytical Results
EA200: AS 4964 - 2004 Identification of Asbestos in Soils		
EA200: Description	26/0.1 - 14-Apr-2021 00:00	Yellow clay like soil with rock and organic matter.
EA200: Description	27/0.1 - 15-Apr-2021 00:00	Brown clay like soil with organic matter.
EA200: Description	28/0.1 - 15-Apr-2021 00:00	Brown rocky soil with organic matter.
EA200: Description	29/0.1 - 14-Apr-2021 00:00	Tan clay like soil with rock and organic matter.
EA200: Description	30/0.1 - 14-Apr-2021 00:00	Brown yellow clay like soil with rock and organic matter.
EA200: Description	31/0.2 - 15-Apr-2021 00:00	Brown tan sandy soil with rock and organic matter.
EA200: Description	BH1/0.1 - 14-Apr-2021 00:00	Brown tan clay like soil with organic matter.
EA200: Description	BH2/0.1 - 14-Apr-2021 00:00	Brown soil with rock and organic matter.
EA200: Description	BH3/0.1 - 14-Apr-2021 00:00	Brown red clay like soil with organic matter.
EA200: Description	BH4/0.1 - 14-Apr-2021 00:00	Brown clay like soil with organic matter.
EA200: Description	BH5/0.1 - 14-Apr-2021 00:00	Brown clay like soil with organic matter.
EA200: Description	BH6/0.1 - 14-Apr-2021 00:00	Brown clay like soil with organic matter.

Surrogate Control Limits

Sub-Matrix: **SOIL**		Recovery Limits (%)	
Compound	*CAS Number*	*Low*	*High*
EP066S: PCB Surrogate			
Decachlorobiphenyl	2051-24-3	16	134
EP068S: Organochlorine Pesticide Surrogate			
Dibromo-DDE	21655-73-2	10	138
EP068T: Organophosphorus Pesticide Surrogate			
DEF	78-48-8	23	134
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	35	154
2-Chlorophenol-D4	93951-73-6	42	153
2.4.6-Tribromophenol	118-79-6	26	157
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	34	156
Anthracene-d10	1719-06-8	37	153
4-Terphenyl-d14	1718-51-0	42	172
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	53	134
Toluene-D8	2037-26-5	60	131
4-Bromofluorobenzene	460-00-4	59	127

Inter-Laboratory Testing

Analysis conducted by ALS Melbourne, NATA accreditation no. 825, site no. 13778 (Chemistry).

(SOIL) EA200: AS 4964 - 2004 Identification of Asbestos in Soils

ALS Environmental

QUALITY CONTROL REPORT

Work Order	: **EB2110706**	Page	: 1 of 17
Client	: **DOUGLAS PARTNERS PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	: ROB MULLER	Contact	: John Pickering
Address	: 439 MONTAGUE ROAD WEST END QLD, AUSTRALIA 4101	Address	: 2 Byth Street Stafford QLD Australia 4053
Telephone	: ----	Telephone	: +61 7 3552 8634
Project	: 203033.01	Date Samples Received	: 20-Apr-2021
Order number	: 203033.01	Date Analysis Commenced	: 22-Apr-2021
C-O-C number	: ----	Issue Date	: 05-May-2021
Sampler	: SARAH McKAY		
Site	: ----		
Quote number	: EN/222		
No. of samples received	: 82		
No. of samples analysed	: 56		

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 Quality Control Report contains the following information:

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

Signatories

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

Signatories	*Position*	*Accreditation Category*
Ben Felgendrejeris	Senior Acid Sulfate Soil Chemist	Brisbane Acid Sulphate Soils, Stafford, QLD
Mark Hallas	Senior Inorganic Chemist	Brisbane Acid Sulphate Soils, Stafford, QLD
Mark Hallas	Senior Inorganic Chemist	Brisbane Inorganics, Stafford, QLD
Matt Frost	Assistant Laboratory Manager	Brisbane Inorganics, Stafford, QLD
Matt Frost	Assistant Laboratory Manager	Brisbane Organics, Stafford, QLD
Satishkumar Trivedi	Senior Acid Sulfate Soil Chemist	Brisbane Acid Sulphate Soils, Stafford, QLD
Uyen Dalkin	Approved Asbestos Identifier	Melbourne Asbestos, Springvale, VIC

General Comments

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

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

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

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: 3635269)									
EB2110394-030	Anonymous	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.00	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	47	# 35	28.2	0% - 20%
		EG005T: Nickel	7440-02-0	2	mg/kg	5	4	0.00	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	<5	<5	0.00	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	5	6	0.00	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	12	12	0.00	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	6	7	0.00	No Limit
		EG005T: Iron	7439-89-6	50	mg/kg	5.72 %	54600	4.64	0% - 20%
EB2110706-018	29/0.1	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.00	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	62	53	14.2	0% - 20%
		EG005T: Nickel	7440-02-0	2	mg/kg	6	5	24.9	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	8	7	0.00	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	12	10	16.6	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	12	14	17.6	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	35	32	10.7	No Limit
		EG005T: Iron	7439-89-6	50	mg/kg	33600	32100	4.53	0% - 20%
EG005(ED093)T: Total Metals by ICP-AES (QC Lot: 3635271)									
EB2110706-083	R5	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.00	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	28	29	4.13	0% - 50%
		EG005T: Nickel	7440-02-0	2	mg/kg	10	9	0.00	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	6	6	0.00	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	14	16	18.3	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	25	25	0.00	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	335	305	9.34	0% - 20%
		EG005T: Iron	7439-89-6	50	mg/kg	43900	43900	0.00	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: 3638035)									
EB2110706-040	BH6/0.1	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.00	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	25	22	12.8	0% - 50%
		EG005T: Nickel	7440-02-0	2	mg/kg	5	4	0.00	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	<5	<5	0.00	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	10	9	15.4	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	19	17	8.79	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	48	42	12.7	No Limit
		EG005T: Iron	7439-89-6	50	mg/kg	37300	32400	14.0	0% - 20%
EB2111065-003	Anonymous	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.00	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	15	16	6.51	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	12	11	0.00	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	<5	<5	0.00	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	7	7	0.00	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	<5	<5	0.00	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	12	12	0.00	No Limit
		EG005T: Iron	7439-89-6	50	mg/kg	13700	13500	1.43	0% - 20%
EA001: pH in soil using 0.01M CaCl extract (QC Lot: 3635008)									
EB2110394-030	Anonymous	EA001: pH (CaCl2)	----	0.1	pH Unit	4.5	4.6	0.00	0% - 20%
EA002: pH 1:5 (Soils) (QC Lot: 3635274)									
EB2110394-030	Anonymous	EA002: pH Value	----	0.1	pH Unit	5.7	5.6	0.00	0% - 20%
EA010: Conductivity (1:5) (QC Lot: 3635273)									
EB2110394-030	Anonymous	EA010: Electrical Conductivity @ 25°C	----	1	µS/cm	8	8	0.00	No Limit
EA037: Ass Field Screening Analysis (QC Lot: 3649783)									
EB2110706-047	30/0.25	EA037: pH (F)	----	0.1	pH Unit	5.2	5.1	0.00	0% - 20%
		EA037: pH (Fox)	----	0.1	pH Unit	4.0	4.0	0.00	0% - 20%
EB2110706-057	26/0.75	EA037: pH (F)	----	0.1	pH Unit	7.5	7.5	0.00	0% - 20%
		EA037: pH (Fox)	----	0.1	pH Unit	5.4	5.4	0.00	0% - 20%
EA037: Ass Field Screening Analysis (QC Lot: 3649784)									
EB2110706-067	12/1.75	EA037: pH (F)	----	0.1	pH Unit	5.0	4.9	0.00	0% - 20%
		EA037: pH (Fox)	----	0.1	pH Unit	3.6	3.6	0.00	0% - 20%
EB2111250-001	Anonymous	EA037: pH (F)	----	0.1	pH Unit	4.9	4.9	0.00	0% - 20%
		EA037: pH (Fox)	----	0.1	pH Unit	3.8	3.8	0.00	0% - 20%
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 3635282)									
EB2110394-030	Anonymous	EA055: Moisture Content	----	0.1	%	20.7	21.3	3.07	0% - 20%
EB2110706-018	29/0.1	EA055: Moisture Content	----	0.1	%	25.3	25.5	0.804	0% - 20%
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 3635283)									
EB2110706-037	BH4/1.3	EA055: Moisture Content	----	0.1	%	35.4	34.5	2.56	0% - 20%
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 3638050)									
EB2110706-040	BH6/0.1	EA055: Moisture Content	----	0.1	%	26.9	27.2	1.03	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 (%)*
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 3638050) - continued									
EB2111065-003	Anonymous	EA055: Moisture Content	----	0.1	%	35.4	33.7	4.75	0% - 20%
ED005: Exchange Acidity (QC Lot: 3649732)									
EB2110394-030	Anonymous	ED005: Exchange Acidity	----	0.1	meq/100g	0.7	0.6	0.00	No Limit
		ED005: Exchangeable Aluminium	----	0.1	meq/100g	0.2	0.2	0.00	No Limit
ED007: Exchangeable Cations (QC Lot: 3649731)									
EB2110394-030	Anonymous	ED007: Exchangeable Calcium	----	0.1	meq/100g	1.1	1.1	0.00	0% - 50%
		ED007: Exchangeable Magnesium	----	0.1	meq/100g	0.8	0.8	0.00	No Limit
		ED007: Exchangeable Potassium	----	0.1	meq/100g	<0.1	<0.1	0.00	No Limit
		ED007: Exchangeable Sodium	----	0.1	meq/100g	<0.1	<0.1	0.00	No Limit
ED040S: Soluble Major Anions (QC Lot: 3635275)									
EB2110706-030	BH1/0.5	ED040S: Sulfate as SO4 2-	14808-79-8	10	mg/kg	50	50	0.00	No Limit
ED045G: Chloride by Discrete Analyser (QC Lot: 3635276)									
EB2110706-030	BH1/0.5	ED045G: Chloride	16887-00-6	10	mg/kg	<10	<10	0.00	No Limit
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 3635270)									
EB2110394-030	Anonymous	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.00	No Limit
EB2110706-018	29/0.1	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.00	No Limit
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 3635272)									
EB2110706-083	R5	EG035T: Mercury	7439-97-6	0.1	mg/kg	0.1	0.1	0.00	No Limit
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 3638036)									
EB2110706-040	BH6/0.1	EG035T: Mercury	7439-97-6	0.1	mg/kg	0.2	0.3	0.00	No Limit
EB2111065-003	Anonymous	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.00	No Limit
EP004: Organic Matter (QC Lot: 3638298)									
EB2110255-001	Anonymous	EP004: Organic Matter	----	0.5	%	<0.5	<0.5	0.00	No Limit
		EP004: Total Organic Carbon	----	0.5	%	<0.5	<0.5	0.00	No Limit
EP066: Polychlorinated Biphenyls (PCB) (QC Lot: 3635280)									
EB2110394-078	Anonymous	EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	<0.1	0.00	No Limit
EP068A: Organochlorine Pesticides (OC) (QC Lot: 3635281)									
EB2110394-078	Anonymous	EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Total Chlordane (sum)	----	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit

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: 3635281) - continued									
EB2110394-078	Anonymous	EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: 4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endosulfan (sum)	115-29-7	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: 4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: 4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
EP068B: Organophosphorus Pesticides (OP) (QC Lot: 3635281)									
EB2110394-078	Anonymous	EP068: Dichlorvos	62-73-7	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Dimethoate	60-51-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Diazinon	333-41-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Malathion	121-75-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Fenthion	55-38-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Prothiofos	34643-46-4	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Ethion	563-12-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Carbophenothion	786-19-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP068: Parathion	56-38-2	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
EP075(SIM)A: Phenolic Compounds (QC Lot: 3635279)									
EB2110394-077	Anonymous	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.00	No Limit

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 (%)*
EP075(SIM)A: Phenolic Compounds (QC Lot: 3635279) - continued									
EB2110394-077	Anonymous	EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	0.00	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	0.00	No Limit
EB2110706-024	31/0.1	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	0.00	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	0.00	No Limit
EP075(SIM)A: Phenolic Compounds (QC Lot: 3639332)									
EB2110706-040	BH6/0.1	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	0.00	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	0.00	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 3635279)									
EB2110394-077	Anonymous	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit

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 (%)*
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 3635279) - continued									
EB2110394-077	Anonymous	EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
EB2110706-024	31/0.1	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 3639332)									
EB2110706-040	BH6/0.1	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit

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 (%)*
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 3639332) - continued									
EB2110706-040	BH6/0.1	EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 3635277)									
EB2110394-077	Anonymous	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.00	No Limit
EB2110706-024	31/0.1	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.00	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 3635278)									
EB2110394-077	Anonymous	EP071: C15 - C28 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.00	No Limit
EB2110706-024	31/0.1	EP071: C15 - C28 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.00	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 3638038)									
EB2110706-040	BH6/0.1	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.00	No Limit
EB2111065-003	Anonymous	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.00	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 3639333)									
EB2110706-040	BH6/0.1	EP071: C15 - C28 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.00	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 3635277)									
EB2110394-077	Anonymous	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.00	No Limit
EB2110706-024	31/0.1	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.00	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 3635278)									
EB2110394-077	Anonymous	EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.00	No Limit
EB2110706-024	31/0.1	EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.00	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 3638038)									
EB2110706-040	BH6/0.1	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.00	No Limit
EB2111065-003	Anonymous	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.00	No Limit

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 (%)*
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 3639333)									
EB2110706-040	BH6/0.1	EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.00	No Limit
EP080: BTEXN (QC Lot: 3635277)									
EB2110394-077	Anonymous	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.00	No Limit
EB2110706-024	31/0.1	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.00	No Limit
EP080: BTEXN (QC Lot: 3638038)									
EB2110706-040	BH6/0.1	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.00	No Limit
EB2111065-003	Anonymous	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.00	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: **SOIL**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 3635269)								
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	83.4 mg/kg	114	84.0	123
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	----	----	----	----
EG005T: Chromium	7440-47-3	2	mg/kg	<2	14.1 mg/kg	113	83.0	125
EG005T: Copper	7440-50-8	5	mg/kg	<5	50 mg/kg	102	86.0	122
EG005T: Iron	7439-89-6	50	mg/kg	<50	29422 mg/kg	106	70.0	120
EG005T: Lead	7439-92-1	5	mg/kg	<5	55.4 mg/kg	106	84.0	119
EG005T: Nickel	7440-02-0	2	mg/kg	<2	11.8 mg/kg	111	81.5	118
EG005T: Zinc	7440-66-6	5	mg/kg	<5	148.7 mg/kg	104	80.0	120
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 3635271)								
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	83.4 mg/kg	121	84.0	123
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	----	----	----	----
EG005T: Chromium	7440-47-3	2	mg/kg	<2	14.1 mg/kg	114	83.0	125
EG005T: Copper	7440-50-8	5	mg/kg	<5	50 mg/kg	102	86.0	122
EG005T: Iron	7439-89-6	50	mg/kg	<50	29422 mg/kg	106	70.0	120
EG005T: Lead	7439-92-1	5	mg/kg	<5	55.4 mg/kg	112	84.0	119
EG005T: Nickel	7440-02-0	2	mg/kg	<2	11.8 mg/kg	113	81.5	118
EG005T: Zinc	7440-66-6	5	mg/kg	<5	148.7 mg/kg	103	80.0	120
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 3638035)								
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	83.4 mg/kg	108	84.0	123
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	----	----	----	----
EG005T: Chromium	7440-47-3	2	mg/kg	<2	14.1 mg/kg	102	83.0	125
EG005T: Copper	7440-50-8	5	mg/kg	<5	50 mg/kg	91.9	86.0	122
EG005T: Iron	7439-89-6	50	mg/kg	<50	29422 mg/kg	98.7	70.0	120
EG005T: Lead	7439-92-1	5	mg/kg	<5	55.4 mg/kg	100	84.0	119
EG005T: Nickel	7440-02-0	2	mg/kg	<2	11.8 mg/kg	101	81.5	118
EG005T: Zinc	7440-66-6	5	mg/kg	<5	148.7 mg/kg	95.6	80.0	120
EA001: pH in soil using 0.01M CaCl extract (QCLot: 3635008)								
EA001: pH (CaCl2)	----	----	pH Unit	----	4 pH Unit	101	99.0	101
				----	7 pH Unit	100	99.0	101
EA002: pH 1:5 (Soils) (QCLot: 3635274)								
EA002: pH Value	----	----	pH Unit	----	4 pH Unit	101	98.0	102
				----	7 pH Unit	100	98.0	102
EA010: Conductivity (1:5) (QCLot: 3635273)								
EA010: Electrical Conductivity @ 25°C	----	1	µS/cm	<1	1412 µS/cm	98.3	97.0	103

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EA152: Soil Particle Density (QCLot: 3636301)								
EA152: Soil Particle Density (Clay/Silt/Sand)	----	----	g/cm3	----	2.68 g/cm3	100	80.0	120
ED005: Exchange Acidity (QCLot: 3649732)								
ED005: Exchange Acidity	----	0.1	meq/100g	<0.1	----	----	----	----
ED005: Exchangeable Aluminium	----	0.1	meq/100g	<0.1	----	----	----	----
ED007: Exchangeable Cations (QCLot: 3649731)								
ED007: Exchangeable Calcium	----	0.1	meq/100g	<0.1	6.5 meq/100g	99.4	79.0	113
ED007: Exchangeable Magnesium	----	0.1	meq/100g	<0.1	8.6 meq/100g	96.0	85.0	115
ED007: Exchangeable Potassium	----	0.1	meq/100g	<0.1	1.6 meq/100g	93.8	70.0	122
ED007: Exchangeable Sodium	----	0.1	meq/100g	<0.1	1.8 meq/100g	95.1	76.0	112
ED007: Cation Exchange Capacity	----	0.1	meq/100g	<0.1	18.5 meq/100g	96.9	82.0	112
ED040S: Soluble Major Anions (QCLot: 3635275)								
ED040S: Sulfate as SO4 2-	14808-79-8	10	mg/kg	<10	750 mg/kg	98.3	90.0	114
ED045G: Chloride by Discrete Analyser (QCLot: 3635276)								
ED045G: Chloride	16887-00-6	10	mg/kg	<10	50 mg/kg	93.6	83.0	119
				<10	5000 mg/kg	105	83.0	119
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3635270)								
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	0.087 mg/kg	104	70.0	125
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3635272)								
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	0.087 mg/kg	122	70.0	125
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3638036)								
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	0.087 mg/kg	110	70.0	125
EP004: Organic Matter (QCLot: 3638298)								
EP004: Organic Matter	----	0.5	%	<0.5	80 %	98.8	83.0	115
EP004: Total Organic Carbon	----	0.5	%	<0.5	46.4 %	98.8	85.0	115
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 3635280)								
EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	1 mg/kg	97.4	71.6	155
EP068A: Organochlorine Pesticides (OC) (QCLot: 3635281)								
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	106	71.0	127
EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	0.5 mg/kg	98.1	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	97.7	70.6	122
EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	0.5 mg/kg	106	64.8	127
EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	0.5 mg/kg	104	72.4	122
EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	0.5 mg/kg	98.4	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	102	65.6	124

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP068A: Organochlorine Pesticides (OC) (QCLot: 3635281) - continued								
EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	0.5 mg/kg	98.0	70.4	122
EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	0.5 mg/kg	100	65.6	125
EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	0.5 mg/kg	100	69.1	124
EP068: 4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	0.5 mg/kg	95.4	72.4	125
EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	0.5 mg/kg	105	63.2	127
EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	0.5 mg/kg	98.1	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	90.7	61.2	124
EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	0.5 mg/kg	97.0	55.5	125
EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	0.5 mg/kg	90.3	57.1	117
EP068: 4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	0.5 mg/kg	98.5	51.9	125
EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	0.5 mg/kg	84.8	46.5	122
EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	0.5 mg/kg	86.6	34.0	130
EP068: Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-2	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: 3635281)								
EP068: Dichlorvos	62-73-7	0.05	mg/kg	<0.05	0.5 mg/kg	91.4	55.8	126
EP068: Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	0.5 mg/kg	81.7	45.9	136
EP068: Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	0.5 mg/kg	36.1	20.0	147
EP068: Dimethoate	60-51-5	0.05	mg/kg	<0.05	0.5 mg/kg	70.7	44.1	125
EP068: Diazinon	333-41-5	0.05	mg/kg	<0.05	0.5 mg/kg	102	70.3	125
EP068: Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	0.5 mg/kg	97.2	63.2	124
EP068: Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	0.5 mg/kg	82.2	44.2	129
EP068: Malathion	121-75-5	0.05	mg/kg	<0.05	0.5 mg/kg	85.9	52.3	133
EP068: Fenthion	55-38-9	0.05	mg/kg	<0.05	0.5 mg/kg	89.6	62.9	126
EP068: Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	0.5 mg/kg	91.0	69.2	123
EP068: Parathion	56-38-2	0.2	mg/kg	<0.2	0.5 mg/kg	102	37.6	138
EP068: Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	0.5 mg/kg	91.6	59.6	131
EP068: Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	0.5 mg/kg	99.4	46.4	144
EP068: Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	0.5 mg/kg	85.0	56.8	128
EP068: Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	0.5 mg/kg	80.2	24.4	135
EP068: Prothiofos	34643-46-4	0.05	mg/kg	<0.05	0.5 mg/kg	85.6	55.9	123
EP068: Ethion	563-12-2	0.05	mg/kg	<0.05	0.5 mg/kg	90.9	45.0	138
EP068: Carbophenothion	786-19-6	0.05	mg/kg	<0.05	0.5 mg/kg	106	41.6	141
EP068: Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	0.5 mg/kg	55.7	20.0	145
EP075(SIM)A: Phenolic Compounds (QCLot: 3635279)								
EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	1.5 mg/kg	89.4	78.0	134

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP075(SIM)A: Phenolic Compounds (QCLot: 3635279) - continued								
EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	1.5 mg/kg	86.2	78.0	132
EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	1.5 mg/kg	86.1	78.0	132
EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	3 mg/kg	87.9	77.2	135
EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	1.5 mg/kg	104	42.9	156
EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	1.5 mg/kg	83.4	70.3	141
EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	1.5 mg/kg	92.8	69.9	135
EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	1.5 mg/kg	99.9	72.9	136
EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	1.5 mg/kg	91.9	53.3	138
EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	1.5 mg/kg	93.1	50.9	140
EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	1.5 mg/kg	89.1	45.5	140
EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	3 mg/kg	80.1	20.0	130
EP075(SIM)A: Phenolic Compounds (QCLot: 3639332)								
EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	1.5 mg/kg	105	78.0	134
EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	1.5 mg/kg	108	78.0	132
EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	1.5 mg/kg	98.5	78.0	132
EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	3 mg/kg	102	77.2	135
EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	1.5 mg/kg	87.2	42.9	156
EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	1.5 mg/kg	89.4	70.3	141
EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	1.5 mg/kg	94.9	69.9	135
EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	1.5 mg/kg	98.9	72.9	136
EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	1.5 mg/kg	105	53.3	138
EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	1.5 mg/kg	87.2	50.9	140
EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	1.5 mg/kg	82.0	45.5	140
EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	3 mg/kg	125	20.0	130
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 3635279)								
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	1.5 mg/kg	94.9	72.6	133
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	1.5 mg/kg	86.9	63.2	144
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	1.5 mg/kg	97.1	73.0	117
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	1.5 mg/kg	95.4	76.2	134
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	1.5 mg/kg	98.2	71.8	137
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	1.5 mg/kg	89.9	77.1	143
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	1.5 mg/kg	92.2	74.1	140
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	1.5 mg/kg	93.6	72.0	139
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	1.5 mg/kg	85.9	58.0	145
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	1.5 mg/kg	89.8	63.0	147
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	1.5 mg/kg	84.4	70.5	142
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	1.5 mg/kg	95.8	75.5	138
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	1.5 mg/kg	92.6	68.5	140

