



Douglas Partners
Geotechnics | Environment | Groundwater

Report on
Preliminary Site Contamination Investigation

Proposed St Marys Freight Hub
2 Forrester Road, St Marys, NSW

Prepared for
Pacific National (NSW) Pty Ltd

Project 94525.02
March 2019

Integrated Practical Solutions



Document History

Document details

Project No.	94525.02	Document No.	R.001.Rev0
Document title	Report on Preliminary Site Contamination Investigation Proposed St Marys Freight Hub		
Site address	2 Forrester Road, St Marys, NSW		
Report prepared for	Pacific National (NSW) Pty Ltd		
File name	94525.02.R.001.Rev0		

Document status and review

Status	Prepared by	Reviewed by	Date issued
Revision 0	Yashu Shrestha Rod Gray	Christopher C Kline	1 March 2019

Distribution of copies

Status	Electronic	Paper	Issued to
Revision 0	1	0	Urbanco Group Pty Ltd - Mr Guy Evans

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.



Signature	Date
Author 	1 March 2019
Reviewer  pp: CK	1 March 2019



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Report on Preliminary Site Contamination Investigation Proposed St Marys Freight Hub - Stage 1, St Marys, NSW

1. Introduction

Douglas Partners Pty Ltd (DP) was commissioned by Urbanco Group Pty Ltd (Urbanco), on behalf of Pacific National (NSW) Pty Ltd (Pacific National), to undertake a Preliminary Site Contamination Investigation (PSI) for the proposed St Marys Freight Hub at 2 Forrester Road, St Marys, NSW (the site). The PSI was undertaken in accordance with DP's proposal NWS180083.P.001.Rev0 dated 2 November 2018.

The proposed St Marys Freight Hub is a State Significant Development under the provision of Schedule 1, Clause 19(1b) of the State Environmental Planning Policy - State and Regional Development 2011. The site comprising approximately 11 ha (as shown on Drawing 1, Appendix B) and the proposed development will comprise upgrade of the existing rail infrastructure sidings, construction of hardstand areas, new internal access roads, wash bay, repair bay, office building, fuel storage area, container shed, transport shed, vehicle parking bays and reach stacker/forklift parking bays, and other ancillary development.

The purpose of this PSI is to address Clause 13 of the *Revised Planning Secretary's Environmental Assessment Requirements* (SEARs) dated 23 October 2018: *Assess and quantify any soil and groundwater contamination and demonstrate that the site is suitable for the proposed use in accordance with SEPP55.*

2. Scope of Works

DP carried out the following scope of work as part of this PSI:

- Review of published mapping, including records of registered groundwater bores within the region;
- Review of historical aerial photography of the site and the surrounding areas obtained through Spatial Services of NSW Department of Finance, Services and Innovation;
- Review of historical land title deeds obtained through NSW Land Registry Services;
- Review of Penrith City Council's Section 10.7(2) and (5) Planning Certificates;
- Search of the NSW Environment Protection Authority (EPA) public registers established under the *Contaminated Land Management (CLM) Act 1997* and the *Protection of the Environment Operations Act 1997* (POEO) to determine the existence of statutory notices on any parts of the site or adjacent land;
- Review of previous investigation reports;
- A site walkover to assess the current site condition and identify potential areas of environmental concern (PAEC);
- Develop a preliminary conceptual site model (CSM);