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 3635279) - continued								
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	1.5 mg/kg	92.6	58.4	143
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	1.5 mg/kg	85.0	52.1	149
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	1.5 mg/kg	98.9	64.6	140
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 3639332)								
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	1.5 mg/kg	99.4	72.6	133
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	1.5 mg/kg	90.8	63.2	144
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	1.5 mg/kg	92.3	73.0	117
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	1.5 mg/kg	89.7	76.2	134
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	1.5 mg/kg	104	71.8	137
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	1.5 mg/kg	104	77.1	143
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	1.5 mg/kg	98.4	74.1	140
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	1.5 mg/kg	100	72.0	139
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	1.5 mg/kg	101	58.0	145
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	1.5 mg/kg	100	63.0	147
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	1.5 mg/kg	99.4	70.5	142
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	1.5 mg/kg	81.3	75.5	138
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	1.5 mg/kg	88.6	68.5	140
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	1.5 mg/kg	91.4	58.4	143
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	1.5 mg/kg	83.7	52.1	149
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	1.5 mg/kg	86.2	64.6	140
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3635277)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	18 mg/kg	109	59.7	125
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3635278)								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	310 mg/kg	105	79.4	125
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	490 mg/kg	113	78.8	122
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	----	----	----	----
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3638038)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	18 mg/kg	90.1	59.7	125
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3639333)								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	310 mg/kg	112	79.4	125
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	490 mg/kg	104	78.8	122
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	----	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3635277)								
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	22.5 mg/kg	104	58.1	124
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3635278)								
EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	450 mg/kg	109	81.3	122
EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	320 mg/kg	115	75.6	125

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3635278) - continued								
EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	----	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3638038)								
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	22.5 mg/kg	87.8	58.1	124
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3639333)								
EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	450 mg/kg	109	81.3	122
EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	320 mg/kg	104	75.6	125
EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	----	----	----	----
EP080: BTEXN (QCLot: 3635277)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	1 mg/kg	99.1	66.8	115
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	1 mg/kg	97.2	68.8	116
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	1 mg/kg	95.5	68.5	116
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	2 mg/kg	99.5	69.7	118
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	1 mg/kg	104	72.2	116
EP080: Naphthalene	91-20-3	1	mg/kg	<1	1 mg/kg	91.9	73.2	116
EP080: BTEXN (QCLot: 3638038)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	1 mg/kg	83.7	66.8	115
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	1 mg/kg	90.8	68.8	116
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	1 mg/kg	89.9	68.5	116
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	2 mg/kg	95.6	69.7	118
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	1 mg/kg	96.7	72.2	116
EP080: Naphthalene	91-20-3	1	mg/kg	<1	1 mg/kg	90.0	73.2	116

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: **SOIL**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	SpikeRecovery(%): MS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 3635269)							
EB2110394-077	Anonymous	EG005T: Arsenic	7440-38-2	100 mg/kg	94.2	70.0	130
		EG005T: Cadmium	7440-43-9	25 mg/kg	94.3	70.0	130
		EG005T: Chromium	7440-47-3	100 mg/kg	93.9	70.0	130
		EG005T: Copper	7440-50-8	100 mg/kg	95.3	70.0	130
		EG005T: Lead	7439-92-1	100 mg/kg	94.8	70.0	130
		EG005T: Nickel	7440-02-0	100 mg/kg	93.8	70.0	130

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: 3635269) - continued							
EB2110394-077	Anonymous	EG005T: Zinc	7440-66-6	100 mg/kg	93.5	70.0	130
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 3638035)							
EB2111018-001	Anonymous	EG005T: Arsenic	7440-38-2	100 mg/kg	79.4	70.0	130
		EG005T: Cadmium	7440-43-9	25 mg/kg	90.0	70.0	130
		EG005T: Chromium	7440-47-3	100 mg/kg	89.0	70.0	130
		EG005T: Copper	7440-50-8	100 mg/kg	90.2	70.0	130
		EG005T: Lead	7439-92-1	100 mg/kg	90.0	70.0	130
		EG005T: Nickel	7440-02-0	100 mg/kg	89.5	70.0	130
		EG005T: Zinc	7440-66-6	100 mg/kg	87.2	70.0	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3635270)							
EB2110394-077	Anonymous	EG035T: Mercury	7439-97-6	0.5 mg/kg	91.7	70.0	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3638036)							
EB2111018-001	Anonymous	EG035T: Mercury	7439-97-6	0.5 mg/kg	88.8	70.0	130
EP004: Organic Matter (QCLot: 3638298)							
EB2110255-002	Anonymous	EP004: Organic Matter	----	4 %	98.5	70.0	130
		EP004: Total Organic Carbon	----	2.32 %	98.6	70.0	130
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 3635280)							
EB2110394-086	Anonymous	EP066: Total Polychlorinated biphenyls	----	1 mg/kg	105	70.0	130
EP068A: Organochlorine Pesticides (OC) (QCLot: 3635281)							
EB2110394-086	Anonymous	EP068: gamma-BHC	58-89-9	0.5 mg/kg	102	70.0	136
		EP068: Heptachlor	76-44-8	0.5 mg/kg	107	65.0	130
		EP068: Aldrin	309-00-2	0.5 mg/kg	104	70.0	130
		EP068: Dieldrin	60-57-1	0.5 mg/kg	101	67.0	129
		EP068: Endrin	72-20-8	0.5 mg/kg	107	60.0	137
		EP068: 4.4`-DDT	50-29-3	0.5 mg/kg	98.4	70.0	130
EP068B: Organophosphorus Pesticides (OP) (QCLot: 3635281)							
EB2110394-086	Anonymous	EP068: Diazinon	333-41-5	0.5 mg/kg	101	70.0	131
		EP068: Chlorpyrifos-methyl	5598-13-0	0.5 mg/kg	97.4	70.0	130
		EP068: Pirimphos-ethyl	23505-41-1	0.5 mg/kg	92.8	70.0	130
		EP068: Bromophos-ethyl	4824-78-6	0.5 mg/kg	87.6	70.0	130
		EP068: Prothiofos	34643-46-4	0.5 mg/kg	85.2	70.0	134
EP075(SIM)A: Phenolic Compounds (QCLot: 3635279)							
EB2110394-078	Anonymous	EP075(SIM): Phenol	108-95-2	1.5 mg/kg	88.1	70.0	130
		EP075(SIM): 2-Chlorophenol	95-57-8	1.5 mg/kg	85.5	70.0	130
		EP075(SIM): 2-Nitrophenol	88-75-5	1.5 mg/kg	90.8	70.0	130
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	1.5 mg/kg	86.3	70.0	130

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*Concentration*	*MS*	*Low*	*High*
EP075(SIM)A: Phenolic Compounds (QCLot: 3635279) - continued							
EB2110394-078	Anonymous	EP075(SIM): Pentachlorophenol	87-86-5	3 mg/kg	90.6	20.0	130
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 3635279)							
EB2110394-078	Anonymous	EP075(SIM): Acenaphthene	83-32-9	1.5 mg/kg	95.4	70.0	130
		EP075(SIM): Pyrene	129-00-0	1.5 mg/kg	94.6	70.0	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3635277)							
EB2110394-078	Anonymous	EP080: C6 - C9 Fraction	----	8 mg/kg	94.3	70.0	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3635278)							
EB2110394-078	Anonymous	EP071: C10 - C14 Fraction	----	310 mg/kg	106	70.0	130
		EP071: C15 - C28 Fraction	----	490 mg/kg	113	70.0	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3638038)							
EB2111018-001	Anonymous	EP080: C6 - C9 Fraction	----	8 mg/kg	81.3	70.0	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3639333)							
EB2111018-001	Anonymous	EP071: C10 - C14 Fraction	----	310 mg/kg	115	70.0	130
		EP071: C15 - C28 Fraction	----	490 mg/kg	109	70.0	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3635277)							
EB2110394-078	Anonymous	EP080: C6 - C10 Fraction	C6_C10	8 mg/kg	86.3	70.0	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3635278)							
EB2110394-078	Anonymous	EP071: >C10 - C16 Fraction	----	450 mg/kg	109	70.0	130
		EP071: >C16 - C34 Fraction	----	320 mg/kg	115	70.0	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3638038)							
EB2111018-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	8 mg/kg	87.9	70.0	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3639333)							
EB2111018-001	Anonymous	EP071: >C10 - C16 Fraction	----	450 mg/kg	114	70.0	130
		EP071: >C16 - C34 Fraction	----	320 mg/kg	110	70.0	130
EP080: BTEXN (QCLot: 3635277)							
EB2110394-078	Anonymous	EP080: Benzene	71-43-2	2 mg/kg	92.2	70.0	130
		EP080: Toluene	108-88-3	2 mg/kg	87.8	70.0	130
EP080: BTEXN (QCLot: 3638038)							
EB2111018-001	Anonymous	EP080: Benzene	71-43-2	2 mg/kg	75.6	70.0	130
		EP080: Toluene	108-88-3	2 mg/kg	80.3	70.0	130

ALS Environmental

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **EB2110706**	Page	: 1 of 13
Client	: **DOUGLAS PARTNERS PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	: ROB MULLER	Telephone	: +61 7 3552 8634
Project	: 203033.01	Date Samples Received	: 20-Apr-2021
Site	: ----	Issue Date	: 05-May-2021
Sampler	: SARAH McKAY	No. of samples received	: 82
Order number	: 203033.01	No. of samples analysed	: 56

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.**
- **NO Matrix Spike outliers occur.**
- **Duplicate outliers exist - please see following pages for full details.**
- **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 : 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	EB2110394--030	Anonymous	**Chromium**	7440-47-3	28.2 %	0% - 20%	**RPD exceeds LOR based limits**

Outliers : Analysis Holding Time Compliance

Matrix: **SOIL**

Method / Container / Client Sample ID(s)		Extraction / Preparation: Date extracted	Due for extraction	Days overdue	Analysis: Date analysed	Due for analysis	Days overdue
EA001: pH in soil using 0.01M CaCl extract							
Soil Glass Jar - Unpreserved							
30/2.0		22-Apr-2021	21-Apr-2021	**1**	----	----	----
EA002: pH 1:5 (Soils)							
Soil Glass Jar - Unpreserved							
30/2.0,	BH1/0.5,	27-Apr-2021	21-Apr-2021	**6**	----	----	----
BH4/0.2,	BH4/1.3,						
BH6/0.3,	BH6/1.9,						
BH7/0.1,	BH7/0.5						
EA010: Conductivity (1:5)							
Soil Glass Jar - Unpreserved							
30/2.0		27-Apr-2021	21-Apr-2021	**6**	----	----	----

Outliers : Frequency of Quality Control Samples

Matrix: **SOIL**

Quality Control Sample Type / Method	Count: QC	Count: Regular	Rate (%): Actual	Rate (%): Expected	Quality Control Specification
Laboratory Duplicates (DUP)					
Soil Particle Density	0	1	0.00	10.00	NEPM 2013 B3 & ALS QC Standard

Analysis Holding Time Compliance

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

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

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

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

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation: Date extracted	Due for extraction	Evaluation	Analysis: Date analysed	Due for analysis	Evaluation

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA001: pH in soil using 0.01M CaCl extract							
Soil Glass Jar - Unpreserved (EA001)							
30/2.0	**14-Apr-2021**	**22-Apr-2021**	21-Apr-2021	×	**22-Apr-2021**	22-Apr-2021	✓
EA002: pH 1:5 (Soils)							
Soil Glass Jar - Unpreserved (EA002)							
30/2.0, BH1/0.5, BH4/0.2, BH4/1.3, BH6/0.3, BH6/1.9, BH7/0.1, BH7/0.5	**14-Apr-2021**	**27-Apr-2021**	21-Apr-2021	×	**27-Apr-2021**	27-Apr-2021	✓
EA010: Conductivity (1:5)							
Soil Glass Jar - Unpreserved (EA010)							
30/2.0	**14-Apr-2021**	**27-Apr-2021**	21-Apr-2021	×	**27-Apr-2021**	25-May-2021	✓
EA037: Ass Field Screening Analysis							
Snap Lock Bag - frozen on receipt at ALS (EA037)							
30/0.25, 30/0.5, 30/0.75, 30/1.0, 30/1.25, 30/1.5, 30/1.75, 30/2.0, 26/0.25, 26/0.5, 26/0.75, 26/1.0, 26/1.25, 26/1.5	**14-Apr-2021**	**30-Apr-2021**	11-Oct-2021	✓	**30-Apr-2021**	11-Oct-2021	✓
Snap Lock Bag - frozen on receipt at ALS (EA037)							
12/0.25, 12/0.5, 12/0.75, 12/1.0, 12/1.25, 12/1.5, 12/1.75, 12/2.0, 2/0.25, 2/0.5, 2/0.75, 2/1.0, 2/1.25, 2/1.5, 2/1.75, 2/2.0	**15-Apr-2021**	**30-Apr-2021**	12-Oct-2021	✓	**30-Apr-2021**	12-Oct-2021	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA055: Moisture Content (Dried @ 105-110°C)							
Soil Glass Jar - Unpreserved (EA055)							
26/0.1, 29/0.1, 30/0.1, 30/2.0, BH1/0.1, BH1/0.5, BH2/0.1, BH3/0.1, BH4/0.1, BH4/0.2, BH4/1.3, BH5/0.6, BH6/0.3, BH6/1.9, BH7/0.1, BH7/0.5	**14-Apr-2021**	**----**	----	----	**22-Apr-2021**	28-Apr-2021	✓
Soil Glass Jar - Unpreserved (EA055)							
BH6/0.1	**14-Apr-2021**	**----**	----	----	**23-Apr-2021**	28-Apr-2021	✓
Soil Glass Jar - Unpreserved (EA055)							
27/0.1, 28/0.5, 31/0.1, R4, R5	**15-Apr-2021**	**----**	----	----	**22-Apr-2021**	29-Apr-2021	✓
EA150: Soil Classification based on Particle Size							
Soil Glass Jar - Unpreserved (EA150H)							
30/2.0	**14-Apr-2021**	**----**	----	----	**30-Apr-2021**	11-Oct-2021	✓
EA152: Soil Particle Density							
Soil Glass Jar - Unpreserved (EA152)							
30/2.0	**14-Apr-2021**	**----**	----	----	**30-Apr-2021**	11-Oct-2021	✓
EA200: AS 4964 - 2004 Identification of Asbestos in Soils							
Snap Lock Bag (EA200)							
26/0.1, 29/0.1, 30/0.1, BH1/0.1, BH2/0.1, BH3/0.1, BH4/0.1, BH5/0.1, BH6/0.1	**14-Apr-2021**	**----**	----	----	**23-Apr-2021**	11-Oct-2021	✓
Snap Lock Bag (EA200)							
27/0.1, 28/0.1	**15-Apr-2021**	**----**	----	----	**23-Apr-2021**	12-Oct-2021	✓
Snap Lock Bag (EA200)							
31/0.2	**15-Apr-2021**	**----**	----	----	**26-Apr-2021**	12-Oct-2021	✓
ED005: Exchange Acidity							
Soil Glass Jar - Unpreserved (ED005)							
30/2.0	**14-Apr-2021**	**29-Apr-2021**	12-May-2021	✓	**04-May-2021**	12-May-2021	✓
ED006: Exchangeable Cations on Alkaline Soils							
Soil Glass Jar - Unpreserved (ED006)							
30/2.0	**14-Apr-2021**	**29-Apr-2021**	12-May-2021	✓	**29-Apr-2021**	12-May-2021	✓
ED007: Exchangeable Cations							
Soil Glass Jar - Unpreserved (ED007)							
30/2.0	**14-Apr-2021**	**29-Apr-2021**	12-May-2021	✓	**04-May-2021**	12-May-2021	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
ED008: Exchangeable Cations							
Soil Glass Jar - Unpreserved (ED008)							
30/2.0	**14-Apr-2021**	**29-Apr-2021**	12-May-2021	✓	**04-May-2021**	12-May-2021	✓
ED040S : Soluble Sulfate by ICPAES							
Soil Glass Jar - Unpreserved (ED040S)							
BH1/0.5, BH4/0.2, BH4/1.3, BH6/0.3, BH6/1.9, BH7/0.1, BH7/0.5	**14-Apr-2021**	**27-Apr-2021**	12-May-2021	✓	**28-Apr-2021**	25-May-2021	✓
ED045G: Chloride by Discrete Analyser							
Soil Glass Jar - Unpreserved (ED045G)							
BH1/0.5, BH4/0.2, BH4/1.3, BH6/0.3, BH6/1.9, BH7/0.1, BH7/0.5	**14-Apr-2021**	**27-Apr-2021**	12-May-2021	✓	**28-Apr-2021**	25-May-2021	✓
EG005(ED093)T: Total Metals by ICP-AES							
Soil Glass Jar - Unpreserved (EG005T)							
26/0.1, 29/0.1, 30/0.1, 30/2.0, BH1/0.1, BH2/0.1, BH3/0.1, BH4/0.1, BH5/0.6	**14-Apr-2021**	**24-Apr-2021**	11-Oct-2021	✓	**28-Apr-2021**	11-Oct-2021	✓
Soil Glass Jar - Unpreserved (EG005T)							
BH6/0.1	**14-Apr-2021**	**28-Apr-2021**	11-Oct-2021	✓	**30-Apr-2021**	11-Oct-2021	✓
Soil Glass Jar - Unpreserved (EG005T)							
27/0.1, 28/0.5, 31/0.1, R4, R5	**15-Apr-2021**	**24-Apr-2021**	12-Oct-2021	✓	**28-Apr-2021**	12-Oct-2021	✓
EG035T: Total Recoverable Mercury by FIMS							
Soil Glass Jar - Unpreserved (EG035T)							
26/0.1, 29/0.1, 30/0.1, 30/2.0, BH1/0.1, BH2/0.1, BH3/0.1, BH4/0.1, BH5/0.6	**14-Apr-2021**	**24-Apr-2021**	12-May-2021	✓	**28-Apr-2021**	12-May-2021	✓
Soil Glass Jar - Unpreserved (EG035T)							
BH6/0.1	**14-Apr-2021**	**28-Apr-2021**	12-May-2021	✓	**30-Apr-2021**	12-May-2021	✓
Soil Glass Jar - Unpreserved (EG035T)							
27/0.1, 28/0.5, 31/0.1, R4, R5	**15-Apr-2021**	**24-Apr-2021**	13-May-2021	✓	**28-Apr-2021**	13-May-2021	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP004: Organic Matter							
Soil Glass Jar - Unpreserved (EP004)							
30/2.0	**14-Apr-2021**	**23-Apr-2021**	12-May-2021	✓	**23-Apr-2021**	12-May-2021	✓
EP066: Polychlorinated Biphenyls (PCB)							
Soil Glass Jar - Unpreserved (EP066)							
26/0.1, 30/0.1, BH1/0.1, BH3/0.1, BH5/0.6	**14-Apr-2021**	**27-Apr-2021**	28-Apr-2021	✓	**27-Apr-2021**	06-Jun-2021	✓
Soil Glass Jar - Unpreserved (EP066)							
28/0.5	**15-Apr-2021**	**27-Apr-2021**	29-Apr-2021	✓	**27-Apr-2021**	06-Jun-2021	✓
EP068A: Organochlorine Pesticides (OC)							
Soil Glass Jar - Unpreserved (EP068)							
26/0.1, 30/0.1, BH1/0.1, BH3/0.1, BH5/0.6	**14-Apr-2021**	**27-Apr-2021**	28-Apr-2021	✓	**27-Apr-2021**	06-Jun-2021	✓
Soil Glass Jar - Unpreserved (EP068)							
28/0.5	**15-Apr-2021**	**27-Apr-2021**	29-Apr-2021	✓	**27-Apr-2021**	06-Jun-2021	✓
EP068B: Organophosphorus Pesticides (OP)							
Soil Glass Jar - Unpreserved (EP068)							
26/0.1, 30/0.1, BH1/0.1, BH3/0.1, BH5/0.6	**14-Apr-2021**	**27-Apr-2021**	28-Apr-2021	✓	**27-Apr-2021**	06-Jun-2021	✓
Soil Glass Jar - Unpreserved (EP068)							
28/0.5	**15-Apr-2021**	**27-Apr-2021**	29-Apr-2021	✓	**27-Apr-2021**	06-Jun-2021	✓
EP075(SIM)A: Phenolic Compounds							
Soil Glass Jar - Unpreserved (EP075(SIM))							
26/0.1, 30/0.1, BH1/0.1, BH3/0.1, BH5/0.6	**14-Apr-2021**	**27-Apr-2021**	28-Apr-2021	✓	**27-Apr-2021**	06-Jun-2021	✓
Soil Glass Jar - Unpreserved (EP075(SIM))							
28/0.5	**15-Apr-2021**	**27-Apr-2021**	29-Apr-2021	✓	**27-Apr-2021**	06-Jun-2021	✓
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons							
Soil Glass Jar - Unpreserved (EP075(SIM))							
BH6/0.1	**14-Apr-2021**	**23-Apr-2021**	28-Apr-2021	✓	**23-Apr-2021**	02-Jun-2021	✓
Soil Glass Jar - Unpreserved (EP075(SIM))							
26/0.1, 29/0.1, 30/0.1, BH1/0.1, BH2/0.1, BH3/0.1, BH4/0.1, BH5/0.6	**14-Apr-2021**	**27-Apr-2021**	28-Apr-2021	✓	**27-Apr-2021**	06-Jun-2021	✓
Soil Glass Jar - Unpreserved (EP075(SIM))							
27/0.1, 28/0.5, 31/0.1, R4, R5	**15-Apr-2021**	**27-Apr-2021**	29-Apr-2021	✓	**27-Apr-2021**	06-Jun-2021	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP080/071: Total Petroleum Hydrocarbons							
Soil Glass Jar - Unpreserved (EP080)							
Trip Blank	**13-Apr-2021**	**23-Apr-2021**	27-Apr-2021	✓	**27-Apr-2021**	27-Apr-2021	✓
Soil Glass Jar - Unpreserved (EP080)							
BH6/0.1	**14-Apr-2021**	**23-Apr-2021**	28-Apr-2021	✓	**23-Apr-2021**	28-Apr-2021	✓
Soil Glass Jar - Unpreserved (EP080)							
26/0.1, 29/0.1, 30/0.1, BH1/0.1, BH2/0.1, BH3/0.1, BH4/0.1, BH5/0.6	**14-Apr-2021**	**23-Apr-2021**	28-Apr-2021	✓	**27-Apr-2021**	28-Apr-2021	✓
Soil Glass Jar - Unpreserved (EP071)							
26/0.1, 29/0.1, 30/0.1, BH1/0.1, BH2/0.1, BH3/0.1, BH4/0.1, BH5/0.6	**14-Apr-2021**	**27-Apr-2021**	28-Apr-2021	✓	**27-Apr-2021**	06-Jun-2021	✓
Soil Glass Jar - Unpreserved (EP080)							
27/0.1, 28/0.5, 31/0.1, R4, R5	**15-Apr-2021**	**23-Apr-2021**	29-Apr-2021	✓	**27-Apr-2021**	29-Apr-2021	✓
Soil Glass Jar - Unpreserved (EP071)							
27/0.1, 28/0.5, 31/0.1, R4, R5	**15-Apr-2021**	**27-Apr-2021**	29-Apr-2021	✓	**27-Apr-2021**	06-Jun-2021	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions							
Soil Glass Jar - Unpreserved (EP080) Trip Blank	**13-Apr-2021**	**23-Apr-2021**	27-Apr-2021	✓	**27-Apr-2021**	27-Apr-2021	✓
Soil Glass Jar - Unpreserved (EP080) BH6/0.1	**14-Apr-2021**	**23-Apr-2021**	28-Apr-2021	✓	**23-Apr-2021**	28-Apr-2021	✓
Soil Glass Jar - Unpreserved (EP080) 26/0.1, 29/0.1, 30/0.1, BH1/0.1, BH2/0.1, BH3/0.1, BH4/0.1, BH5/0.6	**14-Apr-2021**	**23-Apr-2021**	28-Apr-2021	✓	**27-Apr-2021**	28-Apr-2021	✓
Soil Glass Jar - Unpreserved (EP071) 26/0.1, 29/0.1, 30/0.1, BH1/0.1, BH2/0.1, BH3/0.1, BH4/0.1, BH5/0.6	**14-Apr-2021**	**27-Apr-2021**	28-Apr-2021	✓	**27-Apr-2021**	06-Jun-2021	✓
Soil Glass Jar - Unpreserved (EP080) 27/0.1, 28/0.5, 31/0.1, R4, R5	**15-Apr-2021**	**23-Apr-2021**	29-Apr-2021	✓	**27-Apr-2021**	29-Apr-2021	✓
Soil Glass Jar - Unpreserved (EP071) 27/0.1, 28/0.5, 31/0.1, R4, R5	**15-Apr-2021**	**27-Apr-2021**	29-Apr-2021	✓	**27-Apr-2021**	06-Jun-2021	✓
EP080: BTEXN							
Soil Glass Jar - Unpreserved (EP080) Trip Blank	**13-Apr-2021**	**23-Apr-2021**	27-Apr-2021	✓	**27-Apr-2021**	27-Apr-2021	✓
Soil Glass Jar - Unpreserved (EP080) BH6/0.1	**14-Apr-2021**	**23-Apr-2021**	28-Apr-2021	✓	**23-Apr-2021**	28-Apr-2021	✓
Soil Glass Jar - Unpreserved (EP080) 26/0.1, 29/0.1, 30/0.1, BH1/0.1, BH2/0.1, BH3/0.1, BH4/0.1, BH5/0.6	**14-Apr-2021**	**23-Apr-2021**	28-Apr-2021	✓	**27-Apr-2021**	28-Apr-2021	✓
Soil Glass Jar - Unpreserved (EP080) 27/0.1, 28/0.5, 31/0.1, R4, R5	**15-Apr-2021**	**23-Apr-2021**	29-Apr-2021	✓	**27-Apr-2021**	29-Apr-2021	✓