- Drilling of four bore holes (BH 101 to BH 104) to a maximum depth of 10.5 m below ground level (bgl) or 2 m below the encountered groundwater level. Installation of a groundwater monitoring well in each bore hole (BH/MW 101 to BH/MW 104);
- Excavation of eight test pits (TP 106 to TP 113) to a minimum depth of 0.5 m into natural soil, or to a maximum depth of 3.3 m;
- Collection of representative soil samples from the bore holes and test pits at surface and every 0.5 m depth intervals to a maximum depth of investigation;
- Collection of representative groundwater samples from monitoring wells (BH/MW 101 to BH/MW 104);
- Laboratory analysis of selected soil samples for one or more of the following analytical suite at a National Association of Testing Authority (NATA) accredited laboratory:
 - o Heavy metals comprising arsenic (As), cadmium (Cd), chromium (Cr), copper (Cu), lead (Pb), mercury (Hg), nickel (Ni) and zinc (Zn);
 - o Total recoverable hydrocarbons (TRH);
 - o Benzene, toluene, ethylbenzene and xylene (BTEX);
 - o Polycyclic aromatic hydrocarbons (PAH);
 - o Total phenols;
 - o Organochlorine (OCP), organophosphorous pesticides (OPP) and polychlorinated biphenyls (PCB); and
 - o Asbestos.
- Laboratory analysis of suspected fragments of bonded asbestos-containing material (ACM) for asbestos identification;
- Laboratory analysis of groundwater samples for one or more of the following analytical suite at a NATA accredited laboratory:
 - o Eight heavy metals listed above and additional analytes (aluminium, iron, bromine and manganese);
 - o TRH and BTEX;
 - o PAH and total phenols;
 - o Volatile organic compounds (VOC);
 - o OCP, OPP and PCB;
 - o Oil and grease;
 - o Hardness; and
 - o Nutrients (nitrogen, ammonia and phosphorous).
- Field sampling and laboratory analysis with reference to standard environmental protocols, including a Quality Assurance/Quality Control (QA / QC) plan consisting of 10% replicate sampling, appropriate chain - of - custody procedures and in-house laboratory QA/QC testing; and
- Preparation of this report detailing the methodology, field and analytical results, an assessment of site's suitability for the proposed development and recommendations for further investigation.

3. Site Description

3.1 Site Identification

The site is located in the suburb of St Marys within the local government area of Penrith City Council ("Council") and is identified as:

- Part Lot 2 Deposited Plan (D.P.) 876781 (Lot 2 – approximately 9.95 ha of the site)
- Part Lot 2 and 3 in D.P. 876781 (Lot 3 – approximately 0.75 ha of the site); and
- Part Lot 196 in D.P. 31912 (Lot 196 – approximately 0.35 ha of the site).

The broader site (ie land owned by Pacific National) is identified as Lots 2 and 3 in D.P. 876781, Lot 196 in D.P. 31912, Lot 2 in D.P. 734445 and Lot 2031 in D.P. 815293.

The location and boundary of the site (and the broader site) are shown on Drawing 1, Appendix B.

3.2 Site Description

The site was vacant at the time of this PSI. The site generally consists of cleared land with exposed filled surfaces, with over-grown vegetation present in some parts. Multiple overhead transmission lines (high and low voltage) traverse the site. Multiple stockpiles of soil and construction material are present throughout the site.

3.3 Surrounding Landuse

Land use surrounding the site comprises the following:

- East: Industrial premises;
- West: The rail corridor beyond which is a vacant lot and South Creek. Recreational facilities (Colonial Golf and Foot Golf Course, Troy Adams Archery Field and Parkes Avenue/Sporting Complex) are present further west of South Creek;
- North: A sediment basin beyond which is Little Creek, a tributary of South Creek and vacant land; and
- South: T1 Great Western Railway Line and St Marys train station. Beyond the railway are residential areas and recreational facilities, including Penrith BMX Club, Blair Oval, St Marys Senior High School, St Mary's Tennis Court Clubhouse.

Surrounding land uses are shown on Drawing 1, Appendix B.

4. Site Environmental Setting

4.1 Site Topography

The NSW Department of Lands, Topographic Map of NSW with 2 m elevation contours dated April 2009 indicates that the site is located at an elevation of approximately 24 to 30 m relative to Australian Height Datum (AHD). The site is relatively flat with an overall topographic relief of approximately 6 m descending from the south to north. An extract from the local topographic map is shown on Figure D1, Appendix D.

4.2 Site Geology

Reference to the Geological Survey of NSW Department of Mineral Resources (1983) *Penrith 1:100,000 Geology Sheet* indicates that the site is underlain by fluvial sediment (geological code – “Qa1”) of Quaternary geological period and Bringelly Shale (geological code – “Rwb”) of Middle Triassic period of Wianamatta Group.

Bringelly Shale typically comprises interlayered siltstone/claystone with some fine to medium grained sandstone layers, which weather to a residual clay profile of medium to high plasticity. Quaternary Sediments are typically fluvial (stream deposited) soils comprising sands, silts and clays. An extract of the geological map is provided as Figure D2, Appendix D.

4.3 Soil Landscape

Reference to The *Penrith 1:100,000 Soil Landscape Series Sheet* indicates that the site is located near the boundary between the Blacktown and South Creek soil landscape groups. The southern portion of the site is underlain by Blacktown residual soil landscape (soil landscape code – “bt”) whereas the north-north western portion of the site is underlain by South Creek alluvial soil landscape (soil landscape code – “sc”).

The Blacktown soil landscape is characterised by gentle undulating rises on Wianamatta Group shales and Hawkesbury shales with slopes usually <5% and local relief to 30 m. Broad rounded crests and ridges with gently inclined slopes are common. The soils of this group are moderately reactive with a low fertility, poor soil drainage and highly plastic subsoil.

The South Creek soil landscape is characterised by floodplains, valley flats and drainage depressions of the channels (usually flat with incised channels) on the Cumberland Plain. The soils of this group are identified as erosion hazard and are prone to frequent flooding.

An extract from the soil landscape map is provided as Figure D3, Appendix D.

4.4 Hydrology

Little Creek is present immediately north of the site which discharges into South Creek located approximately 250 m west of the site. Surface water is anticipated to follow the topographical slope with some areas of the site expected to drain towards Little Creek.

4.5 Hydrogeology

A search of groundwater bore database maintained by Bureau of Meteorology, accessed on 30 January 2019 via Australian Groundwater Explorer, indicates that there is no registered groundwater bore within a 500 m distance from the site. However, 17 registered groundwater bores (GW 075076, GW 101259, GW 101262, GW 101266, GW 109584 to GW 109588 and GW 109829 to GW 109836) were identified within 1 km distance from the site (refer to Figure D6, Appendix D). These bores are located to the northeast, south and southeast of the site, and are registered for monitoring/test purposes. The depth of the bores ranged from 1.5 m to a maximum of 13.5 m. The standing water level in these bores ranged from 2.4 m to 7 m bgl. DP notes that adequate information on water bearing zone is not available for some of the bores. Refer to the groundwater bore summary sheets provided in Appendix D for details.

4.6 Acid Sulphate Soil

Reference to *the NSW Acid Sulphate Soils Risk Map* indicates that the site is in an area of 'no known occurrence' of acid sulphate soil. *The Atlas of Australian Acid Sulfate Soils* from CSIRO Australian Soil Resource Information System (ASRIS) also indicates that there is an extremely low probability of acid sulfate soil being present at the site (refer to Figure 4D, Appendix D).

The NSW Acid Sulfate Soils Manual 1998 published by the Acid Sulfate Soils Advisory Committee (ASSMAC) indicates that ASS (and Potential Acid Sulfate Soils – PASS) normally occur in alluvial or estuarine soils below RL 5 m AHD although can be encountered up to 12 m AHD. Considering the ASS mapping and given that the site soils are at site elevations above 24 m AHD, it is considered unlikely that ASS is present on-site.

4.7 Salinity Potential

Reference to the *Map of Salinity Potential in Western Sydney – 2002*, NSW Department of Infrastructure, Planning and Natural Resources (DIPNR) indicates that the site is in an area of 'moderate to high salinity potential' with a higher potential in the lower elevation areas in close proximity to the South Creek system. An extract from the salinity potential map is provided as Figure D5, Appendix D.

5. Site History Information

DP undertook a site history investigation to identify potential areas of environmental concerns (PAEC) and contaminants of potential concerns (COPC) which may arise from previous land uses, land filling and other potentially contaminating activities at the site. The site history investigations completed and their findings are summarised in the following sub-sections.