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)							
ASS Field Screening Analysis	EA037	4	40	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Chloride Soluble By Discrete Analyser	ED045G	1	7	**14.29**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Electrical Conductivity (1:5)	EA010	1	3	**33.33**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Exchange Acidity by 1M Potassium Chloride	ED005	1	4	**25.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Exchangeable Cations	ED007	1	4	**25.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Major Anions - Soluble	ED040S	1	7	**14.29**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Moisture Content	EA055	5	39	**12.82**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Organic Matter	EP004	1	7	**14.29**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	3	19	**15.79**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	8	**12.50**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
pH (1:5)	EA002	1	10	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
pH in soil using a 0.01M CaCl2 extract	EA001	1	3	**33.33**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	8	**12.50**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Soil Particle Density	EA152	0	1	**0.00**	**10.00**	×	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	5	32	**15.63**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	5	32	**15.63**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	3	28	**10.71**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	4	30	**13.33**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Chloride Soluble By Discrete Analyser	ED045G	2	7	**28.57**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Electrical Conductivity (1:5)	EA010	1	3	**33.33**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Exchangeable Cations	ED007	1	4	**25.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Major Anions - Soluble	ED040S	1	7	**14.29**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Organic Matter	EP004	1	7	**14.29**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	2	19	**10.53**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	8	**12.50**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
pH (1:5)	EA002	2	10	**20.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
pH in soil using a 0.01M CaCl2 extract	EA001	2	3	**66.67**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	8	**12.50**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Soil Particle Density	EA152	1	1	**100.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	3	32	**9.38**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	3	32	**9.38**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	2	28	**7.14**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	2	30	**6.67**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Chloride Soluble By Discrete Analyser	ED045G	1	7	**14.29**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

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*	
Method Blanks (MB) - Continued							
Electrical Conductivity (1:5)	EA010	1	3	**33.33**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Exchange Acidity by 1M Potassium Chloride	ED005	1	4	**25.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Exchangeable Cations	ED007	1	4	**25.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Major Anions - Soluble	ED040S	1	7	**14.29**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Organic Matter	EP004	1	7	**14.29**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	2	19	**10.53**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	8	**12.50**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	8	**12.50**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	3	32	**9.38**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	3	32	**9.38**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	2	28	**7.14**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	2	30	**6.67**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Organic Matter	EP004	1	7	**14.29**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	1	19	**5.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	8	**12.50**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	8	**12.50**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	2	32	**6.25**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	2	32	**6.25**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	2	28	**7.14**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	2	30	**6.67**	**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
pH in soil using a 0.01M CaCl2 extract	EA001	SOIL	In house: Referenced to Rayment and Lyons 4B3 (mod.) or 4B4 (mod.) 10 g of soil is mixed with 50 mL of 0.01M CaCl2 and tumbled end over end for 1 hour. pH is measured from the continuous suspension. This method is compliant with NEPM Schedule B(3).
pH (1:5)	EA002	SOIL	In house: Referenced to Rayment and Lyons 4A1 and APHA 4500H+. pH is determined on soil samples after a 1:5 soil/water leach. This method is compliant with NEPM Schedule B(3).
Electrical Conductivity (1:5)	EA010	SOIL	In house: Referenced to Rayment and Lyons 3A1 and APHA 2510. Conductivity is determined on soil samples using a 1:5 soil/water leach. This method is compliant with NEPM Schedule B(3).
ASS Field Screening Analysis	* EA037	SOIL	In house: Referenced to Acid Sulfate Soils Laboratory Methods Guidelines. As received samples are tested for pH field and pH fox and assessed for a reaction rating.
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).
Resistivity (1:5)	EA080	SOIL	In house: Calculated from Electrical Conductivity
Particle Size Analysis by Hydrometer	EA150H	SOIL	Particle Size Analysis by Hydrometer according to AS1289.3.6.3
Soil Particle Density	EA152	SOIL	Soil Particle Density by AS 1289.3.5.1: Methods of testing soils for engineering purposes - Soil classification tests - Determination of the soil particle density of a soil - Standard method
Asbestos Identification in Soils	EA200	SOIL	AS 4964 Method for the qualitative identification of asbestos in bulk samples Analysis by Polarised Light Microscopy including dispersion staining
Exchange Acidity by 1M Potassium Chloride	* ED005	SOIL	In house: referenced to Rayment and Lyons, method 15G1. This method is unsuitable for near neutral and alkaline soils. NATA accreditation does not cover performance of this service.
Exchangeable Cations on Alkaline Soils	* ED006	SOIL	In house: Referenced to Soil Survey Test Method C5. Soluble salts are removed from the sample prior to analysis. Cations are exchanged from the sample by contact with alcoholic ammonium chloride at pH 8.5. They are then quantitated in the final solution by ICPAES and reported as meq/100g of original soil.
Exchangeable Cations	ED007	SOIL	In house: Referenced to Rayment & Lyons Method 15A1. Cations are exchanged from the sample by contact with Ammonium Chloride. They are then quantitated in the final solution by ICPAES and reported as meq/100g of original soil. This method is compliant with NEPM Schedule B(3).
Exchangeable Cations with pre-treatment	ED008	SOIL	In house: Referenced to Rayment & Lyons Method 15A2. Soluble salts are removed from the sample prior to analysis. Cations are exchanged from the sample by contact with Ammonium Chloride. They are then quantitated in the final solution by ICPAES and reported as meq/100g of original soil. This method is compliant with NEPM Schedule B(3).
Major Anions - Soluble	ED040S	SOIL	In house: Soluble Anions are determined off a 1:5 soil / water extract by ICPAES.
Chloride Soluble By Discrete Analyser	ED045G	SOIL	In house: Referenced to APHA 4500-Cl- E. The thiocyanate ion is liberated from mercuric thiocyanate through sequestration of mercury by the chloride ion to form non-ionised mercuric chloride.in the presence of ferric ions the librated thiocynate forms highly-coloured ferric thiocynate which is measured at 480 nm. Analysis is performed on a 1:5 soil / water leachate.

Analytical Methods	Method	Matrix	Method Descriptions
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 AS 3550, APHA 3112 Hg - B (Flow-injection (SnCl2) (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 SnCl2 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)
Organic Matter	EP004	SOIL	In house: Referenced to AS1289.4.1.1. Dichromate oxidation method after Walkley and Black. This method is compliant with NEPM Schedule B(3)
Polychlorinated Biphenyls (PCB)	EP066	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 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).
TRH - Semivolatile Fraction	EP071	SOIL	In house: Referenced to USEPA SW 846 - 8015 Sample extracts are analysed by Capillary GC/FID and quantified against alkane standards over the range C10 - C40. Compliant with NEPM Schedule B(3).
PAH/Phenols (SIM)	EP075(SIM)	SOIL	In house: Referenced to USEPA SW 846 - 8270. Extracts are analysed by Capillary GC/MS in Selective Ion Mode (SIM) and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3)
TRH Volatiles/BTEX	EP080	SOIL	In house: Referenced to USEPA SW 846 - 8260. Extracts are analysed by Purge and Trap, Capillary GC/MS. Quantification is by comparison against an established 5 point calibration curve. Compliant with NEPM Schedule B(3) amended.

Preparation Methods	Method	Matrix	Method Descriptions
pH in soil using a 0.01M CaCl2 extract	EA001-PR	SOIL	In house: Referenced to Rayment and Lyons 4B1, 10 g of soil is mixed with 50 mL of 0.01M CaCl2 and tumbled end over end for 1 hour. pH is measured from the continuous suspension. This method is compliant with NEPM Schedule B(3).
Exchangeable Cations Preparation Method (Alkaline Soils)	ED006PR	SOIL	In house: Referenced to Rayment and Lyons method 15C1.
Exchangeable Cations Preparation Method	ED007PR	SOIL	In house: Referenced to Rayment & Lyons method 15A1. A 1M NH4Cl extraction by end over end tumbling at a ratio of 1:20. There is no pretreatment for soluble salts. Extracts can be run by ICP for cations.
Drying only	EN020D	SOIL	In house
1:5 solid / water leach for soluble analytes	EN34	SOIL	10 g of soil is mixed with 50 mL of reagent grade water and tumbled end over end for 1 hour. Water soluble salts are leached from the soil by the continuous suspension. Samples are settled and the water filtered off for analysis.
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).

Preparation Methods	Method	Matrix	Method Descriptions
Organic Matter	EP004-PR	SOIL	In house: Referenced to AS1289.4.1.1. Dichromate oxidation method after Walkley and Black. This method is compliant with NEPM Schedule B(3).
Methanolic Extraction of Soils for Purge and Trap	ORG16	SOIL	In house: Referenced to USEPA SW 846 - 5030A. 5g of solid is shaken with surrogate and 10mL methanol prior to analysis by Purge and Trap - GC/MS.
Tumbler Extraction of Solids	ORG17	SOIL	In house: Mechanical agitation (tumbler). 10g of sample, Na2SO4 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.

SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order : **EB2110706**

Client	: **DOUGLAS PARTNERS PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	: ROB MULLER	Contact	: John Pickering
Address	: 439 MONTAGUE ROAD WEST END QLD, AUSTRALIA 4101	Address	: 2 Byth Street Stafford QLD Australia 4053
E-mail	: rob.muller@douglaspartners.com.au	E-mail	: john.pickering@alsglobal.com
Telephone	: ----	Telephone	: +61 7 3552 8634
Facsimile	: ----	Facsimile	: +61-7-3243 7218
Project	: 203033.01	Page	: 1 of 6
Order number	: 203033.01	Quote number	: EM2017DOUPAR0002 (EN/222)
C-O-C number	: ----	QC Level	: NEPM 2013 B3 & ALS QC Standard
Site	: ----		
Sampler	: SARAH McKAY		

Dates

Date Samples Received	: 20-Apr-2021 14:15	Issue Date	: 21-Apr-2021
Client Requested Due Date	: 30-Apr-2021	Scheduled Reporting Date	: **30-Apr-2021**

Delivery Details

Mode of Delivery	: Client Drop Off	Security Seal	: Not Available
No. of coolers/boxes	: 11	Temperature	: -1.3°<->23.4°C - Ice present
Receipt Detail	: MEDIUM ESKY	No. of samples received / analysed	: 82 / 55

General Comments

- This report contains the following information:
  - Sample Container(s)/Preservation Non-Compliances
  - Summary of Sample(s) and Requested Analysis
  - Proactive Holding Time Report
  - Requested Deliverables
- **Please be advised that sample "BH6/1.0" was not received at the laboratory (denoted SNR on the scanned COC).**
- **Please be advised that sample "Trip Spike" (ALS #78) was not received at the laboratory (denoted SNR on the scanned COC).**
- **SPLIT WORK ORDER: It should be noted that ALS has split this work order over the following work orders EB2110394 & EB2110706 due to the size of the sample numbers. For any further information regarding this processing of samples please contact ALS client services division on ALSEnviro.Brisbane@alsglobal.com**
- **Please be advised that for sample 31/0.1, Asbestos analysis has not been assigned as only one sample container has been submitted. If you would like to proceed with this analysis please contact client services at ALSEnviro.Brisabne@alsglobal.com**
- Discounted Package Prices apply only when specific ALS Group Codes ('W', 'S', 'NT' suites) are referenced on COCs.
- **Asbestos analysis will be conducted by ALS Environmental, Melbourne, NATA accreditation No. 825, Site No. 13778.**
- 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).
- **An extra sample was received labelled as "4/0.8" (ALS #85) and has been placed on hold. If testing is required on this sample, please contact ALS Client Services at ALSEnviro.Brisbane@alsglobal.com**
- **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.

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: **SOIL**

Laboratory sample ID	Sampling date / time	Sample ID	(On Hold) SOIL No analysis requested	SOIL - EA055-103 Moisture Content	SOIL - EA200 Asbestos Identification in Soils -	SOIL - P-22 EB Only NEPM Screen for Soil Classification EB Only	SOIL - S-02 8 Metals (incl. Digestion)	SOIL - S-19 TRH/BTEXN/PAH/Ph/OC/OP/PCB/8 metals	SOIL - S-26 8 metals/TRH/BTEXN/PAH
EB2110706-001	14-Apr-2021 00:00	25/0.6	✓						
EB2110706-002	14-Apr-2021 00:00	25/1.0	✓						
EB2110706-003	14-Apr-2021 00:00	25/2.0	✓						
EB2110706-004	14-Apr-2021 00:00	26/0.1		✓	✓			✓	
EB2110706-005	14-Apr-2021 00:00	26/0.3	✓						
EB2110706-006	14-Apr-2021 00:00	26/0.7	✓						
EB2110706-007	14-Apr-2021 00:00	26/0.8	✓						
EB2110706-008	14-Apr-2021 00:00	26/1.25	✓						
EB2110706-009	15-Apr-2021 00:00	27/0.1		✓	✓				✓
EB2110706-010	15-Apr-2021 00:00	27/0.3	✓						
EB2110706-011	15-Apr-2021 00:00	27/1.0	✓						
EB2110706-012	15-Apr-2021 00:00	27/1.5	✓						
EB2110706-013	15-Apr-2021 00:00	28/0.1			✓				
EB2110706-014	15-Apr-2021 00:00	28/0.5		✓				✓	
EB2110706-015	15-Apr-2021 00:00	28/0.8	✓						
EB2110706-016	15-Apr-2021 00:00	28/1.0	✓						
EB2110706-017	15-Apr-2021 00:00	28/1.5	✓						
EB2110706-018	14-Apr-2021 00:00	29/0.1		✓	✓				✓
EB2110706-019	14-Apr-2021 00:00	29/0.3	✓						
EB2110706-020	14-Apr-2021 00:00	29/2.0	✓						
EB2110706-021	14-Apr-2021 00:00	30/0.1		✓	✓			✓	
EB2110706-022	14-Apr-2021 00:00	30/0.75	✓						
EB2110706-023	14-Apr-2021 00:00	30/2.0		✓		✓	✓		
EB2110706-024	15-Apr-2021 00:00	31/0.1		✓					✓
EB2110706-025	15-Apr-2021 00:00	31/0.2	✓						
EB2110706-026	15-Apr-2021 00:00	31/0.3	✓						
EB2110706-027	15-Apr-2021 00:00	31/0.8	✓						
EB2110706-028	15-Apr-2021 00:00	31/1.2	✓						
EB2110706-029	14-Apr-2021 00:00	BH1/0.1		✓	✓			✓	
EB2110706-030	14-Apr-2021 00:00	BH1/0.5		✓					
EB2110706-031	14-Apr-2021 00:00	BH2/0.1		✓	✓				✓
EB2110706-032	14-Apr-2021 00:00	BH2/0.5	✓						
EB2110706-033	14-Apr-2021 00:00	BH3/0.1		✓	✓			✓	
EB2110706-034	14-Apr-2021 00:00	BH3/0.5	✓						
EB2110706-035	14-Apr-2021 00:00	BH4/0.1		✓	✓				✓

			(On Hold) SOIL No analysis requested	SOIL - EA055-103 Moisture Content	SOIL - EA200 Asbestos Identification in Soils -	SOIL - P-22 EB Only NEPM Screen for Soil Classification EB Only	SOIL - S-02 8 Metals (incl. Digestion)	SOIL - S-19 TRH/BTEXN/PAH/Ph/OC/OP/PCB/8 metals	SOIL - S-26 8 metals/TRH/BTEXN/PAH
EB2110706-036	14-Apr-2021 00:00	BH4/0.2		✓					
EB2110706-037	14-Apr-2021 00:00	BH4/1.3		✓					
EB2110706-038	14-Apr-2021 00:00	BH5/0.1			✓				
EB2110706-039	14-Apr-2021 00:00	BH5/0.6		✓				✓	
EB2110706-040	14-Apr-2021 00:00	BH6/0.1			✓				
EB2110706-041	14-Apr-2021 00:00	BH6/0.3		✓					
EB2110706-043	14-Apr-2021 00:00	BH6/1.9		✓					
EB2110706-044	14-Apr-2021 00:00	BH6/2.4	✓						
EB2110706-045	14-Apr-2021 00:00	BH7/0.1		✓					
EB2110706-046	14-Apr-2021 00:00	BH7/0.5		✓					
EB2110706-079	15-Apr-2021 00:00	R1	✓						
EB2110706-080	15-Apr-2021 00:00	R2	✓						
EB2110706-081	15-Apr-2021 00:00	R3	✓						
EB2110706-082	15-Apr-2021 00:00	R4		✓					✓
EB2110706-083	15-Apr-2021 00:00	R5		✓					✓
EB2110706-085	16-Apr-2021 00:00	4/0.8	✓						

Matrix: **SOIL**

Laboratory sample ID	*Sampling date / time*	*Sample ID*	SOIL - Corr. Sched 7 (Bris) Soil on Concrete & Steel Piles (AS2159-1995)	SOIL - EA037 ASS Field Screening Analysis	SOIL - EA080 Resistivity (1:5)	SOIL - S-18 (NO MOIST) TRH(C6-C9)/BTEXN with No Moisture for TBs
EB2110706-030	14-Apr-2021 00:00	BH1/0.5	✓		✓	
EB2110706-036	14-Apr-2021 00:00	BH4/0.2	✓		✓	
EB2110706-037	14-Apr-2021 00:00	BH4/1.3	✓		✓	
EB2110706-041	14-Apr-2021 00:00	BH6/0.3	✓		✓	
EB2110706-043	14-Apr-2021 00:00	BH6/1.9	✓		✓	
EB2110706-045	14-Apr-2021 00:00	BH7/0.1	✓		✓	
EB2110706-046	14-Apr-2021 00:00	BH7/0.5	✓		✓	
EB2110706-047	14-Apr-2021 00:00	30/0.25		✓		
EB2110706-048	14-Apr-2021 00:00	30/0.5		✓		
EB2110706-049	14-Apr-2021 00:00	30/0.75		✓		
EB2110706-050	14-Apr-2021 00:00	30/1.0		✓		
EB2110706-051	14-Apr-2021 00:00	30/1.25		✓		
EB2110706-052	14-Apr-2021 00:00	30/1.5		✓		
EB2110706-053	14-Apr-2021 00:00	30/1.75		✓		

			SOIL - Corr. Sched 7 (Bris) Soil on Concrete & Steel Piles (AS2159-1995)	SOIL - EA037 ASS Field Screening Analysis	SOIL - EA080 Resistivity (1:5)	SOIL - S-18 (NO MOIST) TRH(C6-C9)/BTEXN with No Moisture for TBs
EB2110706-054	14-Apr-2021 00:00	30/2.0		✓		
EB2110706-055	14-Apr-2021 00:00	26/0.25		✓		
EB2110706-056	14-Apr-2021 00:00	26/0.5		✓		
EB2110706-057	14-Apr-2021 00:00	26/0.75		✓		
EB2110706-058	14-Apr-2021 00:00	26/1.0		✓		
EB2110706-059	14-Apr-2021 00:00	26/1.25		✓		
EB2110706-060	14-Apr-2021 00:00	26/1.5		✓		
EB2110706-061	15-Apr-2021 00:00	12/0.25		✓		
EB2110706-062	15-Apr-2021 00:00	12/0.5		✓		
EB2110706-063	15-Apr-2021 00:00	12/0.75		✓		
EB2110706-064	15-Apr-2021 00:00	12/1.0		✓		
EB2110706-065	15-Apr-2021 00:00	12/1.25		✓		
EB2110706-066	15-Apr-2021 00:00	12/1.5		✓		
EB2110706-067	15-Apr-2021 00:00	12/1.75		✓		
EB2110706-068	15-Apr-2021 00:00	12/2.0		✓		
EB2110706-069	15-Apr-2021 00:00	2/0.25		✓		
EB2110706-070	15-Apr-2021 00:00	2/0.5		✓		
EB2110706-071	15-Apr-2021 00:00	2/0.75		✓		
EB2110706-072	15-Apr-2021 00:00	2/1.0		✓		
EB2110706-073	15-Apr-2021 00:00	2/1.25		✓		
EB2110706-074	15-Apr-2021 00:00	2/1.5		✓		
EB2110706-075	15-Apr-2021 00:00	2/1.75		✓		
EB2110706-076	15-Apr-2021 00:00	2/2.0		✓		
EB2110706-077	13-Apr-2021 00:00	Trip Blank				✓

Proactive Holding Time Report

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

Requested Deliverables

ACCOUNTS BRISBANE

- A4 - AU Tax Invoice (INV)	Email	brisbane@douglaspartners.com.au

ACCOUNTS PAYABLE INVOICES

- A4 - AU Tax Invoice (INV)	Email	apinvoices@douglaspartners.com.au

ROB MULLER

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

SARAH McKAY

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

SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order : **EB2110706**

Client	: **DOUGLAS PARTNERS PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	: ROB MULLER	Contact	: John Pickering
Address	: 439 MONTAGUE ROAD WEST END QLD, AUSTRALIA 4101	Address	: 2 Byth Street Stafford QLD Australia 4053
E-mail	: rob.muller@douglaspartners.com.au	E-mail	: john.pickering@alsglobal.com
Telephone	: ----	Telephone	: +61 7 3552 8634
Facsimile	: ----	Facsimile	: +61-7-3243 7218
Project	: 203033.01	Page	: 1 of 6
Order number	: 203033.01	Quote number	: EM2017DOUPAR0002 (EN/222)
C-O-C number	: ----	QC Level	: NEPM 2013 B3 & ALS QC Standard
Site	: ----		
Sampler	: SARAH McKAY		

Dates

Date Samples Received	: 20-Apr-2021 14:15	Issue Date	: 22-Apr-2021
Client Requested Due Date	: 05-May-2021	Scheduled Reporting Date	: **05-May-2021**

Delivery Details

Mode of Delivery	: Client Drop Off	Security Seal	: Not Available
No. of coolers/boxes	: 11	Temperature	: -1.3°<->23.4°C - Ice present
Receipt Detail	: MEDIUM ESKY	No. of samples received / analysed	: 82 / 56

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
- **22/4/21: SRN has been resent to acknowledge the addition of anlalysis as per Rob Muller, please note that the reporting date has been updated to allow for this analysis. For any further information regarding these adjustments please contact client services at ALSEnviro.Brisbane@alsglobal.com.**
- **Please be advised that sample "BH6/1.0" was not received at the laboratory (denoted SNR on the scanned COC).**
- **Please be advised that sample "Trip Spike" (ALS #78) was not received at the laboratory (denoted SNR on the scanned COC).**
- **SPLIT WORK ORDER: It should be noted that ALS has split this work order over the following work orders EB2110394 & EB2110706 due to the size of the sample numbers. For any further information regarding this processing of samples please contact ALS client services division on ALSEnviro.Brisbane@alsglobal.com**
- **Please be advised that for sample 31/0.1, Asbestos analysis has not been assigned as only one sample container has been submitted. If you would like to proceed with this analysis please contact client services at ALSEnviro.Brisabne@alsglobal.com**
- Discounted Package Prices apply only when specific ALS Group Codes ('W', 'S', 'NT' suites) are referenced on COCs.
- **Asbestos analysis will be conducted by ALS Environmental, Melbourne, NATA accreditation No. 825, Site No. 13778.**
- 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).
- **An extra sample was received labelled as "4/0.8" (ALS #85) and has been placed on hold. If testing is required on this sample, please contact ALS Client Services at ALSEnviro.Brisbane@alsglobal.com**
- **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.

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: **SOIL**

Laboratory sample ID	Sampling date / time	Sample ID	(On Hold) SOIL No analysis requested	SOIL - EA055-103 Moisture Content	SOIL - EA200 Asbestos Identification in Soils -	SOIL - P-22 EB Only NEPM Screen for Soil Classification EB Only	SOIL - S-02 8 Metals (incl. Digestion)	SOIL - S-19 TRH/BTEXN/PAH/Ph/OC/OP/PCB/8 metals	SOIL - S-26 8 metals/TRH/BTEXN/PAH
EB2110706-001	14-Apr-2021 00:00	25/0.6	✓						
EB2110706-002	14-Apr-2021 00:00	25/1.0	✓						
EB2110706-003	14-Apr-2021 00:00	25/2.0	✓						
EB2110706-004	14-Apr-2021 00:00	26/0.1		✓	✓			✓	
EB2110706-005	14-Apr-2021 00:00	26/0.3	✓						
EB2110706-006	14-Apr-2021 00:00	26/0.7	✓						
EB2110706-007	14-Apr-2021 00:00	26/0.8	✓						
EB2110706-008	14-Apr-2021 00:00	26/1.25	✓						
EB2110706-009	15-Apr-2021 00:00	27/0.1		✓	✓				✓
EB2110706-010	15-Apr-2021 00:00	27/0.3	✓						
EB2110706-011	15-Apr-2021 00:00	27/1.0	✓						
EB2110706-012	15-Apr-2021 00:00	27/1.5	✓						
EB2110706-013	15-Apr-2021 00:00	28/0.1			✓				
EB2110706-014	15-Apr-2021 00:00	28/0.5		✓				✓	
EB2110706-015	15-Apr-2021 00:00	28/0.8	✓						
EB2110706-016	15-Apr-2021 00:00	28/1.0	✓						
EB2110706-017	15-Apr-2021 00:00	28/1.5	✓						
EB2110706-018	14-Apr-2021 00:00	29/0.1		✓	✓				✓
EB2110706-019	14-Apr-2021 00:00	29/0.3	✓						
EB2110706-020	14-Apr-2021 00:00	29/2.0	✓						
EB2110706-021	14-Apr-2021 00:00	30/0.1		✓	✓			✓	
EB2110706-022	14-Apr-2021 00:00	30/0.75	✓						
EB2110706-023	14-Apr-2021 00:00	30/2.0		✓		✓	✓		
EB2110706-024	15-Apr-2021 00:00	31/0.1		✓					✓
EB2110706-025	15-Apr-2021 00:00	31/0.2			✓				
EB2110706-026	15-Apr-2021 00:00	31/0.3	✓						
EB2110706-027	15-Apr-2021 00:00	31/0.8	✓						
EB2110706-028	15-Apr-2021 00:00	31/1.2	✓						
EB2110706-029	14-Apr-2021 00:00	BH1/0.1		✓	✓			✓	
EB2110706-030	14-Apr-2021 00:00	BH1/0.5		✓					
EB2110706-031	14-Apr-2021 00:00	BH2/0.1		✓	✓				✓
EB2110706-032	14-Apr-2021 00:00	BH2/0.5	✓						
EB2110706-033	14-Apr-2021 00:00	BH3/0.1		✓	✓			✓	
EB2110706-034	14-Apr-2021 00:00	BH3/0.5	✓						
EB2110706-035	14-Apr-2021 00:00	BH4/0.1		✓	✓				✓

			(On Hold) SOIL No analysis requested	SOIL - EA055-103 Moisture Content	SOIL - EA200 Asbestos Identification in Soils -	SOIL - P-22 EB Only NEPM Screen for Soil Classification EB Only	SOIL - S-02 8 Metals (incl. Digestion)	SOIL - S-19 TRH/BTEXN/PAH/Ph/OC/OP/PCB/8 metals	SOIL - S-26 8 metals/TRH/BTEXN/PAH
EB2110706-036	14-Apr-2021 00:00	BH4/0.2		✓					
EB2110706-037	14-Apr-2021 00:00	BH4/1.3		✓					
EB2110706-038	14-Apr-2021 00:00	BH5/0.1			✓				
EB2110706-039	14-Apr-2021 00:00	BH5/0.6		✓				✓	
EB2110706-040	14-Apr-2021 00:00	BH6/0.1		✓	✓				✓
EB2110706-041	14-Apr-2021 00:00	BH6/0.3		✓					
EB2110706-043	14-Apr-2021 00:00	BH6/1.9		✓					
EB2110706-044	14-Apr-2021 00:00	BH6/2.4	✓						
EB2110706-045	14-Apr-2021 00:00	BH7/0.1		✓					
EB2110706-046	14-Apr-2021 00:00	BH7/0.5		✓					
EB2110706-079	15-Apr-2021 00:00	R1	✓						
EB2110706-080	15-Apr-2021 00:00	R2	✓						
EB2110706-081	15-Apr-2021 00:00	R3	✓						
EB2110706-082	15-Apr-2021 00:00	R4		✓					✓
EB2110706-083	15-Apr-2021 00:00	R5		✓					✓
EB2110706-085	16-Apr-2021 00:00	4/0.8	✓						

Matrix: **SOIL**

Laboratory sample ID	*Sampling date / time*	*Sample ID*	SOIL - Corr. Sched 7 (Bris) Soil on Concrete & Steel Piles (AS2159-1995)	SOIL - EA037 ASS Field Screening Analysis	SOIL - EA080 Resistivity (1:5)	SOIL - S-18 (NO MOIST) TRH(C6-C9)/BTEXN with No Moisture for TBs
EB2110706-030	14-Apr-2021 00:00	BH1/0.5	✓		✓	
EB2110706-036	14-Apr-2021 00:00	BH4/0.2	✓		✓	
EB2110706-037	14-Apr-2021 00:00	BH4/1.3	✓		✓	
EB2110706-041	14-Apr-2021 00:00	BH6/0.3	✓		✓	
EB2110706-043	14-Apr-2021 00:00	BH6/1.9	✓		✓	
EB2110706-045	14-Apr-2021 00:00	BH7/0.1	✓		✓	
EB2110706-046	14-Apr-2021 00:00	BH7/0.5	✓		✓	
EB2110706-047	14-Apr-2021 00:00	30/0.25		✓		
EB2110706-048	14-Apr-2021 00:00	30/0.5		✓		
EB2110706-049	14-Apr-2021 00:00	30/0.75		✓		
EB2110706-050	14-Apr-2021 00:00	30/1.0		✓		
EB2110706-051	14-Apr-2021 00:00	30/1.25		✓		
EB2110706-052	14-Apr-2021 00:00	30/1.5		✓		
EB2110706-053	14-Apr-2021 00:00	30/1.75		✓		

			SOIL - Corr. Sched 7 (Bris) Soil on Concrete & Steel Piles (AS2159-1995)	SOIL - EA037 ASS Field Screening Analysis	SOIL - EA080 Resistivity (1:5)	SOIL - S-18 (NO MOIST) TRH(C6-C9)/BTEXN with No Moisture for TBs
EB2110706-054	14-Apr-2021 00:00	30/2.0		✓		
EB2110706-055	14-Apr-2021 00:00	26/0.25		✓		
EB2110706-056	14-Apr-2021 00:00	26/0.5		✓		
EB2110706-057	14-Apr-2021 00:00	26/0.75		✓		
EB2110706-058	14-Apr-2021 00:00	26/1.0		✓		
EB2110706-059	14-Apr-2021 00:00	26/1.25		✓		
EB2110706-060	14-Apr-2021 00:00	26/1.5		✓		
EB2110706-061	15-Apr-2021 00:00	12/0.25		✓		
EB2110706-062	15-Apr-2021 00:00	12/0.5		✓		
EB2110706-063	15-Apr-2021 00:00	12/0.75		✓		
EB2110706-064	15-Apr-2021 00:00	12/1.0		✓		
EB2110706-065	15-Apr-2021 00:00	12/1.25		✓		
EB2110706-066	15-Apr-2021 00:00	12/1.5		✓		
EB2110706-067	15-Apr-2021 00:00	12/1.75		✓		
EB2110706-068	15-Apr-2021 00:00	12/2.0		✓		
EB2110706-069	15-Apr-2021 00:00	2/0.25		✓		
EB2110706-070	15-Apr-2021 00:00	2/0.5		✓		
EB2110706-071	15-Apr-2021 00:00	2/0.75		✓		
EB2110706-072	15-Apr-2021 00:00	2/1.0		✓		
EB2110706-073	15-Apr-2021 00:00	2/1.25		✓		
EB2110706-074	15-Apr-2021 00:00	2/1.5		✓		
EB2110706-075	15-Apr-2021 00:00	2/1.75		✓		
EB2110706-076	15-Apr-2021 00:00	2/2.0		✓		
EB2110706-077	13-Apr-2021 00:00	Trip Blank				✓

Proactive Holding Time Report

The following table summarises breaches of recommended holding times that have occurred prior to samples/instructions being received at the laboratory.

Matrix: **SOIL** Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Client Sample ID(s)	Container	Due for extraction	Due for analysis	Samples Received		Instructions Received	
				Date	Evaluation	Date	Evaluation
EA001: pH in soil using a 0.01M CaCl2 extract							
30/2.0	Soil Glass Jar - Unpreserved	21-Apr-2021	22-Apr-2021	20-Apr-2021	✓	22-Apr-2021	×
EA002: pH (1:5)							
30/2.0	Soil Glass Jar - Unpreserved	21-Apr-2021	22-Apr-2021	20-Apr-2021	✓	22-Apr-2021	×
BH1/0.5	Soil Glass Jar - Unpreserved	21-Apr-2021	22-Apr-2021	20-Apr-2021	✓	22-Apr-2021	×
BH4/0.2	Soil Glass Jar - Unpreserved	21-Apr-2021	22-Apr-2021	20-Apr-2021	✓	22-Apr-2021	×
BH4/1.3	Soil Glass Jar - Unpreserved	21-Apr-2021	22-Apr-2021	20-Apr-2021	✓	22-Apr-2021	×
BH6/0.3	Soil Glass Jar - Unpreserved	21-Apr-2021	22-Apr-2021	20-Apr-2021	✓	22-Apr-2021	×
BH6/1.9	Soil Glass Jar - Unpreserved	21-Apr-2021	22-Apr-2021	20-Apr-2021	✓	22-Apr-2021	×
BH7/0.1	Soil Glass Jar - Unpreserved	21-Apr-2021	22-Apr-2021	20-Apr-2021	✓	22-Apr-2021	×
BH7/0.5	Soil Glass Jar - Unpreserved	21-Apr-2021	22-Apr-2021	20-Apr-2021	✓	22-Apr-2021	×
EA010: Electrical Conductivity (1:5)							
30/2.0	Soil Glass Jar - Unpreserved	21-Apr-2021	20-May-2021	20-Apr-2021	✓	22-Apr-2021	×

BH1/0.5	Soil Glass Jar - Unpreserved	21-Apr-2021	20-May-2021	20-Apr-2021	✓	22-Apr-2021	✗
BH4/0.2	Soil Glass Jar - Unpreserved	21-Apr-2021	20-May-2021	20-Apr-2021	✓	22-Apr-2021	✗
BH4/1.3	Soil Glass Jar - Unpreserved	21-Apr-2021	20-May-2021	20-Apr-2021	✓	22-Apr-2021	✗
BH6/0.3	Soil Glass Jar - Unpreserved	21-Apr-2021	20-May-2021	20-Apr-2021	✓	22-Apr-2021	✗
BH6/1.9	Soil Glass Jar - Unpreserved	21-Apr-2021	20-May-2021	20-Apr-2021	✓	22-Apr-2021	✗
BH7/0.1	Soil Glass Jar - Unpreserved	21-Apr-2021	20-May-2021	20-Apr-2021	✓	22-Apr-2021	✗
BH7/0.5	Soil Glass Jar - Unpreserved	21-Apr-2021	20-May-2021	20-Apr-2021	✓	22-Apr-2021	✗

Requested Deliverables

ACCOUNTS BRISBANE

- A4 - AU Tax Invoice (INV)	Email	brisbane@douglaspartners.com.au

ACCOUNTS PAYABLE INVOICES

- A4 - AU Tax Invoice (INV)	Email	apinvoices@douglaspartners.com.au

ROB MULLER

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

SARAH McKAY

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

CHAIN OF CUSTODY

ALS Laboratory: please tick →

☐ Sydney: 277 Woodpark Rd, Smithfield NSW 2176 Ph: 02 8784 8555 E:samples.sydney@alsenviro.com
☐ Newcastle: 5 Rosegum Rd, Warabrook NSW 2304 Ph:02 4969 9433 E:samples.newcastle@alsenviro.com
☐ Brisbane: 32 Shand St, Stafford QLD 4053 Ph:07 3243 7222 E:samples.brisbane@alsenviro.com
☐ Townsville: 14-15 Desma Ct, Bohle QLD 4818 Ph:07 4796 0600 E: townsville.environmental@alsenviro.com
☐ Melbourne: 2-4 Westall Rd, Springvale VIC 3171 Ph:03 8549 9600 E: samples.melbourne@alsenviro.com
☐ Adelaide: 2-1 Burma Rd, Pooraka SA 5095 Ph: 08 8359 0890 E:adelaide@alsenviro.com
☐ Perth: 10 Hod Way, Malaga WA 6090 Ph: 08 9209 7655 E: samples.perth@alsenviro.com
☐ Launceston: 27 Wellington St, Launceston TAS 7250 Ph: 03 6331 2158 E: launceston@alsenviro.com

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CLIENT:	Douglas Partners Pty Ltd	TURNAROUND REQUIREMENTS: (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☒ Standard TAT (List due date): ☐ Non Standard or urgent TAT (List due date):
OFFICE:	439 Montague Road, West End Qld 4101		
PROJECT:	203033.01 (may also be written as 203303.01 on some jars- my bad)	ALS QUOTE NO.:	
ORDER NUMBER:			COC SEQUENCE NUMBER (Circle) COC: 1 2 3 4 5 6 OF: 1 2 3 4 5 6
PROJECT MANAGER:	Rob Muller	CONTACT PH: (+61)417544122	
SAMPLER:	Sarah McKay	SAMPLER MOBILE: 428769065	RELINQUISHED BY: *Sarah McKay* DATE/TIME: 16.04.2021
COC emailed to ALS? (YES / NO)		EDD FORMAT (or default):	RECEIVED BY: DATE/TIME:
Email Reports to (will default to PM if no other addresses are listed):	sarah.mckay@douglaspartners.com.au		
Email Invoice to (will default to PM if no other addresses are listed):	brisbane@douglaspartners.com.au		

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

FOR LABORATORY USE ONLY (Circle)
Custody Seal Intact? Yes No N/A
No N/A
C

Environmental Division Brisbane
Work Order Reference
EB2110706

Telephone : + 61-7-3243 7222

information

Contaminant levels, dilutions, or samples requiring specific QC analysis etc.

ALS USE ONLY	SAMPLE DETAILS MATRIX: Solid(S) Water(W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes Where Metals are required, specify Total (unfiltered bottle required) or Dissolv							
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL BOTTLES	S-26	S-19	pHf and pHfox	P22 and S-2	S-18	EA200	HOLD	
1	25/0.6	14.04.2021	S	Jar								X	
2	25/1.0	14.04.2021	S	Jar								X	
3	25/2.0	14.04.2021	S	Jar								X	
4	26/0.1	14.04.2021	S	Jar+Bag			X				X		
5	26/0.3	14.04.2021	S	Jar								X	
6	26/0.7	14.04.2021	S	Jar								X	
7	26/0.8	14.04.2021	S	Jar								X	
8	26/1.25	14.04.2021	S	Jar								X	
9	27/0.1	15.04.2021	S	Jar+Bag		X					X		
10	27/0.3	15.04.2021	S	Jar								X	
11	27/1.0	15.04.2021	S	Jar								X	
12	27/1.5	15.04.2021	S	Jar								X	
13	28/0.1	15.04.2021	S	Jar+Bag							X		
14	28/0.5	15.04.2021	S	Jar			X						
15	28/0.8	15.04.2021	S	Jar								X	

SPLIT BATCH
Test
Assoc Batch No.
ES 2116344

CHAIN OF CUSTODY

ALS Laboratory: please tick →

☐ Sydney: 277 Woodpark Rd, Smithfield NSW 2176 Ph: 02 8784 8555 E:samples.sydney@alsenviro.com
☐ Newcastle: 5 Rosegum Rd, Warabrook NSW 2304 Ph 02 4969 9433 E:samples.newcastle@alsenviro.com
☐ Brisbane: 32 Shand St, Stafford QLD 4053 Ph 07 3243 7222 E:samples.brisbane@alsenviro.com
☐ Townsville: 14-15 Desma Ct, Bohle QLD 4818 Ph 07 4796 0600 E: townsville.environmental@alsenviro.com
☐ Melbourne: 2-4 Westall Rd, Springvale VIC 3171 Ph:03 8549 9600 E: samples.melbourne@alsenviro.com
☐ Adelaide: 2-4 Burma Rd, Pooraka SA 5095 Ph: 08 8359 0890 E:adelaide@alsenviro.com
☐ Perth: 10 Hod Way, Malaga WA 6090 Ph: 08 9209 7655 E: samples.perth@alsenviro.com
☐ Launceston: 27 Wellington St, Launceston TAS 7250 Ph: 03 6331 2158 E: launceston@alsenviro.com

(8)

CLIENT:	Douglas Partners Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g.. Ultra Trace Organics)	☒ Standard TAT (List due date): ☐ Non Standard or urgent TAT (List due date):
OFFICE:	439 Montague Road, West End Qld 4101		
PROJECT:	203033.01 (may also be written as 203303.01 on some jars- my bad)	ALS QUOTE NO.:	
ORDER NUMBER:		COC SEQUENCE NUMBER (Circle) COC: 1 2 3 4 5 6 7 OF: 1 2 3 4 5 6 7	
PROJECT MANAGER:	Rob Muller	CONTACT PH: (+61)417544122	
SAMPLER:	Sarah McKay	SAMPLER MOBILE: 428769065	
COC emailed to ALS? (YES / NO)		EDD FORMAT (or default):	
Email Reports to (will default to PM if no other addresses are listed):	sarah.mckay@douglaspartners.com.au		
Email Invoice to (will default to PM if no other addresses are listed):	brisbane@douglaspartners.com.au		
COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:			

FOR LABORATORY USE ONLY (Circle)

Custody Seal Intact?	Yes	No	N/A
Free ice / frozen ice bricks present upon receipt?	Yes	No	N/A
Random Sample Temperature on Receipt:		°C	
Other comment:			

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Sarah McKay			
DATE/TIME: 16.04.2021	DATE/TIME:	DATE/TIME:	DATE/TIME:

ALS USE ONLY	SAMPLE DETAILS MATRIX: Solid(S) Water(W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required)								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL BOTTLES	S-26	S-19	pHf and pHfox	P22 and S-2	S-18	EA200	HOLD + Soil corrosion on steel + resistivity		Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
16	28/1.0	15.04.2021	S	Jar								X		
17	28/1.5	15.04.2021	S	Jar								X		
18	29/0.1	14.04.2021	S	Jar+Bag		X					X			
19	29/0.3	14.04.2021	S	Jar								X		
20	29/2.0	14.04.2021	S	Jar								X		
21	30/0.1	14.04.2021	S	Jar+Bag			X							
22	30/0.75	14.04.2021	S	Jar							X	X		
23	30/2.0	14.04.2021	S	Jar					X					
24	31/0.1	15.04.2021	S	Jar+Bag		X								
25	31/0.2	15.04.2021	S	Jar							X			
26	31/0.3	15.04.2021	S	Jar								X		
27	31/0.8	15.04.2021	S	Jar								X		
28	31/1.2	15.04.2021	S	Jar								X		
29	BH1/0.1	14.04.2021	S	Jar+Bag			X				X			
30	BH1/0.5	14.04.2021	S	Jar								X		

CHAIN OF CUSTODY

ALS Laboratory: please tick →

☐ Sydney: 277 Woodpark Rd, Smithfield NSW 2176 Ph: 02 8784 8555 E:samples.sydney@alsenviro.com
☐ Newcastle: 5 Rosegum Rd, Warabrook NSW 2304 Ph:02 4968 9433 E:samples.newcastle@alsenviro.com
☐ Brisbane: 32 Shand St, Stafford QLD 4053 Ph:07 3243 7222 E:samples.brisbane@alsenviro.com
☐ Townsville: 14-15 Desma Ct, Bohle QLD 4818 Ph:07 4796 0600 E: townsville.environmental@alsenviro.com
☐ Melbourne: 2-4 Westall Rd, Springvale VIC 3171 Ph:03 8549 9600 E: samples.melbourne@alsenviro.com
☐ Adelaide: 2-1 Burma Rd, Pooraka SA 5095 Ph: 08 8359 0890 E:adelaide@alsenviro.com
☐ Perth: 10 Hod Way, Malaga WA 6090 Ph: 08 9209 7655 E: samples.perth@alsenviro.com
☐ Launceston: 27 Wellington St, Launceston TAS 7250 Ph: 03 6331 2155 E: launceston@alsenviro.com

(9)

CLIENT:	Douglas Partners Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☒ Standard TAT (List due date): ☐ Non Standard or urgent TAT (List due date):
OFFICE:	439 Montague Road, West End Qld 4101	ALS QUOTE NO.:	
PROJECT:	203033.01 (may also be written as 203303.01 on some jars- my bad)	COC SEQUENCE NUMBER (Circle) COC: 1 2 3 4 5 6 7 OF: 1 2 3 4 5 6 7	FOR LABORATORY USE ONLY (Circle) Custody Seal Intact? Yes No N/A; Free Ice / frozen ice bricks present upon receipt? Yes No N/A; Random Sample Temperature on Receipt: °C; Other comment:
ORDER NUMBER:			
PROJECT MANAGER:	Rob Muller	CONTACT PH: (+61)417544122	
SAMPLER:	Sarah McKay	SAMPLER MOBILE: 428769065	
COC emailed to ALS? (YES / NO)		EDD FORMAT (or default):	
Email Reports to (will default to PM if no other addresses are listed):	sarah.mckay@douglaspartners.com.au		
Email Invoice to (will default to PM if no other addresses are listed):	brisbane@douglaspartners.com.au		
COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:			

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Sarah McKay			
DATE/TIME: 16.04.2021	DATE/TIME:	DATE/TIME:	DATE/TIME:

ALS USE ONLY	SAMPLE DETAILS MATRIX: Solid(S) Water(W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL BOTTLES	S-26	S-19	pHf and pHfox test	P22 and S-2	S-18	EA200	Coal Z + Soil corrosion on Steel+concrete	Coal Fluidity	Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
31	BH2/0.1	14.04.2021	S	Jar+Bag		X					X			
32	BH2/0.5	14.04.2021	S	Jar										
33	BH3/0.1	14.04.2021	S	Jar+Bag			X							
34	BH3/0.5	14.04.2021	S	Jar							X			
35	BH4/0.1	14.04.2021	S	Jar+Bag		X								
36	BH4/0.2	14.04.2021	S	Jar							X			
39	BH4/1.3	14.04.2021	S	Jar								X	X	
76	BH5/0.1	14.04.2021	S	Jar+Bag										
39	BH5/0.6	14.04.2021	S	Jar			X				X			
60	BH6/0.1	14.04.2021	S	Jar+Bag										
61	BH6/0.3	14.04.2021	S	Jar							X			
62	BH6/1.0	14.04.2021	S	Jar		X						X	X	
63	BH6/1.9	14.04.2021	S	Jar										
64	BH6/2.4	14.04.2021	S	Jar								X	X	
65	BH7/0.1	14.04.2021	S	Jar										
												X	X	

CHAIN OF CUSTODY

ALS Laboratory: please tick →

☐ Sydney: 277 Woodpark Rd, Smithfield NSW 2176 Ph: 02 8784 8555 E: samples.sydney@alsenviro.com
☐ Newcastle: 5 Rosegum Rd, Warabrook NSW 2304 Ph:02 4968 9433 E:samples.newcastle@alsenviro.com
☐ Brisbane: 32 Shand St, Stafford QLD 4053 Ph:07 3243 7222 E:samples.brisbane@alsenviro.com
☐ Townsville: 14-15 Desma Ct, Bohle QLD 4818 Ph:07 4796 0600 E: [illegible]
☐ Melbourne: 2-4 Westall Rd, Springvale VIC 3171 Ph:03 8549 9600 E: samples.melbourne@alsenviro.com
☐ Adelaide: 2-1 Burma Rd, Pooraka SA 5095 Ph: 08 8359 0890 E:adelaide@alsenviro.com
☐ Perth: 10 Hod Way, Malaga WA 6090 Ph: 08 9209 7655 E: samples.perth@alsenviro.com
☐ Launceston: 27 Wellington St, Launceston TAS 7250 Ph: 03 6331 2158 E: launceston@alsenviro.com

10

CLIENT:	Douglas Partners Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☒ Standard TAT (List due date): ☐ Non Standard or urgent TAT (List due date):
OFFICE:	439 Montague Road, West End Qld 4101		
PROJECT:	203033.01 (may also be written as 203303.01 on some jars- my bad)	ALS QUOTE NO.:	
ORDER NUMBER:			
PROJECT MANAGER:	Rob Muller	CONTACT PH: (+61)417544122	
SAMPLER:	Sarah McKay	SAMPLER MOBILE: 428769065	
COC emailed to ALS? (YES / NO)		EDD FORMAT (or default):	
Email Reports to (will default to PM if no other addresses are listed):	sarah.mckay@douglaspartners.com.au		
Email Invoice to (will default to PM if no other addresses are listed):	brisbane@douglaspartners.com.au		

COC SEQUENCE NUMBER (Circle)
COC: 1 2 3 4 5 6 7
OF: 1 2 3 4 5 6 7

FOR LABORATORY USE ONLY (Circle)
Custody Seal Intact? Yes No N/A
Free ice / frozen ice bricks present upon receipt? Yes No N/A
Random Sample Temperature on Receipt: °C
Other comment:

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Sarah McKay			
DATE/TIME: 16.04.2021	DATE/TIME:	DATE/TIME:	DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE ONLY	SAMPLE DETAILS MATRIX: Solid(S) Water(W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL BOTTLES	S-26	S-19	pH and pHfox (Cost field screen)	P22 and S-2	S-18	EA200	Cor / T-Soil (Cost on Steel & concrete)	pH (cost in soil)	Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
46	BH7/0.5	14.04.2021	S	Jar								X	X	
47	30/0.25	14.04.2021	S	ASS Bag				X						
48	30/0.5	14.04.2021	S	ASS Bag				X						
49	30/0.75	14.04.2021	S	ASS Bag				X						
50	30/1.0	14.04.2021	S	ASS Bag				X						
51	30/1.25	14.04.2021	S	ASS Bag				X						
52	30/1.5	14.04.2021	S	ASS Bag				X						
53	30/1.75	14.04.2021	S	ASS Bag				X						
54	30/2.0	14.04.2021	S	ASS Bag				X						
55	26/0.25	14.04.2021	S	ASS Bag				X						
56	26/0.5	14.04.2021	S	ASS Bag				X						
57	26/0.75	14.04.2021	S	ASS Bag				X						
58	26/1.0	14.04.2021	S	ASS Bag				X						
59	26/1.25	14.04.2021	S	ASS Bag				X						
60	26/1.5	14.04.2021	S	ASS Bag				X						

CHAIN OF CUSTODY

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☐ Townsville: 14-15 Desma Ct, Bohle QLD 4818 Ph: 07 4796 0600 E: townsville.environmental@alsenviro.com
☐ Melbourne: 2-4 Westall Rd, Springvale VIC 3171 Ph: 03 8549 9600 E: samples.melbourne@alsenviro.com
☐ Adelaide: 2-1 Burma Rd, Pooraka SA 5095 Ph: 08 8359 0890 E: adelaide@alsenviro.com
☐ Perth: 10 Hod Way, Malaga WA 6090 Ph: 08 9209 7655 E: samples.perth@alsenviro.com
☐ Launceston: 27 Wellington St, Launceston TAS 7250 Ph: 03 6331 2158 E: launceston@alsenviro.com

(11)

CLIENT:	Douglas Partners Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g.. Ultra Trace Organics)	☒ Standard TAT (List due date): ☐ Non Standard or urgent TAT (List due date):
OFFICE:	439 Montague Road, West End Qld 4101		
PROJECT:	203033.01 (may also be written as 203303.01 on some jars- my bad)	ALS QUOTE NO.:	
ORDER NUMBER:			
PROJECT MANAGER:	Rob Muller	CONTACT PH: (+61)417544122	
SAMPLER:	Sarah McKay	SAMPLER MOBILE: 428769065	
COC emailed to ALS? (YES / NO)		EDD FORMAT (or default):	
Email Reports to (will default to PM if no other addresses are listed):	sarah.mckay@douglaspartners.com.au		
Email Invoice to (will default to PM if no other addresses are listed):	brisbane@douglaspartners.com.au		

COC SEQUENCE NUMBER (Circle)
COC: 1 2 3 4 5 6 7
OF: 1 2 3 4 5 6 7

FOR LABORATORY USE ONLY (Circle)
Custody Seal Intact? Yes No N/A
Free ice / frozen ice bricks present upon receipt? Yes No N/A
Random Sample Temperature on Receipt: °C
Other comment:

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Sarah McKay			
DATE/TIME: 16.04.2021	DATE/TIME:	DATE/TIME:	DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE ONLY	SAMPLE DETAILS MATRIX: Solid(S) Water(W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL BOTTLES	S-26	S-19	pH and pHox (Field screen)	P22 and S-2	S-18	EA200			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc
61	12/0.25	15.04.2021	S	ASS Bag				X						
62	12/0.5	15.04.2021	S	ASS Bag				X						
63	12/0.75	15.04.2021	S	ASS Bag				X						
64	12/1.0	15.04.2021	S	ASS Bag				X						
65	12/1.25	15.04.2021	S	ASS Bag				X						
66	12/1.5	15.04.2021	S	ASS Bag				X						
67	12/1.75	15.04.2021	S	ASS Bag				X						
68	12/2.0	15.04.2021	S	ASS Bag				X						
69	2/0.25	15.04.2021	S	ASS Bag				X						
70	2/0.5	15.04.2021	S	ASS Bag				X						
71	2/0.75	15.04.2021	S	ASS Bag				X						
72	2/1.0	15.04.2021	S	ASS Bag				X						
73	2/1.25	15.04.2021	S	ASS Bag				X						
74	2/1.5	15.04.2021	S	ASS Bag				X						
75	2/1.75	15.04.2021	S	ASS Bag				X						

CHAIN OF CUSTODY

ALS Laboratory: please tick →

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☐ Perth: 19 Hod Way, Malaga WA 6090 Ph: 08 9209 7655 E: samples.perth@alsenviro.com
☐ Launceston: 27 Wellington St, Launceston TAS 7250 Ph: 03 6331 2158 E: launceston@alsenviro.com

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TO:	Douglas Partners Pty Ltd	**TURNAROUND REQUIREMENTS :** (Standard TAT may be longer for some tests e.g.. Ultra Trace Organics)	☒ Standard TAT (List due date): ☐ Non Standard or urgent TAT (List due date):
OFFICE:	439 Montague Road, West End Qld 4101		
PROJECT:	203033.01 (may also be written as 203303.01 on some jars- my bad)	ALS QUOTE NO.:	COC SEQUENCE NUMBER (Circle) COC: 1 2 3 4 5 6 7 OF: 1 2 3 4 5 6 7
ORDER NUMBER:			
PROJECT MANAGER:	Rob Muller	CONTACT PH: (+61)417544122	
SAMPLER:	Sarah McKay	SAMPLER MOBILE: 428769065	
COC emailed to ALS? (YES / NO)		EDD FORMAT (or default):	
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Email Invoice to (will default to PM if no other addresses are listed):		brisbane@douglaspartners.com.au	

FOR LABORATORY USE ONLY (Circle)

Custody Seal Intact?	Yes	No	N/A
Free ice / frozen ice bricks present upon receipt?	Yes	No	N/A
Random Sample Temperature on Receipt		°C	
Other comment:			

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Sarah McKay			
DATE/TIME: 16.04.2021	DATE/TIME:	DATE/TIME:	DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE ONLY	SAMPLE DETAILS MATRIX: Solid(S) Water(W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL BOTTLES	S-26	S-19	pHf and pHfox	P22 and S-2	S-18	EA200	HOLD		Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
76	2/2.0	15.04.2021	S	ASS Bag				X						
77	Trip Blank	15.04.2021	S	Jar						X				
78	Trip Spike	15.04.2021	S	Jar						X				
79	R1		S	Jar								X		
80	R2		S	Jar								X		
81	R3		S	Jar								X		
82	R4		S	Jar		X								
83	R5		S	Jar		X								
-	S1	Please send to Eurofins B7												
-	S2	Please send to Eurofins												
-	S3	Please send to Eurofins												
-	S4	Please send to Eurofins												
/	S5	Please send to Eurofins												

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

ALS Environmental

CERTIFICATE OF ANALYSIS

Work Order	: **EB2112329**	Page	: 1 of 6
Client	: **DOUGLAS PARTNERS PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	: ROB MULLER	Contact	: John Pickering
Address	: 439 MONTAGUE ROAD WEST END QLD, AUSTRALIA 4101	Address	: 2 Byth Street Stafford QLD Australia 4053
Telephone	: ----	Telephone	: +61 7 3552 8634
Project	: 203033.01	Date Samples Received	: 06-May-2021 11:27
Order number	: ----	Date Analysis Commenced	: 13-May-2021
C-O-C number	: ----	Issue Date	: 13-May-2021 15:54
Sampler	: SARAH McKAY		
Site	: ----		
Quote number	: EN/222		
No. of samples received	: 16		
No. of samples analysed	: 16		

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

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

Signatories

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

Signatories	*Position*	*Accreditation Category*
Ben Felgendrejeris	Senior Acid Sulfate Soil Chemist	Brisbane Acid Sulphate Soils, 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 Contact 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.

- ASS: EA033 (CRS Suite): Laboratory determinations of ANC needs to be corroborated by effectiveness of the measured ANC in relation to incubation ANC. Unless corroborated, the results of ANC testing should be discounted when determining Net Acidity for comparison with action criteria, or for the determination of the acidity hazard and required liming amounts.
- ASS: EA033 (CRS Suite): Liming rate is calculated and reported on a dry weight basis assuming use of fine agricultural lime (CaCO3) and using a safety factor of 1.5 to allow for non-homogeneous mixing and poor reactivity of lime. For conversion of Liming Rate from 'kg/t dry weight' to 'kg/m3 in-situ soil', multiply 'reported results' x 'wet bulk density of soil in t/m3'.

Analytical Results

Sub-Matrix: PULP (Matrix: SOIL)			Sample ID	30/ 0.5	30/1.0	30/1.5	30/2.0	26/0.25
			Sampling date / time	14-Apr-2021 00:00	14-Apr-2021 00:00	14-Apr-2021 00:00	14-Apr-2021 00:00	14-Apr-2021 00:00
Compound	CAS Number	LOR	Unit	EB2112329-001	EB2112329-002	EB2112329-003	EB2112329-004	EB2112329-005
				Result	Result	Result	Result	Result
EA033-A: Actual Acidity								
pH KCl (23A)	----	0.1	pH Unit	4.6	4.6	4.1	4.3	6.5
Titratable Actual Acidity (23F)	----	2	mole H+ / t	36	42	102	126	<2
sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	0.06	0.07	0.16	0.20	<0.02
EA033-B: Potential Acidity								
Chromium Reducible Sulfur (22B)	----	0.005	% S	0.009	0.012	0.009	0.012	0.010
acidity - Chromium Reducible Sulfur (a-22B)	----	10	mole H+ / t	<10	<10	<10	<10	<10
EA033-C: Acid Neutralising Capacity								
Acid Neutralising Capacity (19A2)	----	0.01	% CaCO3	----	----	----	----	0.26
acidity - Acid Neutralising Capacity (a-19A2)	----	10	mole H+ / t	----	----	----	----	52
sulfidic - Acid Neutralising Capacity (s-19A2)	----	0.01	% pyrite S	----	----	----	----	0.08
EA033-D: Retained Acidity								
KCl Extractable Sulfur (23Ce)	----	0.02	% S	----	----	<0.02	0.02	----
HCl Extractable Sulfur (20Be)	----	0.02	% S	----	----	0.02	0.03	----
Net Acid Soluble Sulfur (20Je)	----	0.02	% S	----	----	<0.02	<0.02	----
acidity - Net Acid Soluble Sulfur (a-20J)	----	10	mole H+ / t	----	----	<10	<10	----
sulfidic - Net Acid Soluble Sulfur (s-20J)	----	0.02	% pyrite S	----	----	<0.02	<0.02	----
EA033-E: Acid Base Accounting								
ANC Fineness Factor	----	0.5	-	1.5	1.5	1.5	1.5	1.5
Net Acidity (sulfur units)	----	0.02	% S	0.06	0.08	0.18	0.23	<0.02
Net Acidity (acidity units)	----	10	mole H+ / t	41	50	111	141	<10
Liming Rate	----	1	kg CaCO3/t	3	4	8	11	<1
Net Acidity excluding ANC (sulfur units)	----	0.02	% S	0.06	0.08	0.18	0.23	<0.02
Net Acidity excluding ANC (acidity units)	----	10	mole H+ / t	41	50	111	141	<10
Liming Rate excluding ANC	----	1	kg CaCO3/t	3	4	8	11	<1

Analytical Results

Sub-Matrix: PULP (Matrix: SOIL)			Sample ID	26/0.75	26/1.25	26/1.5	12/0.5	12/1.0
			Sampling date / time	14-Apr-2021 00:00	14-Apr-2021 00:00	14-Apr-2021 00:00	15-Apr-2021 00:00	15-Apr-2021 00:00
Compound	CAS Number	LOR	Unit	EB2112329-006	EB2112329-007	EB2112329-008	EB2112329-009	EB2112329-010
				Result	Result	Result	Result	Result
EA033-A: Actual Acidity								
pH KCl (23A)	----	0.1	pH Unit	5.7	5.6	5.1	4.6	4.4
Titratable Actual Acidity (23F)	----	2	mole H+ / t	4	4	9	25	43
sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	<0.02	<0.02	0.04	0.07
EA033-B: Potential Acidity								
Chromium Reducible Sulfur (22B)	----	0.005	% S	0.014	0.012	0.008	0.011	0.013
acidity - Chromium Reducible Sulfur (a-22B)	----	10	mole H+ / t	<10	<10	<10	<10	<10
EA033-D: Retained Acidity								
KCl Extractable Sulfur (23Ce)	----	0.02	% S	----	----	----	----	0.02
HCl Extractable Sulfur (20Be)	----	0.02	% S	----	----	----	----	0.03
Net Acid Soluble Sulfur (20Je)	----	0.02	% S	----	----	----	----	<0.02
acidity - Net Acid Soluble Sulfur (a-20J)	----	10	mole H+ / t	----	----	----	----	<10
sulfidic - Net Acid Soluble Sulfur (s-20J)	----	0.02	% pyrite S	----	----	----	----	<0.02
EA033-E: Acid Base Accounting								
ANC Fineness Factor	----	0.5	-	1.5	1.5	1.5	1.5	1.5
Net Acidity (sulfur units)	----	0.02	% S	<0.02	<0.02	0.02	0.05	0.09
Net Acidity (acidity units)	----	10	mole H+ / t	12	11	14	32	57
Liming Rate	----	1	kg CaCO3/t	<1	<1	1	2	4
Net Acidity excluding ANC (sulfur units)	----	0.02	% S	<0.02	<0.02	0.02	0.05	0.09
Net Acidity excluding ANC (acidity units)	----	10	mole H+ / t	12	11	14	32	57
Liming Rate excluding ANC	----	1	kg CaCO3/t	<1	<1	1	2	4

Analytical Results

Sub-Matrix: PULP (Matrix: SOIL)			Sample ID	12/1.5	12/2.0	2/0.25	2/0.5	2/1.25
			Sampling date / time	15-Apr-2021 00:00	15-Apr-2021 00:00	15-Apr-2021 00:00	15-Apr-2021 00:00	15-Apr-2021 00:00
Compound	CAS Number	LOR	Unit	EB2112329-011	EB2112329-012	EB2112329-013	EB2112329-014	EB2112329-015
				Result	Result	Result	Result	Result
EA033-A: Actual Acidity								
pH KCl (23A)	----	0.1	pH Unit	**4.2**	**4.0**	**5.1**	**4.9**	**4.6**
Titratable Actual Acidity (23F)	----	2	mole H+ / t	**117**	**99**	**9**	**18**	**34**
sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	**0.19**	**0.16**	<0.02	**0.03**	**0.06**
EA033-B: Potential Acidity								
Chromium Reducible Sulfur (22B)	----	0.005	% S	**0.010**	**0.012**	**0.012**	**0.016**	**0.014**
acidity - Chromium Reducible Sulfur (a-22B)	----	10	mole H+ / t	<10	<10	<10	<10	<10
EA033-D: Retained Acidity								
KCl Extractable Sulfur (23Ce)	----	0.02	% S	**0.03**	<0.02	**----**	**----**	**----**
HCl Extractable Sulfur (20Be)	----	0.02	% S	**0.04**	<0.02	**----**	**----**	**----**
Net Acid Soluble Sulfur (20Je)	----	0.02	% S	<0.02	<0.02	**----**	**----**	**----**
acidity - Net Acid Soluble Sulfur (a-20J)	----	10	mole H+ / t	<10	<10	**----**	**----**	**----**
sulfidic - Net Acid Soluble Sulfur (s-20J)	----	0.02	% pyrite S	<0.02	<0.02	**----**	**----**	**----**
EA033-E: Acid Base Accounting								
ANC Fineness Factor	----	0.5	-	**1.5**	**1.5**	**1.5**	**1.5**	**1.5**
Net Acidity (sulfur units)	----	0.02	% S	**0.21**	**0.18**	**0.03**	**0.04**	**0.07**
Net Acidity (acidity units)	----	10	mole H+ / t	**129**	**109**	**16**	**27**	**43**
Liming Rate	----	1	kg CaCO3/t	**10**	**8**	**1**	**2**	**3**
Net Acidity excluding ANC (sulfur units)	----	0.02	% S	**0.21**	**0.18**	**0.03**	**0.04**	**0.07**
Net Acidity excluding ANC (acidity units)	----	10	mole H+ / t	**129**	**109**	**16**	**27**	**43**
Liming Rate excluding ANC	----	1	kg CaCO3/t	**10**	**8**	**1**	**2**	**3**

Analytical Results

Sub-Matrix: PULP (Matrix: SOIL)			Sample ID	2/2.0	----	----	----	----
			Sampling date / time	15-Apr-2021 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit	EB2112329-016	--------	--------	--------	--------
				Result	----	----	----	----
EA033-A: Actual Acidity								
pH KCl (23A)	----	0.1	pH Unit	**4.7**	----	----	----	----
Titratable Actual Acidity (23F)	----	2	mole H+ / t	**20**	----	----	----	----
sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	**0.03**	----	----	----	----
EA033-B: Potential Acidity								
Chromium Reducible Sulfur (22B)	----	0.005	% S	**0.009**	----	----	----	----
acidity - Chromium Reducible Sulfur (a-22B)	----	10	mole H+ / t	<10	----	----	----	----
EA033-E: Acid Base Accounting								
ANC Fineness Factor	----	0.5	-	**1.5**	----	----	----	----
Net Acidity (sulfur units)	----	0.02	% S	**0.04**	----	----	----	----
Net Acidity (acidity units)	----	10	mole H+ / t	**25**	----	----	----	----
Liming Rate	----	1	kg CaCO3/t	**2**	----	----	----	----
Net Acidity excluding ANC (sulfur units)	----	0.02	% S	**0.04**	----	----	----	----
Net Acidity excluding ANC (acidity units)	----	10	mole H+ / t	**25**	----	----	----	----
Liming Rate excluding ANC	----	1	kg CaCO3/t	**2**	----	----	----	----

ALS Environmental

QUALITY CONTROL REPORT

Work Order	: **EB2112329**	Page	: 1 of 3
Client	: **DOUGLAS PARTNERS PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	: ROB MULLER	Contact	: John Pickering
Address	: 439 MONTAGUE ROAD WEST END QLD, AUSTRALIA 4101	Address	: 2 Byth Street Stafford QLD Australia 4053
Telephone	: ----	Telephone	: +61 7 3552 8634
Project	: 203033.01	Date Samples Received	: 06-May-2021
Order number	: ----	Date Analysis Commenced	: 13-May-2021
C-O-C number	: ----	Issue Date	: 13-May-2021
Sampler	: SARAH McKAY		
Site	: ----		
Quote number	: EN/222		
No. of samples received	: 16		
No. of samples analysed	: 16		

ilac-MRA NATA
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 Quality Control Report contains the following information:

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

Signatories

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

Signatories	*Position*	*Accreditation Category*
Ben Felgendrejeris	Senior Acid Sulfate Soil Chemist	Brisbane Acid Sulphate Soils, 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

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 (%)*
EA033-A: Actual Acidity (QC Lot: 3673381)									
EB2112329-001	30/ 0.5	EA033: sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	0.06	0.06	0.0	No Limit
		EA033: Titratable Actual Acidity (23F)	----	2	mole H+ / t	36	35	0.0	0% - 50%
		EA033: pH KCl (23A)	----	0.1	pH Unit	4.6	4.6	0.0	0% - 20%
EB2112329-011	12/1.5	EA033: sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	0.19	0.18	0.0	No Limit
		EA033: Titratable Actual Acidity (23F)	----	2	mole H+ / t	117	114	2.5	0% - 20%
		EA033: pH KCl (23A)	----	0.1	pH Unit	4.2	4.2	0.0	0% - 20%
EA033-B: Potential Acidity (QC Lot: 3673381)									
EB2112329-001	30/ 0.5	EA033: Chromium Reducible Sulfur (22B)	----	0.005	% S	0.009	0.008	0.0	No Limit
		EA033: acidity - Chromium Reducible Sulfur (a-22B)	----	10	mole H+ / t	<10	<10	0.0	No Limit
EB2112329-011	12/1.5	EA033: Chromium Reducible Sulfur (22B)	----	0.005	% S	0.010	0.013	34.7	No Limit
		EA033: acidity - Chromium Reducible Sulfur (a-22B)	----	10	mole H+ / t	<10	<10	0.0	No Limit
EA033-D: Retained Acidity (QC Lot: 3673381)									
EB2112329-011	12/1.5	EA033: sulfidic - Net Acid Soluble Sulfur (s-20J)	----	0.02	% pyrite S	<0.02	<0.02	0.0	No Limit
		EA033: Net Acid Soluble Sulfur (20Je)	----	0.02	% S	<0.02	<0.02	0.0	No Limit
		EA033: KCl Extractable Sulfur (23Ce)	----	0.02	% S	0.03	0.03	0.0	No Limit
		EA033: HCl Extractable Sulfur (20Be)	----	0.02	% S	0.04	0.04	0.0	No Limit
		EA033: acidity - Net Acid Soluble Sulfur (a-20J)	----	10	mole H+ / t	<10	<10	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: **SOIL**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EA033-A: Actual Acidity (QCLot: 3673381)								
EA033: pH KCl (23A)	----	----	pH Unit	----	4.4 pH Unit	98.5	91.0	107
EA033: Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	15 mole H+ / t	94.5	70.0	124
EA033: sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	----	----	----	----
EA033-B: Potential Acidity (QCLot: 3673381)								
EA033: Chromium Reducible Sulfur (22B)	----	0.005	% S	<0.005	0.155 % S	92.9	77.0	121
EA033: acidity - Chromium Reducible Sulfur (a-22B)	----	10	mole H+ / t	<10	----	----	----	----
EA033-C: Acid Neutralising Capacity (QCLot: 3673381)								
EA033: Acid Neutralising Capacity (19A2)	----	0.01	% CaCO3	<0.01	10 % CaCO3	92.7	91.0	112
EA033: acidity - Acid Neutralising Capacity (a-19A2)	----	10	mole H+ / t	<10	----	----	----	----
EA033: sulfidic - Acid Neutralising Capacity (s-19A2)	----	0.01	% pyrite S	<0.01	----	----	----	----
EA033-D: Retained Acidity (QCLot: 3673381)								
EA033: Net Acid Soluble Sulfur (20Je)	----	0.02	% S	<0.02	----	----	----	----
EA033: acidity - Net Acid Soluble Sulfur (a-20J)	----	10	mole H+ / t	<10	----	----	----	----
EA033: sulfidic - Net Acid Soluble Sulfur (s-20J)	----	0.02	% pyrite S	<0.02	----	----	----	----
EA033: KCl Extractable Sulfur (23Ce)	----	0.02	% S	<0.02	0.04779 % S	91.4	70.0	128
EA033: HCl Extractable Sulfur (20Be)	----	0.02	% S	<0.02	0.279 % S	91.4	70.0	120

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.

- **No Matrix Spike (MS) or Matrix Spike Duplicate (MSD) Results are required to be reported.**

ALS Environmental

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **EB2112329**	Page	: 1 of 5
Client	: **DOUGLAS PARTNERS PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	: ROB MULLER	Telephone	: +61 7 3552 8634
Project	: 203033.01	Date Samples Received	: 06-May-2021
Site	: ----	Issue Date	: 13-May-2021
Sampler	: SARAH McKAY	No. of samples received	: 16
Order number	: ----	No. of samples analysed	: 16

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

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

Outliers : Frequency of Quality Control Samples

- **NO Quality Control Sample Frequency Outliers exist.**

Analysis Holding Time Compliance

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

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

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

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

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA033-A: Actual Acidity							
Pulp Bag (EA033)							
30/ 0.5, 30/1.0, 30/1.5, 30/2.0, 26/0.25, 26/0.75, 26/1.25, 26/1.5	**14-Apr-2021**	**13-May-2021**	14-Apr-2022	✓	**13-May-2021**	11-Aug-2021	✓
Pulp Bag (EA033)							
12/0.5, 12/1.0, 12/1.5, 12/2.0, 2/0.25, 2/0.5, 2/1.25, 2/2.0	**15-Apr-2021**	**13-May-2021**	15-Apr-2022	✓	**13-May-2021**	11-Aug-2021	✓
EA033-B: Potential Acidity							
Pulp Bag (EA033)							
30/ 0.5, 30/1.0, 30/1.5, 30/2.0, 26/0.25, 26/0.75, 26/1.25, 26/1.5	**14-Apr-2021**	**13-May-2021**	14-Apr-2022	✓	**13-May-2021**	11-Aug-2021	✓
Pulp Bag (EA033)							
12/0.5, 12/1.0, 12/1.5, 12/2.0, 2/0.25, 2/0.5, 2/1.25, 2/2.0	**15-Apr-2021**	**13-May-2021**	15-Apr-2022	✓	**13-May-2021**	11-Aug-2021	✓
EA033-C: Acid Neutralising Capacity							
Pulp Bag (EA033)							
30/ 0.5, 30/1.0, 30/1.5, 30/2.0, 26/0.25, 26/0.75, 26/1.25, 26/1.5	**14-Apr-2021**	**13-May-2021**	14-Apr-2022	✓	**13-May-2021**	11-Aug-2021	✓
Pulp Bag (EA033)							
12/0.5, 12/1.0, 12/1.5, 12/2.0, 2/0.25, 2/0.5, 2/1.25, 2/2.0	**15-Apr-2021**	**13-May-2021**	15-Apr-2022	✓	**13-May-2021**	11-Aug-2021	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA033-D: Retained Acidity							
Pulp Bag (EA033)							
30/ 0.5, 30/1.0, 30/1.5, 30/2.0, 26/0.25, 26/0.75, 26/1.25, 26/1.5	**14-Apr-2021**	**13-May-2021**	14-Apr-2022	✓	**13-May-2021**	11-Aug-2021	✓
Pulp Bag (EA033)							
12/0.5, 12/1.0, 12/1.5, 12/2.0, 2/0.25, 2/0.5, 2/1.25, 2/2.0	**15-Apr-2021**	**13-May-2021**	15-Apr-2022	✓	**13-May-2021**	11-Aug-2021	✓
EA033-E: Acid Base Accounting							
Pulp Bag (EA033)							
30/ 0.5, 30/1.0, 30/1.5, 30/2.0, 26/0.25, 26/0.75, 26/1.25, 26/1.5	**14-Apr-2021**	**13-May-2021**	14-Apr-2022	✓	**13-May-2021**	11-Aug-2021	✓
Pulp Bag (EA033)							
12/0.5, 12/1.0, 12/1.5, 12/2.0, 2/0.25, 2/0.5, 2/1.25, 2/2.0	**15-Apr-2021**	**13-May-2021**	15-Apr-2022	✓	**13-May-2021**	11-Aug-2021	✓

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)							
Chromium Suite for Acid Sulphate Soils	EA033	2	18	**11.11**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Chromium Suite for Acid Sulphate Soils	EA033	1	18	**5.56**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Chromium Suite for Acid Sulphate Soils	EA033	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
Chromium Suite for Acid Sulphate Soils	EA033	SOIL	In house: Referenced to Ahern et al 2004. This method covers the determination of Chromium Reducible Sulfur (SCR); pHKCl; titratable actual acidity (TAA); acid neutralising capacity by back titration (ANC); and net acid soluble sulfur (SNAS) which incorporates peroxide sulfur. It applies to soils and sediments (including sands) derived from coastal regions. Liming Rate is based on results for samples as submitted and incorporates a minimum safety factor of 1.5.

Preparation Methods	Method	Matrix	Method Descriptions
Drying at 85 degrees, bagging and labelling (ASS)	EN020PR	SOIL	In house

SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order : **EB2112329**

Client	: **DOUGLAS PARTNERS PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	: ROB MULLER	Contact	: John Pickering
Address	: 439 MONTAGUE ROAD WEST END QLD, AUSTRALIA 4101	Address	: 2 Byth Street Stafford QLD Australia 4053
E-mail	: rob.muller@douglaspartners.com.au	E-mail	: john.pickering@alsglobal.com
Telephone	: ----	Telephone	: +61 7 3552 8634
Facsimile	: ----	Facsimile	: +61-7-3243 7218
Project	: 203033.01	Page	: 1 of 3
Order number	: ----	Quote number	: EM2017DOUPAR0002 (EN/222)
C-O-C number	: ----	QC Level	: NEPM 2013 B3 & ALS QC Standard
Site	: ----		
Sampler	: SARAH McKAY		

Dates

Date Samples Received	: 06-May-2021 11:27	Issue Date	: 06-May-2021
Client Requested Due Date	: 13-May-2021	Scheduled Reporting Date	: **13-May-2021**

Delivery Details

Mode of Delivery	: Samples On Hand	Security Seal	: Not Available
No. of coolers/boxes	: ----	Temperature	: ----
Receipt Detail	: RE-BATCH	No. of samples received / analysed	: 16 / 16

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
- **This work order has been created to rebatch samples from EB2110706**
- 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.

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: **SOIL**

Laboratory sample ID	Sampling date / time	Sample ID	SOIL - EA033 Chromium Suite for Acid Sulphate Soils
EB2112329-001	14-Apr-2021 00:00	30/ 0.5	✓
EB2112329-002	14-Apr-2021 00:00	30/1.0	✓
EB2112329-003	14-Apr-2021 00:00	30/1.5	✓
EB2112329-004	14-Apr-2021 00:00	30/2.0	✓
EB2112329-005	14-Apr-2021 00:00	26/0.25	✓
EB2112329-006	14-Apr-2021 00:00	26/0.75	✓
EB2112329-007	14-Apr-2021 00:00	26/1.25	✓
EB2112329-008	14-Apr-2021 00:00	26/1.5	✓
EB2112329-009	15-Apr-2021 00:00	12/0.5	✓
EB2112329-010	15-Apr-2021 00:00	12/1.0	✓
EB2112329-011	15-Apr-2021 00:00	12/1.5	✓
EB2112329-012	15-Apr-2021 00:00	12/2.0	✓
EB2112329-013	15-Apr-2021 00:00	2/0.25	✓
EB2112329-014	15-Apr-2021 00:00	2/0.5	✓
EB2112329-015	15-Apr-2021 00:00	2/1.25	✓
EB2112329-016	15-Apr-2021 00:00	2/2.0	✓

Proactive Holding Time Report

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

Requested Deliverables

ACCOUNTS PAYABLE INVOICES

- A4 - AU Tax Invoice (INV)	Email	apinvoices@douglaspartners.com.au

ROB MULLER

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

Jethro Hilliard

From: rebatches.brisbane
Sent: Thursday, 6 May 2021 3:16 PM
To: Jethro Hilliard
Subject: FW: Rebatch_Request: [EXTERNAL] - Chromium suite analysis
Attachments: EB2110394_0_COA.pdf; EB2110706_0_COA.pdf

Environmental Division
Brisbane
Work Order Reference
EB2112329

Telephone : +61-7-3243 7222

As discussed,

Can you please action the below re-batch request,

Regards,

Greg Fowler,

Senior Sample Receipt Officer, Environmental
Queensland.

T +61 7 3243 7222 D +61 7 3552 8612
greg.fowler@alsglobal.com
2 Byth Street (cnr Shand & Byth St)
Stafford QLD 4053
AUSTRALIA

EnviroMail™ 00 – All EnviroMails™ in one convenient library.
EnviroMail™ 123 Re-Release – Leaching Environmental Assessment Framework
EnviroMail™ 125 – ALS Now NATA Accredited for Total Organic Fluorine (TOF)
EnviroMail™ 126 – TOF for Compliance with Guideline ERA 60 Now NATA Accredited

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From: John Pickering
Sent: Thursday, 6 May 2021 11:27 AM
To: rebatches.brisbane <rebatches.brisbane@alsglobal.com>
Cc: ALSEnviro Brisbane <ALSEnviro.Brisbane@alsglobal.com>; Satish Kumar Trivedi <SatishKumar.Trivedi@alsglobal.com>
Subject: Rebatch_Request: [EXTERNAL] - Chromium suite analysis

Team,

Please action the following rebatch request:

2 WO numbers EB2110394 & EB2110706 for chromium suite.

Could you please arrange for chromium suite (complete) analysis on the following samples from these two previous batches:

- 30/0.5,
- 30/1.0,
- 30/1.5,
- 30/2.0
- 26/0.25,
- 26/0.75,
- 26/1.25,
- 26/1.5,
- 12/0.5,
- 12/1.0,
- 12/1.5,
- 12/2.0,
- 2/0.25,
- 2.0.5,
- 2/1.25,
- 2/2.0.

Regards,

John Pickering
Client Services Technical Officer, Environmental – Brisbane



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john.pickering@alsglobal.com
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Stafford QLD 4053
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From: Rob Muller <Rob.Muller@douglaspartners.com.au>
Sent: Thursday, 6 May 2021 11:13 AM
To: John Pickering <John.Pickering@alsglobal.com>
Subject: [EXTERNAL] - Chromium suite analysis

CAUTION: This email originated from outside of ALS. Do not click links or open attachments unless you recognize the sender and are sure content is relevant to you.

Hi John,

Could you please arrange for chromium suite (complete) analysis on the following samples from these two previous batches:

- 30/0.5, 14/4
- 30/1.0,
- 30/1.5,
- 30/2.0
- 26/0.25,
- 26/0.75,
- 26/1.25,
- 26/1.5, 14/4
- 12/0.5,
- 12/1.0,
- 12/1.5,
- 12/2.0, 15/4
- 2/0.25,
- 2.0.5,
- 2/1.25,
- 2/2.0. 15/4

Kind regards,

Rob Muller | Senior Environmental Scientist
Douglas Partners Pty Ltd | ABN 75 053 980 117 | www.douglaspartners.com.au
439 Montague Road West End QLD 4101
P: 07 3237 8900 | M: 0417 544 122 | E: Rob.Muller@douglaspartners.com.au



CLIENT CHOIC
2020 WINNER

To find information on our COVID-19 measures, please visit douglaspartners.com.au/news/covid-19

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Appendix L

Summary of Results

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Table 1: Summary of Laboratory Results – Metals, TRH, BTEX, PAH

			Metals								TRH						BTEX				PAH		
			Arsenic	Cadmium	Total Chromium	Copper	Lead	Mercury (inorganic)	Nickel	Zinc	TRH C6 - C10	TRH >C10-C16	F1 ((C6-C10)-BTEX)	F2 (>C10-C16 less Naphthalene)	F3 (>C16-C34)	F4 (>C34-C40)	Benzene	Toluene	Ethylbenzene	Total Xylenes	Naphthalene [b]	Benzo(a)pyrene (BaP)	Benzo(a)pyrene TEQ
		PQL	5	1	2	5	5	0.1	2	5	10	50	10	50	100	100	0.2	0.5	0.5	0.5	1	0.5	0.5
Sample ID	Depth	Sample Date	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
1/0.1	0 - 0.1 m	15-Apr-21 00:49	**7**	<1	**19**	**15**	**18**	**0.1**	**5**	**20**	<10	<50	<10	<50	<100	<100	<0.2	<0.5	<0.5	<0.5	<1	<0.5	<0.5
			100 100	20 -	100 690	6000 75	300 1100	40 -	400 120	7400 310	- -	- 120	45 180	110 -	- 300	- 2800	0.5 50	160 85	55 70	40 105	3 170	- 0.7	3 -
2/0.1	0 - 0.1 m	15-Apr-21 00:49	**5**	<1	**9**	**34**	**60**	**0.1**	**2**	**59**	<10	<50	<10	<50	<100	<100	<0.2	<0.5	<0.5	<0.5	<1	<0.5	<0.5
			100 100	20 -	100 690	6000 75	300 1100	40 -	400 120	7400 310	- -	- 120	40 180	230 -	- 1300	- 5600	0.6 65	390 105	NL 125	95 45	4 170	- 0.7	3 -
3/0.4	0.3 - 0.4 m	13-Apr-21 00:49	**6**	<1	**22**	**11**	**15**	<0.1	**5**	**12**	<10	<50	<10	<50	<100	<100	<0.2	<0.5	<0.5	<0.5	<1	<0.5	<0.5
			100 100	20 -	100 690	6000 75	300 1100	40 -	400 120	7400 310	- -	- 120	50 180	280 -	- 1300	- 5600	0.7 65	480 105	NL 125	110 45	5 170	- 0.7	3 -
4/0.1	0 - 0.1 m	16-Apr-21 00:49	<5	<1	**37**	**15**	**32**	<0.1	**6**	**34**	<10	<50	<10	<50	<100	<100	<0.2	<0.5	<0.5	<0.5	<1	<0.5	<0.5
			100 100	20 -	100 690	6000 75	300 1100	40 -	400 120	7400 310	- -	- 120	40 180	230 -	- 1300	- 5600	0.6 65	390 105	NL 125	95 45	4 170	- 0.7	3 -
5/0.1	0 - 0.1 m	16-Apr-21 00:49	<5	<1	**23**	**10**	**22**	<0.1	**5**	**35**	<10	<50	<10	<50	<100	<100	<0.2	<0.5	<0.5	<0.5	<1	<0.5	<0.5
			100 100	20 -	100 690	6000 75	300 1100	40 -	400 120	7400 310	- -	- 120	40 180	230 -	- 1300	- 5600	0.6 65	390 105	NL 125	95 45	4 170	- 0.7	3 -
6/0.1	0 - 0.1 m	16-Apr-21 00:49	<5	<1	**34**	**13**	**20**	<0.1	**10**	**48**	<10	<50	<10	<50	<100	<100	<0.2	<0.5	<0.5	<0.5	<1	<0.5	<0.5
			100 100	20 -	100 690	6000 75	300 1100	40 -	400 120	7400 310	- -	- 120	40 180	230 -	- 1300	- 5600	0.6 65	390 105	NL 125	95 45	4 170	- 0.7	3 -
7/0.2	0.1 - 0.2 m	16-Apr-21 00:49	<5	<1	**33**	**8**	**9**	**0.6**	**2**	**10**	<10	<50	<10	<50	<100	<100	<0.2	<0.5	<0.5	<0.5	<1	<0.5	<0.5
			100 100	20 -	100 690	6000 75	300 1100	40 -	400 120	7400 310	- -	- 120	50 180	280 -	- 1300	- 5600	0.7 65	480 105	NL 125	110 45	5 170	- 0.7	3 -
8/0.1	0 - 0.1 m	16-Apr-21 00:49	<5	<1	**35**	**8**	**13**	<0.1	**5**	**23**	<10	<50	<10	<50	<100	<100	<0.2	<0.5	<0.5	<0.5	<1	<0.5	<0.5
			100 100	20 -	100 690	6000 75	300 1100	40 -	400 120	7400 310	- -	- 120	40 180	230 -	- 1300	- 5600	0.6 65	390 105	NL 125	95 45	4 170	- 0.7	3 -
9/0.1	0 - 0.1 m	15-Apr-21 00:49	<5	<1	**35**	**18**	**20**	<0.1	**12**	**67**	<10	<50	<10	<50	<100	<100	<0.2	<0.5	<0.5	<0.5	<1	<0.5	<0.5
			100 100	20 -	100 690	6000 75	300 1100	40 -	400 120	7400 310	- -	- 120	40 180	230 -	- 1300	- 5600	0.6 65	390 105	NL 125	95 45	4 170	- 0.7	3 -
9/1.1	1 - 1.1 m	15-Apr-21 00:49	<5	<1	**47**	**5**	**12**	<0.1	**5**	**6**	-	-	-	-	-	-	-	-	-	-	-	-	-
			100 100	20 -	100 690	6000 75	300 1100	40 -	400 120	7400 310	- -	- 120	90 180	NL -	- 1300	- 5600	1 65	NL 105	NL 125	310 45	NL 170	- 0.7	3 -
10/0.4	0.3 - 0.4 m	15-Apr-21 00:49	<5	<1	**31**	<5	**13**	**0.1**	**4**	**6**	<10	<50	<10	<50	<100	<100	<0.2	<0.5	<0.5	<0.5	<1	<0.5	<0.5
			100 100	20 -	100 690	6000 75	300 1100	40 -	400 120	7400 310	- -	- 120	50 180	280 -	- 1300	- 5600	0.7 65	480 105	NL 125	110 45	5 170	- 0.7	3 -
R4	0.3 - 0.4 m	15-Apr-21 08:27	<5	<1	**38**	**5**	**14**	**0.1**	**5**	**7**	<10	<50	<10	<50	<100	<100	<0.2	<0.5	<0.5	<0.5	<1	<0.5	<0.5
			100 100	20 -	100 690	6000 75	300 1100	40 -	400 120	7400 310	- -	- 120	50 180	280 -	- 1300	- 5600	0.7 65	480 105	NL 125	110 45	5 170	- 0.7	3 -
S4	0.3 - 0.4 m		**9**	<0.5	**40**	**7.7**	**19**	<0.1	**8.8**	**13**	<20	<50	<20	<50	<100	<100	<0.1	<0.1	<0.1	<0.1	NT	<0.5	<0.5
			100 100	20 -	100 690	6000 75	300 1100	40 -	400 120	7400 310	- -	- 120	50 180	280 -	- 1300	- 5600	0.7 65	480 105	NL 125	110 45	5 170	- 0.7	3 -
11/0.5	0.4 - 0.5 m	13-Apr-21 00:49	<5	<1	**24**	**9**	**9**	<0.1	**5**	**15**	<10	<50	<10	<50	<100	<100	<0.2	<0.5	<0.5	<0.5	<1	<0.5	<0.5
			100 100	20 -	100 690	6000 75	300 1100	40 -	400 120	7400 310	- -	- 120	50 180	280 -	- 1300	- 5600	0.7 65	480 105	NL 125	110 45	5 170	- 0.7	3 -
12/0.25	0.15 - 0.25 m	13-Apr-21 00:49	<5	<1	**27**	**6**	**9**	**0.1**	**4**	**9**	<10	<50	<10	<50	<100	<100	<0.2	<0.5	<0.5	<0.5	<1	<0.5	<0.5
			100 100	20 -	100 690	6000 75	300 1100	40 -	400 120	7400 310	- -	- 120	50 180	280 -	- 1300	- 5600	0.7 65	480 105	NL 125	110 45	5 170	- 0.7	3 -
13/0.1	0 - 0.1 m	15-Apr-21 00:49	**5**	<1	**26**	**11**	**19**	<0.1	**7**	**278**	<10	**80**	<10	**80**	**280**	<100	<0.2	<0.5	<0.5	<0.5	<1	**0.6**	**0.7**
			100 100	20 -	100 690	6000 75	300 1100	40 -	400 120	7400 310	- -	- 120	40 180	230 -	- 1300	- 5600	0.6 65	390 105	NL 125	95 45	4 170	- 0.7	3 -
R5	0 - 0.1 m	15-Apr-21 08:27	**6**	<1	**28**	**14**	**25**	**0.1**	**10**	**335**	<10	**80**	<10	**80**	**270**	<100	<0.2	<0.5	<0.5	<0.5	<1	**0.6**	**0.6**
			100 100	20 -	100 690	6000 75	300 1100	40 -	400 120	7400 310	- -	- 120	40 180	230 -	- 1300	- 5600	0.6 65	390 105	NL 125	95 45	4 170	- 0.7	3 -
S5	0 - 0.1 m		**4.4**	<0.5	**22**	**11**	**15**	<0.1	**9.5**	**200**	<20	**66**	<20	**66**	**210**	<100	<0.1	<0.1	<0.1	<0.1	NT	<0.5	<0.5
			100 100	20 -	100 690	6000 75	300 1100	40 -	400 120	7400 310	- -	- 120	40 180	230 -	- 1300	- 5600	0.6 65	390 105	NL 125	95 45	4 170	- 0.7	3 -
14/0.1	0 - 0.1 m	13-Apr-21 00:49	<5	<1	**14**	**7**	**14**	<0.1	**4**	**26**	<10	<50	<10	<50	<100	<100	<0.2	<0.5	<0.5	<0.5	<1	<0.5	<0.5
			100 100	20 -	100 690	6000 75	300 1100	40 -	400 120	7400 310	- -	- 120	40 180	230 -	- 1300	- 5600	0.6 65	390 105	NL 125	95 45	4 170	- 0.7	3 -
15/0.7	0.6 - 0.7 m	13-Apr-21 00:49	**6**	<1	**19**	**14**	**6**	<0.1	**5**	**8**	<10	<50	<10	<50	<100	<100	<0.2	<0.5	<0.5	<0.5	<1	<0.5	<0.5
			100 100	20 -	100 690	6000 75	300 1100	40 -	400 120	7400 310	- -	- 120	40 180	230 -	- 1300	- 5600	0.6 65	390 105	NL 125	95 45	4 170	- 0.7	3 -
16/0.1	0 - 0.1 m	13-Apr-21 00:49	**6**	<1	**24**	**11**	**22**	**0.1**	**4**	**45**	<10	<50	<10	<50	<100	<100	<0.2	<0.5	<0.5	<0.5	<1	<0.5	<0.5
			100 100	20 -	100 690	6000 75	300 1100	40 -	400 120	7400 310	- -	- 120	40 180	230 -	- 1300	- 5600	0.6 65	390 105	NL 125	95 45	4 170	- 0.7	3 -
17/0.25	0.15 - 0.25 m	13-Apr-21 00:49	**6**	<1	**6**	**6**	**6**	<0.1	**3**	**12**	<10	<50	<10	<50	<100	<100	<0.2	<0.5	<0.5	<0.5	<1	<0.5	<0.5
			100 100	20 -	100 690	6000 75	300 1100	40 -	400 120	7400 310	- -	- 120	45 180	110 -	- 300	- 2800	0.5 50	160 85	55 70	40 105	3 170	- 0.7	3 -
18/0.4	0.3 - 0.4 m	14-Apr-21 00:49	<5	<1	**4**	<5	<5	<0.1	<2	<5	<10	<50	<10	<50	<100	<100	<0.2	<0.5	<0.5	<0.5	<1	<0.5	<0.5
			100 100	20 -	100 690	6000 75	300 1100	40 -	400 120	7400 310	- -	- 120	50 180	280 -	- 1300	- 5600	0.7 65	480 105	NL 125	110 45	5 170	- 0.7	3 -
19/0.4	0.3 - 0.4 m	14-Apr-21 00:49	**8**	<1	**4**	**12**	**12**	<0.1	<2	<5	<10	<50	<10	<50	<100	<100	<0.2	<0.5	<0.5	<0.5	<1	<0.5	<0.5
			100 100	20 -	100 690	6000 75	300 1100	40 -	400 120	7400 310	- -	- 120	50 180	280 -	- 1300	- 5600	0.7 65	480 105	NL 125	110 45	5 170	- 0.7	3 -
20/0.8	0.7 - 0.8 m	13-Apr-21 00:49	**8**	<1	**8**	**9**	**9**	<0.1	**3**	**14**	<10	<50	<10	<50	<100	<100	<0.2	<0.5	<0.5	<0.5	<1	<0.5	<0.5
			100 100	20 -	100 690	6000 75	300 1100	40 -	400 120	7400 310	- -	- 120	50 180	280 -	- 1300	- 5600	0.7 65	480 105	NL 125	110 45	5 170	- 0.7	3 -
21/1.5	1.4 - 1.5 m	13-Apr-21 00:49	<5	<1	**3**	**6**	**7**	<0.1	<2	**18**	<10	<50	<10	<50	<100	<100	<0.2	<0.5	<0.5	<0.5	<1	<0.5	<0.5
			100 100	20 -	100 690	6000 75	300 1100	40 -	400 120	7400 310	- -	- 120	90 180	NL -	- 1300	- 5600	1 65	NL 105	NL 125	310 45	NL 170	- 0.7	3 -
22/0.1	0 - 0.1 m	14-Apr-21 00:49	**8**	<1	**11**	**13**	**34**	**0.1**	**3**	**58**	<10	<50	<10	<50	<100	<100	<0.2	<0.5	<0.5	<0.5	<1	<0.5	<0.5
			100 100	20 -	100 690	6000 75	300 1100	40 -	400 120	7400 310	- -	- 120	40 180	230 -	- 1300	- 5600	0.6 65	390 105	NL 125	95 45	4 170	- 0.7	3 -
22/1.4	1.3 - 1.4 m	14-Apr-21 00:49	**6**	<1	**16**	<5	**8**	<0.1	<2	<5	-	-	-	-	-	-	-	-	-	-	-	-	-
			100 100	20 -	100 690	6000 75	300 1100	40 -	400 120	7400 310	- -	- 120	90 180	NL -	- 1300	- 5600	1 65	NL 105	NL 125	310 45	NL 170	- 0.7	3 -
23/0.1	0 - 0.1 m	14-Apr-21 00:49	**22**	<1	**9**	**10**	**129**	<0.1	**2**	**82**	<10	<50	<10	<50	<100	<100	<0.2	<0.5	<0.5	<0.5	<1	<0.5	<0.5
			100 100	20 -	100 690	6000 75	300 1100	40 -	400 120	7400 310	- -	- 120	40 180	230 -	- 1300	- 5600	0.6 65	390 105	NL 125	95 45	4 170	- 0.7	3 -
24/0.2	0.1 - 0.2 m	14-Apr-21 00:49	**40**	<1	**2**	**16**	**32**	<0.1	<2	**15**	<10	<50	<10	<50	<100	<100	<0.2	<0.5	<0.5	<0.5	<1	<0.5	<0.5
			100 100	20 -	100 690	6000 75	300 1100	40 -	400 120	7400 310	- -	- 120	50 180	280 -	- 1300	- 5600	0.7 65	480 105	NL 125	110 45	5 170	- 0.7	3 -
25/0.3	0.2 - 0.3 m	14-Apr-21 00:49	**9**	<1	**7**	**6**	**9**	<0.1	<2	**6**	<10	<50	<10	<50	<100	<100	<0.2	<0.5	<0.5	<0.5	<1	<0.5	<0.5
			100 100	20 -	100 690	6000 75	300 1100	40 -	400 120	7400 310	- -	- 120	50 180	280 -	- 1300	- 5600	0.7 65	480 105	NL 125	110 45	5 170	- 0.7	3 -
26/0.1	0 - 0.1 m	14-Apr-21 08:27	**19**	<1	<2	**21**	**42**	<0.1	<2	**11**	<10	<50	<10	<50	<100	<100	<0.2	<0.5	<0.5	<0.5	<1	<0.5	<0.5
			100 100	20 -	100 690	6000 75	300 1100	40 -	400 120	7400 310	- -	- 120	45 180	110 -	- 300	- 2800	0.5 50	160 85	55 70	40 105	3 170	- 0.7	3 -

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Table 1: Summary of Laboratory Results – Metals, TRH, BTEX, PAH

			Metals								TRH						BTEX				PAH		
			Arsenic	Cadmium	Total Chromium	Copper	Lead	Mercury (inorganic)	Nickel	Zinc	TRH C6 - C10	TRH >C10-C16	F1 ((C6-C10)-BTEX)	F2 (>C10-C16 less Naphthalene)	F3 (>C16-C34)	F4 (>C34-C40)	Benzene	Toluene	Ethylbenzene	Total Xylenes	Naphthalene [b]	Benzo(a)pyrene (BaP)	Benzo(a)pyrene TEQ
		PQL	5	1	2	5	5	0.1	2	5	10	50	10	50	100	100	0.2	0.5	0.5	0.5	1	0.5	0.5
Sample ID	Depth	Sample Date	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
27/0.1	0 - 0.1 m	15-Apr-21 08:27	**9**	<1	**9**	**12**	**45**	**0.1**	**3**	**69**	<10	<50	<10	<50	<100	<100	<0.2	<0.5	<0.5	<0.5	<1	<0.5	<0.5
			100 100	20 -	100 690	6000 75	300 1100	40 -	400 120	7400 310	- -	- 120	40 180	230 -	- 1300	- 5600	0.6 65	390 105	NL 125	95 45	4 170	- 0.7	3 -
28/0.5	0.4 - 0.5 m	15-Apr-21 08:27	**9**	<1	**13**	**13**	**35**	**0.1**	**4**	**50**	<10	<50	<10	<50	<100	<100	<0.2	<0.5	<0.5	<0.5	<1	<0.5	<0.5
			100 100	20 -	100 690	6000 75	300 1100	40 -	400 120	7400 310	- -	- 120	50 180	280 -	- 1300	- 5600	0.7 65	480 105	NL 125	110 45	5 170	- 0.7	3 -
29/0.1	0 - 0.1 m	14-Apr-21 08:27	**8**	<1	**62**	**12**	**12**	<0.1	**6**	**35**	<10	<50	<10	<50	<100	<100	<0.2	<0.5	<0.5	<0.5	<1	<0.5	<0.5
			100 100	20 -	100 690	6000 75	300 1100	40 -	400 120	7400 310	- -	- 120	40 180	230 -	- 1300	- 5600	0.6 65	390 105	NL 125	95 45	4 170	- 0.7	3 -
30/0.1	0 - 0.1 m	14-Apr-21 08:27	**6**	<1	**17**	**16**	**36**	**0.1**	**6**	**61**	<10	<50	<10	<50	<100	<100	<0.2	<0.5	<0.5	<0.5	<1	<0.5	<0.5
			100 100	20 -	100 690	6000 75	300 1100	40 -	400 120	7400 310	- -	- 120	40 180	230 -	- 1300	- 5600	0.6 65	390 105	NL 125	95 45	4 170	- 0.7	3 -
30/2.0	1.9 - 2 m	14-Apr-21 08:27	<5	<1	**23**	**8**	**10**	**0.4**	**4**	**10**	-	-	-	-	-	-	-	-	-	-	-	-	-
			100 100	20 -	100 690	6000 75	300 1100	40 -	400 120	7400 310	- -	- 120	90 180	NL -	- 1300	- 5600	1 65	NL 105	NL 125	310 45	NL 170	- 0.7	3 -
31/0.1	0 - 0.1 m	15-Apr-21 08:27	<5	<1	**14**	**9**	**12**	<0.1	**5**	**95**	<10	<50	<10	<50	<100	<100	<0.2	<0.5	<0.5	<0.5	<1	<0.5	<0.5
			100 100	20 -	100 690	6000 75	300 1100	40 -	400 120	7400 310	- -	- 120	40 180	230 -	- 1300	- 5600	0.6 65	390 105	NL 125	95 45	4 170	- 0.7	3 -
BH1/0.1	0 - 0.1 m	14-Apr-21 08:27	<5	<1	**61**	**18**	**13**	<0.1	**3**	**5**	<10	<50	<10	<50	<100	<100	<0.2	<0.5	<0.5	<0.5	<1	<0.5	<0.5
			100 100	20 -	100 690	6000 75	300 1100	40 -	400 120	7400 310	- -	- 120	50 180	280 -	- 1300	- 5600	0.7 65	480 105	NL 125	110 45	5 170	- 0.7	3 -
BH2/0.1	0 - 0.1 m	14-Apr-21 08:27	**8**	<1	**11**	**21**	**52**	**0.1**	**6**	**118**	<10	<50	<10	<50	<100	<100	<0.2	<0.5	<0.5	<0.5	<1	<0.5	<0.5
			100 100	20 -	100 690	6000 75	300 1100	40 -	400 120	7400 310	- -	- 120	45 180	110 -	- 300	- 2800	0.5 50	160 85	55 70	40 105	3 170	- 0.7	3 -
BH3/0.1	0 - 0.1 m	14-Apr-21 08:27	<5	<1	**39**	**11**	**18**	<0.1	**9**	**89**	<10	**120**	<10	**120**	**230**	<100	<0.2	<0.5	<0.5	<0.5	<1	<0.5	<0.5
			100 100	20 -	100 690	6000 75	300 1100	40 -	400 120	7400 310	- -	- 120	50 180	280 -	- 1300	- 5600	0.7 65	480 105	NL 125	110 45	5 170	- 0.7	3 -
BH4/0.1	0 - 0.1 m	14-Apr-21 08:27	<5	<1	**43**	**17**	**29**	<0.1	**19**	**64**	<10	<50	<10	<50	<100	<100	<0.2	<0.5	<0.5	<0.5	<1	<0.5	<0.5
			100 100	20 -	100 690	6000 75	300 1100	40 -	400 120	7400 310	- -	- 120	50 180	280 -	- 1300	- 5600	0.7 65	480 105	NL 125	110 45	5 170	- 0.7	3 -
BH5/0.6	0.5 - 0.6 m	14-Apr-21 08:27	**6**	<1	**10**	<5	**8**	<0.1	<2	<5	<10	<50	<10	<50	<100	<100	<0.2	<0.5	<0.5	<0.5	<1	<0.5	<0.5
			100 100	20 -	100 690	6000 75	300 1100	40 -	400 120	7400 310	- -	- 120	50 180	280 -	- 1300	- 5600	0.7 65	480 105	NL 125	110 45	5 170	- 0.7	3 -
BH6/0.1	0 - 0.1 m	14-Apr-21 08:27	<5	<1	**25**	**10**	**19**	**0.2**	**5**	**48**	<10	<50	<10	<50	<100	<100	<0.2	<0.5	<0.5	<0.5	<1	<0.5	<0.5
			100 100	20 -	100 690	6000 75	300 1100	40 -	400 120	7400 310	- -	- 120	50 180	280 -	- 1300	- 5600	0.7 65	480 105	NL 125	110 45	5 170	- 0.7	3 -

Lab result

HIL/HSL value EIL/ESL value

HIL/HSL exceedance EIL/ESL exceedance HIL/HSL and EIL/ESL exceedance ML exceedance ML and HIL/HSL or EIL/ESL exceedance

Indicates that asbestos has been detected by the lab, refer to the lab report **Blue** = DC exceedance HSL 0-<1 Exceedance

Bold = Lab detections - = Not tested or No HIL/HSL/EIL/ESL (as applicable) or Not applicable NL = Non limiting AD = Asbestos detected NAD = No Asbestos detected

HIL = Health investigation level HSL = Health screening level (excluding DC) EIL = Ecological investigation level ESL = Ecological screening level ML = Management Limit DC = Direct Contact HSL

Notes:

a QA/QC replicate of sample listed directly below the primary sample

b Reported naphthalene laboratory result obtained from BTEXN suite

c Criteria applies to DDT only

Site Assessment Criteria (SAC):

Refer to the SAC section of report for information of SAC sources and rationale. Summary information as follows:

SAC based on generic land use thresholds for Residential A with garden/accessible soil

HIL A	Residential / Low - High Density (NEPC, 2013)
HSL A/B	Residential / Low - High Density (vapour intrusion) (NEPC, 2013)
DC HSL A	Direct contact HSL A Residential (Low density) (direct contact) (CRC CARE, 2011)
EIL/ESL UR/POS	Urban Residential and Public Open Space (NEPC, 2013)
ML R/P/POS	Residential, Parkland and Public Open Space (NEPC, 2013)

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Table 2: Summary of Laboratory Results – OCP, OPP, PCB

			OCP														OPP	PCB
			DDD	DDT+DDE+DDD [c]	DDE	DDT	Aldrin & Dieldrin	Endosulfan I	Total Chlordane	Endosulfan II	Endosulfan Sulphate	Endrin	Total Endosulfan	Heptachlor	Hexachlorobenzene	Methoxychlor	Chlorpyriphos	Total PCB
		PQL	0.05	0.05	0.05	0.2	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.2	0.05	0.1
Sample ID	Depth	Sample Date	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
2/0.1	0 - 0.1 m	15-Apr-21 00:49	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.1
			- -	240 180	- -	- 180	6 -	- -	50 -	- -	- -	10 -	270 -	6 -	10 -	300 -	160 -	1 -
4/0.1	0 - 0.1 m	16-Apr-21 00:49	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.1
			- -	240 180	- -	- 180	6 -	- -	50 -	- -	- -	10 -	270 -	6 -	10 -	300 -	160 -	1 -
6/0.1	0 - 0.1 m	16-Apr-21 00:49	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.1
			- -	240 180	- -	- 180	6 -	- -	50 -	- -	- -	10 -	270 -	6 -	10 -	300 -	160 -	1 -
8/0.1	0 - 0.1 m	16-Apr-21 00:49	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.1
			- -	240 180	- -	- 180	6 -	- -	50 -	- -	- -	10 -	270 -	6 -	10 -	300 -	160 -	1 -
10/0.4	0.3 - 0.4 m	15-Apr-21 00:49	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.1
			- -	240 180	- -	- 180	6 -	- -	50 -	- -	- -	10 -	270 -	6 -	10 -	300 -	160 -	1 -
12/0.25	0.15 - 0.25 m	13-Apr-21 00:49	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.1
			- -	240 180	- -	- 180	6 -	- -	50 -	- -	- -	10 -	270 -	6 -	10 -	300 -	160 -	1 -
14/0.1	0 - 0.1 m	13-Apr-21 00:49	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.1
			- -	240 180	- -	- 180	6 -	- -	50 -	- -	- -	10 -	270 -	6 -	10 -	300 -	160 -	1 -
16/0.1	0 - 0.1 m	13-Apr-21 00:49	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.1
			- -	240 180	- -	- 180	6 -	- -	50 -	- -	- -	10 -	270 -	6 -	10 -	300 -	160 -	1 -
18/0.4	0.3 - 0.4 m	14-Apr-21 00:49	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.1
			- -	240 180	- -	- 180	6 -	- -	50 -	- -	- -	10 -	270 -	6 -	10 -	300 -	160 -	1 -
20/0.8	0.7 - 0.8 m	13-Apr-21 00:49	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.1
			- -	240 180	- -	- 180	6 -	- -	50 -	- -	- -	10 -	270 -	6 -	10 -	300 -	160 -	1 -
22/0.1	0 - 0.1 m	14-Apr-21 00:49	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.1
			- -	240 180	- -	- 180	6 -	- -	50 -	- -	- -	10 -	270 -	6 -	10 -	300 -	160 -	1 -
24/0.2	0.1 - 0.2 m	14-Apr-21 00:49	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.1
			- -	240 180	- -	- 180	6 -	- -	50 -	- -	- -	10 -	270 -	6 -	10 -	300 -	160 -	1 -
26/0.1	0 - 0.1 m	14-Apr-21 08:27	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.1
			- -	240 180	- -	- 180	6 -	- -	50 -	- -	- -	10 -	270 -	6 -	10 -	300 -	160 -	1 -
28/0.5	0.4 - 0.5 m	15-Apr-21 08:27	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.1
			- -	240 180	- -	- 180	6 -	- -	50 -	- -	- -	10 -	270 -	6 -	10 -	300 -	160 -	1 -
30/0.1	0 - 0.1 m	14-Apr-21 08:27	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.1
			- -	240 180	- -	- 180	6 -	- -	50 -	- -	- -	10 -	270 -	6 -	10 -	300 -	160 -	1 -

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Table 2: Summary of Laboratory Results – OCP, OPP, PCB

			OCP														OPP	PCB
			DDD	DDT+DDE+DDD [c]	DDE	DDT	Aldrin & Dieldrin	Endosulfan I	Total Chlordane	Endosulfan II	Endosulfan Sulphate	Endrin	Total Endosulfan	Heptachlor	Hexachlorobenzene	Methoxychlor	Chlorpyriphos	Total PCB
		PQL	0.05	0.05	0.05	0.2	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.2	0.05	0.1
Sample ID	Depth	Sample Date	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
BH1/0.1	0 - 0.1 m	14-Apr-21 08:27	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.1
			- -	240 180	- -	- 180	6 -	- -	50 -	- -	- -	10 -	270 -	6 -	10 -	300 -	160 -	1 -
BH3/0.1	0 - 0.1 m	14-Apr-21 08:27	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.1
			- -	240 180	- -	- 180	6 -	- -	50 -	- -	- -	10 -	270 -	6 -	10 -	300 -	160 -	1 -
BH5/0.6	0.5 - 0.6 m	14-Apr-21 08:27	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.1
			- -	240 180	- -	- 180	6 -	- -	50 -	- -	- -	10 -	270 -	6 -	10 -	300 -	160 -	1 -

Lab result

HIL/HSL value EIL/ESL value

HIL/HSL exceedance EIL/ESL exceedance HIL/HSL and EIL/ESL exceedance ML exceedance ML and HIL/HSL or EIL/ESL exceedance

Indicates that asbestos has been detected by the lab, refer to the lab report **Blue** = DC exceedance HSL 0-<1 Exceedance

Bold = Lab detections - = Not tested or No HIL/HSL/EIL/ESL (as applicable) or Not applicable NL = Non limiting AD = Asbestos detected NAD = No Asbestos detected

HIL = Health investigation level HSL = Health screening level (excluding DC) EIL = Ecological investigation level ESL = Ecological screening level ML = Management Limit DC = Direct Contact HSL

Notes:

a QA/QC replicate of sample listed directly below the primary sample

b Reported naphthalene laboratory result obtained from BTEXN suite

c Criteria applies to DDT only

Site Assessment Criteria (SAC):

Refer to the SAC section of report for information of SAC sources and rationale. Summary information as follows:

SAC based on generic land use thresholds for Residential A with garden/accessible soil

HIL A	Residential / Low - High Density (NEPC, 2013)
HSL A/B	Residential / Low - High Density (vapour intrusion) (NEPC, 2013)
DC HSL A	Direct contact HSL A Residential (Low density) (direct contact) (CRC CARE, 2011)
EIL/ESL UR/POS	Urban Residential and Public Open Space (NEPC, 2013)
ML R/P/POS	Residential, Parkland and Public Open Space (NEPC, 2013)

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Table 3: Summary of Asbestos Results

Sample ID	Depth (mbGL)	Date	Sample Weight (g)	Asbestos Detected	Asbetsos (Trace)	Asbestos Type
			g	g/kg	Fibres	Ch, Cr, Am
Site Assessment Criteria (applicable to Soils only)						
		HSL-A[1]			0.01	
		Friable ACM[2]			0.001	
		Laboratory Limit of Reporting	*0.01*	*0.1*	*5*	*-*
1/0.1	0 - 0.1 m	15-Apr-21	425	NAD	NAD	-
2/0.1	0 - 0.1 m	14-Apr-21	543	NAD	NAD	-
3/0.3	0.2 - 0.3 m	16-Apr-21	188	NAD	NAD	-
4/0.1	0 - 0.1 m	16-Apr-21	244	NAD	NAD	-
5/0.1	0 - 0.1 m	16-Apr-21	328	NAD	NAD	-
6/0.1	0 - 0.1 m	16-Apr-21	394	NAD	NAD	-
7/0.1	0 - 0.1 m	16-Apr-21	154	NAD	NAD	-
8/0.1	0 - 0.1 m	16-Apr-21	564	NAD	NAD	-
9/0.1	0 - 0.1 m	15-Apr-21	467	NAD	NAD	-
10/0.1	0 - 0.1 m	15-Apr-21	458	NAD	NAD	-
11/0.1	0 - 0.1 m	13-Apr-21	407	NAD	NAD	-
12/0.1	0 - 0.1 m	13-Apr-21	608	NAD	NAD	-
13/0.1	0 - 0.1 m	15-Apr-21	463	NAD	NAD	-
14/0.1	0 - 0.1 m	13-Apr-21	331	NAD	NAD	-
15/0.1	0 - 0.1 m	13-Apr-21	581	NAD	NAD	-
16/0.1	0 - 0.1 m	13-Apr-21	701	NAD	NAD	-
17/0.25	0.15- 0.25 m	13-Apr-21	994	NAD	NAD	-
18/0.4	0.3 - 0.4 m	14-Apr-21	589	NAD	NAD	-
19/0.4	0.3 - 0.4 m	14-Apr-21	941	NAD	NAD	-
20/0.3	0.2 - 0.3 m	13-Apr-21	208	NAD	NAD	-
21/0.4	0.3 - 0.4 m	13-Apr-21	707	NAD	NAD	-
22/0.1	0 - 0.1 m	14-Apr-21	512	NAD	NAD	-
23/0.1	0 - 0.1 m	14-Apr-21	361	NAD	NAD	-
24/0.1	0 - 0.1 m	14-Apr-21	453	NAD	NAD	-
25/0.1	0 - 0.1 m	14-Apr-21	683	NAD	NAD	-
26/0.1	0 - 0.1 m	14-Apr-21	725	NAD	NAD	-
27/0.1	0 - 0.1 m	15-Apr-21	611	NAD	NAD	-
28/0.1	0 - 0.1 m	15-Apr-21	567	NAD	NAD	-
29/0.1	0 - 0.1 m	14-Apr-21	516	NAD	NAD	-
30/0.1	0 - 0.1 m	14-Apr-21	466	NAD	NAD	-
31/0.2	0.1 - 0.2 m	15-Apr-21	332	NAD	NAD	-
BH1/0.1	0 - 0.1 m	14-Apr-21	96	NAD	NAD	-
BH2/0.1	0 - 0.1 m	14-Apr-21	210	NAD	NAD	-
BH3/0.1	0 - 0.1 m	14-Apr-21	148	NAD	NAD	-
BH4/0.1	0 - 0.1 m	14-Apr-21	135	NAD	NAD	-
BH5/0.1	0 - 0.1 m	14-Apr-21	86.5	NAD	NAD	-
BH6/0.1	0 - 0.1 m	14-Apr-21	115	NAD	NAD	-

Notes

1	NEPM Schedule B1 Table 7 Health-based screening levels for residential premises with garden/accessible soil for bonded ACM
2	NEPM Schedule B1 Table 7 Health-based screening levels for all land uses for FA and AF ACM
-	Not applicable
NAD	No asbestos found at the reporting limit of 0.001% w/w (0.01g/kg) and trace analyses. Refer AS 4964–2004.
Ch	Chrysotile
Am	Amosite
Cr	Crocidolite
Yellow	cells contain levels of an analyte greater than the HSL-A
Red	cells contain levels of an analyte greater than the Friable ACM

This table has been produced in colour to indicate exceedences of relevant criteria.

Reproduction should be carried out in colour.

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Table 4: Summary of Acid Sulfate Soil (ASS) Results

Depth (m bGL)	Lithology	Field Screening Test Results				Chromium Suite Test Results						
						Actual Acidity		Potential Acidity		Acid-Base Accounting		
		pH_F	pH_{FOx}	ΔpH	Reaction Intensity (1,2,3,4)*	pH_{KCl}	Titratable Actual Acidity (TAA, %S)	Chromium Reducible Sulfur (S_{Cr}, %S)	Acidity - Chromium Reducible Sulfur (mole H+ / t	Net Acidity (sulfur units) %S	Net Acidity Exluding Acid Neutralising Capacity (ANC, %S)	Liming Rate (kg $CaCO_3$/t)
Test Pit 30												
0.25	Silty Clay	5.2	4.0	1.2	2							
0.50	Silty Clay	5.3	4.0	1.3	1	4.6	0.06	0.009	<10	0.06	0.06	0
0.75	Silty Clay	5.3	4.3	1.0	1							
1.00	Silty Clay	5.4	4.2	1.2	1	4.6	0.07	0.012	<10	0.08	0.08	4
1.25	Silty Clay	5.5	4.2	1.3	1							
1.50	Silty Clay	4.9	3.8	1.1	1	4.1	0.16	0.009	<10	0.2	0.18	8
1.75	Silty Clay	5.0	3.9	1.1	1							
2.00	Silty Clay	5.0	3.8	1.2	1	4.3	0.20	0.012	<10	0.23	0.23	11
Test Pit 26												
0.25	Sandy Silty Clay	7.6	5.6	2.0	2	6.5	<0.02	0.01	<10	<0.02	<0.02	<1
0.50	Sandy Silty Clay	7.2	5.4	1.8	2							
0.75	Silty Clay	7.5	5.4	2.1	2	5.7	<0.02	0.014	<10	<0.02	<0.02	<1
1.00	Sandy Silty Clay	7.4	5.4	2.0	2							
1.25	Sandy Silty Clay	7.6	5.3	2.3	2	5.6	<0.02	0.012	<10	<0.02	<0.02	<1
1.50	Sandy Silty Clay	7.4	5.3	2.1	2	5.1	<0.02	0.008	<10	0.02	0.02	1.0
1.75	Sandy Silty Clay	-	-		-							
2.00	Sandy Silty Clay	-	-		-							
Test Pit 12												
0.25	Sandy Clay	6.4	5.1	1.3	2							
0.50	Clay	5.4	3.7	1.7	2	4.6	0.04	0.011	<10	0.05	0.05	2
0.75	Clay	5.1	4.2	0.9	2							
1.00	Clay	5.2	3.8	1.4	1	4.4	0.1	0.013	<10	0.09	0.09	4.0
1.25	Clay	5.0	3.9	1.1	1							
1.50	Clay	4.8	3.5	1.3	1	4.2	0.19	0.010	<10	0.21	0.21	10
1.75	Clay	5.0	3.6	1.4	2							
2.00	Clay	5.0	3.5	1.5	1	4.0	0.2	0.012	<10	0.18	0.18	8.0
Test Pit 2												
0.25	Sandy Silt	5.6	3.8	1.8	2	5.1	<0.02	0.012	<10	0.03	0.03	1.0
0.50	Sandy Silty Clay	5.8	4.2	1.6	2	4.9	0.0	0.0	<10	0.04	0.04	2.00
0.75	Sandy Silty Clay	5.7	4.7	1.0	1							
1.00	Silty Clay	5.4	4.6	0.8	1							
1.25	Silty Clay	5.4	4.2	1.2	1	4.6	0.06	0.014	<10	0.07	0.07	3
1.50	Silty Clay	5.4	4.3	1.1	1							
1.75	Silty Clay	5.4	4.2	1.2	1							
2.00	Silty Clay	5.8	4.4	1.4	1	4.7	0.03	0.009	<10	0.04	0.04	2

Notes

*	Reaction Intensity: 1 = no reaction, 2 = mild reaction, 3 = vigorous reaction, 4 = violent reaction
**	Assumes fineness factor of 1.5 and includes safety factor
-	Not tested.
Yellow	cells indicate a net acidity greater than or equal to the guideline level of 0.06%S (medium textured soils)
Pink	If pH_F <4, this indicates that Actual Acid Sulfate Soils are present
Blue	If pH_{FOX} < 3, this is a strong indication that Potential Acid Sulfate Soils are present
ΔpH	The greater the difference between pH_F and pH_{FOX}, the stronger the indication that Potential Acid Sulfate Soils are present

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Table QA1: Relative Percentage Difference Results – Intra-laboratory Replicates

			Metals								TRH						BTEX				PAH		
			Arsenic	Cadmium	Total Chromium	Copper	Lead	Mercury (inorganic)	Nickel	Zinc	TRH C6 - C10	TRH >C10-C16	F1 ((C6-C10)-BTEX)	F2 (>C10-C16 less Naphthalene)	F3 (>C16-C34)	F4 (>C34-C40)	Benzene	Toluene	Ethylbenzene	Total Xylenes	Naphthalene [b]	Benzo(a)pyrene (BaP)	Benzo(a)pyrene TEQ
Sample ID	Depth	Sample Date	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
S4	0.3 - 0.4 m	15-Apr-21	9	<0.5	40	7.7	19	<0.1	8.8	13	<20	<50	<20	<50	<100	<100	<0.1	<0.1	<0.1	<0.1	NT	<0.5	<0.5
10/0.4	0.3 - 0.4 m	15-Apr-21	<5	<1	31	<5	13	0.1	4	6	<10	<50	<10	<50	<100	<100	<0.2	<0.5	<0.5	<0.5	<1	<0.5	<0.5
		Difference	4	-	9	2.7	6	0	4.8	7	-	0	-	0	0	0	-	-	-	-	-	0	0
		RPD	**57%**	-	25%	**43%**	**38%**	0%	**75%**	**74%**	-	0%	-	0%	0%	0%	-	-	-	-	-	0%	0%
R4	0.3 - 0.4 m	15-Apr-21	<5	<1	38	5	14	0.1	5	7	<10	<50	<10	<50	<100	<100	<0.2	<0.5	<0.5	<0.5	<1	<0.5	<0.5
10/0.4	0.3 - 0.4 m	15-Apr-21	<5	<1	31	<5	13	0.1	4	6	<10	<50	<10	<50	<100	<100	<0.2	<0.5	<0.5	<0.5	<1	<0.5	<0.5
		Difference	-	-	7	0	1	0	1	1	-	0	-	-	-	-	-	-	-	-	-	-	-
		RPD	-	-	20%	0%	7%	0%	22%	15%	-	0%	-	-	-	-	-	-	-	-	-	-	-
S5	0 - 0.1 m	15-Apr-21	4.4	<0.5	22	11	15	<0.1	9.5	200	<20	66	<20	66	210	<100	<0.1	<0.1	<0.1	<0.1	NT	<0.5	<0.5
13/0.1	0 - 0.1 m	15-Apr-21	5	<1	26	11	19	<0.1	7	278	<10	80	<10	80	280	<100	<0.2	<0.5	<0.5	<0.5	<1	0.6	0.7
		Difference	0.6	-	4	0	4	-	2.5	78	-	14	-	14	70	-	-	-	-	-	-	0.1	0.2
		RPD	13%	-	17%	0%	24%	-	**30%**	**33%**	-	19%	-	19%	29%	-	-	-	-	-	-	18%	**33%**
R5	0 - 0.1 m	15-Apr-21	6	<1	28	14	25	0.1	10	335	<10	80	<10	80	270	<100	<0.2	<0.5	<0.5	<0.5	<1	0.6	0.6
13/0.1	0 - 0.1 m	15-Apr-21	5	<1	26	11	19	<0.1	7	278	<10	80	<10	80	280	<100	<0.2	<0.5	<0.5	<0.5	<1	0.6	0.7
		Difference	1	-	2	3	6	0	3	57	-	0	-	0	10	-	-	-	-	-	-	0	0.1
		RPD	18%	-	7%	24%	27%	0%	**35%**	19%	-	0%	-	0%	4%	-	-	-	-	-	-	0%	15%

Appendix M

Statistical Analysis

UCL Statistics for Data Sets with Non-Detects

User Selected Options	
Date/Time of Computation	ProUCL 5.124/06/2022 3:41:59 PM
From File	WorkSheet.xls
Full Precision	OFF
Confidence Coefficient	95%
Number of Bootstrap Operations	2000

Zinc

General Statistics

Total Number of Observations	44	Number of Distinct Observations	33
Number of Detects	40	Number of Non-Detects	4
Number of Distinct Detects	33	Number of Distinct Non-Detects	1
Minimum Detect	5	Minimum Non-Detect	5
Maximum Detect	335	Maximum Non-Detect	5
Variance Detects	5013	Percent Non-Detects	9.091%
Mean Detects	52.9	SD Detects	70.8
Median Detects	30	CV Detects	1.338
Skewness Detects	2.741	Kurtosis Detects	8.006
Mean of Logged Detects	3.35	SD of Logged Detects	1.11

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.65	Shapiro Wilk GOF Test
5% Shapiro Wilk Critical Value	0.94	Detected Data Not Normal at 5% Significance Level
Lilliefors Test Statistic	0.249	Lilliefors GOF Test
5% Lilliefors Critical Value	0.139	Detected Data Not Normal at 5% Significance Level

Detected Data Not Normal at 5% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	48.55	KM Standard Error of Mean	10.39
KM SD	68.06	95% KM (BCA) UCL	66.05
95% KM (t) UCL	66.01	95% KM (Percentile Bootstrap) UCL	66.07
95% KM (z) UCL	65.64	95% KM Bootstrap t UCL	76.08
90% KM Chebyshev UCL	79.72	95% KM Chebyshev UCL	93.84
97.5% KM Chebyshev UCL	113.4	99% KM Chebyshev UCL	151.9

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	1.075	Anderson-Darling GOF Test
5% A-D Critical Value	0.781	Detected Data Not Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.139	Kolmogorov-Smirnov GOF
5% K-S Critical Value	0.144	Detected data appear Gamma Distributed at 5% Significance Level

Detected data follow Appr. Gamma Distribution at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	0.94	k star (bias corrected MLE)	0.886
Theta hat (MLE)	56.29	Theta star (bias corrected MLE)	59.71
nu hat (MLE)	75.18	nu star (bias corrected)	70.88
Mean (detects)	52.9		

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

54	GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)										
55	For such situations, GROS method may yield incorrect values of UCLs and BTVs										
56	This is especially true when the sample size is small.										
57	For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates										
58				Minimum	0.01			Mean	48.09		
59				Maximum	335			Median	21.5		
60				SD	69.16			CV	1.438		
61				k hat (MLE)	0.508			k star (bias corrected MLE)	0.489		
62				Theta hat (MLE)	94.63			Theta star (bias corrected MLE)	98.4		
63				nu hat (MLE)	44.72			nu star (bias corrected)	43.01		
64				Adjusted Level of Significance (β)	0.0445						
65				Approximate Chi Square Value (43.01, α)	28.97			Adjusted Chi Square Value (43.01, β)	28.58		
66				95% Gamma Approximate UCL (use when n>=50)	71.39			95% Gamma Adjusted UCL (use when n<50)	72.37		
67											
68				Estimates of Gamma Parameters using KM Estimates							
69				Mean (KM)	48.55			SD (KM)	68.06		
70				Variance (KM)	4633			SE of Mean (KM)	10.39		
71				k hat (KM)	0.509			k star (KM)	0.489		
72				nu hat (KM)	44.77			nu star (KM)	43.05		
73				theta hat (KM)	95.43			theta star (KM)	99.24		
74				80% gamma percentile (KM)	79.65			90% gamma percentile (KM)	131.9		
75				95% gamma percentile (KM)	187.9			99% gamma percentile (KM)	326		
76											
77				Gamma Kaplan-Meier (KM) Statistics							
78				Approximate Chi Square Value (43.05, α)	29			Adjusted Chi Square Value (43.05, β)	28.61		
79				95% Gamma Approximate KM-UCL (use when n>=50)	72.05			95% Gamma Adjusted KM-UCL (use when n<50)	73.04		
80											
81				Lognormal GOF Test on Detected Observations Only							
82				Shapiro Wilk Test Statistic	0.952			Shapiro Wilk GOF Test			
83				5% Shapiro Wilk Critical Value	0.94			Detected Data appear Lognormal at 5% Significance Level			
84				Lilliefors Test Statistic	0.118			Lilliefors GOF Test			
85				5% Lilliefors Critical Value	0.139			Detected Data appear Lognormal at 5% Significance Level			
86	Detected Data appear Lognormal at 5% Significance Level										
87											
88				Lognormal ROS Statistics Using Imputed Non-Detects							
89				Mean in Original Scale	48.29			Mean in Log Scale	3.114		
90				SD in Original Scale	69.02			SD in Log Scale	1.302		
91				95% t UCL (assumes normality of ROS data)	65.79			95% Percentile Bootstrap UCL	66.49		
92				95% BCA Bootstrap UCL	69.14			95% Bootstrap t UCL	74		
93				95% H-UCL (Log ROS)	90.31						
94											
95				Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution							
96				KM Mean (logged)	3.191			KM Geo Mean	24.32		
97				KM SD (logged)	1.159			95% Critical H Value (KM-Log)	2.55		
98				KM Standard Error of Mean (logged)	0.177			95% H-UCL (KM -Log)	74.68		
99				KM SD (logged)	1.159			95% Critical H Value (KM-Log)	2.55		
100				KM Standard Error of Mean (logged)	0.177						
101											
102				DL/2 Statistics							
103				DL/2 Normal				DL/2 Log-Transformed			
104				Mean in Original Scale	48.32			Mean in Log Scale	3.128		
105				SD in Original Scale	69			SD in Log Scale	1.272		
106				95% t UCL (Assumes normality)	65.81			95% H-Stat UCL	86.42		

	A	B	C	D	E	F	G	H	I	J	K	L
107	DL/2 is not a recommended method, provided for comparisons and historical reasons											
108												
109	Nonparametric Distribution Free UCL Statistics											
110	Detected Data appear Approximate Gamma Distributed at 5% Significance Level											
111												
112	Suggested UCL to Use											
113	ljusted KM-UCL (use when k<=1 and 15 < n < 50 but k<=1)					73.04						
114												
115	When a data set follows an approximate (e.g., normal) distribution passing one of the GOF test											
116	When applicable, it is suggested to use a UCL based upon a distribution (e.g., gamma) passing both GOF tests in ProUCL											
117												
118	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
119	Recommendations are based upon data size, data distribution, and skewness.											
120	These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).											
121	However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.											
122												