5.1 Historical Title Deeds

Historical land title deeds were reviewed to identify previous land uses and to establish whether any potentially contaminating activities occurred at the site. A copy of historical title deeds is provided in Appendix E. Findings from the land title deeds review (and possible land uses with reference to the aerial photographs) are summarised below:

- Title deeds dating back to 1927 indicate that the site comprised of multiple allotments, registered under various lot records and folios, and was previously owned by various proprietors (graziers) between 1927 and 1941. The Commonwealth of Australia acquired the site and surrounding land parcels in 21 August 1941 for defence purposes and was the registered owner at least until 1969;
- After 1969 the allotments were acquired by different entities for possible commercial/industrial operations as summarised below:

Lot 2

- o Part of Lot 2 (part tinted pink, yellow and turquoise as shown in the cadastral map provided in the Cadastral Records Enquiry Report in Appendix E) was registered under the name of James Hardie & Coy Pty Limited between 1969 and 1984, and then under the name of Colmlee (Lands) Pty Limited between 1984 to 1986. The State Railway Authority of NSW (SRA) resumed this land parcel in 21 November 1986 for railway purposes. James Hardie & Coy Pty Limited manufactured and distributed asbestos based building products (it is not currently known if they used this site for manufacturing products). No information was available online on the business activity of Colmlee (Lands) Pty Limited (it is likely to be a real estate related entity); and
- o The whole of Lot 2 was registered under the name of Freight Rail Corporation in 12 June 2002. Pacific National acquired the whole of in 27 March 2003, and is the current register owner.

Lot 3

- o Part of Lot 3 (part tinted blue and green as shown in the cadastral map in Appendix E) was registered under the name of James Hardie & Coy Pty Limited between 1969 and 1984, and then under the name of Colmlee (Lands) Pty Limited between 1984 to 1986 before the SRA acquired this land parcel in 21 November 1986 for the railway;
- o Part of Lot 3 (parts tinted purple as shown in the cadastral map in Appendix E) was acquired by Jaywoth Industries Limited in 11 March 1969. This land parcel was acquired by the SRA in 1986, by Tranteret Pty Limited in 1998 and by Maremma Pty Limited in 2005. A review of available information online indicates that Jaywoth Industries Limited manufacture building blocks, Tranteret Pty Limited provides truck and transport services and Maremma Pty Limited operates and manages commercial real estate; and
- o Asciano Properties Operations Pty Ltd acquired the whole of Part 3, D.P. 876781 in 28 September 2007 and is the current register owner.

It is to be noted that only a small south-eastern portion of Lot 3 is included within the site.

Lot 196

- o This allotment was registered to The Commonwealth of Australia until 1989, and under the name of Australian Defence Industries Pty Ltd (ADI) between 1989 and 1999. ADI manufactured arms and munitions from a site further north in St Marys (it is not known what the usage of the current site was); and
- o St Marys Land Limited acquired this land parcel in 16 November 1999, and is the current registered owner of this lot. This allotment has been leased to Pacific National since February 2008.

DP notes that the historical land title deeds do not provide adequate information on leasing of the above-mentioned three lots. Based on information provided in some of the previous investigation reports (refer to Section 5.6 below), it appears that a number of industries previously operated at Lot 3, (most likely under a lease agreement).

With respect to the former industrial operations at the site the historical aerial imagery from 1965 to 2005 indicates that buildings/sheds associated with industrial operations since 1969 were predominantly in the part of Lot 3 north of the site (i.e. outside of the site boundary).

5.2 Historical Aerial Photographs

Historical aerial photographs from 1947 to 2018 were reviewed to identify the land use history of the site and the surrounding area. Historical aerial photographs were obtained from the databases held by the NSW Land & Property Information Division for the years 1947, 1955, 1965, 1975, 1982, 1994 and 2005. The 2011 and 2018 aerial photographs were sourced from NearMap Pty Limited. The extracts of the aerial photographs/imageries are shown in the Historical Aerial Plates 1 to 18 in Appendix F, and a summary of features observed at the site and surrounding properties is summarised below:

1947 – Three circular above ground structures laid in triangular orientation (possibly defence radio transmission towers) were present in the northern part of the site. A railway track can be seen in the present day railway corridor along the western site boundary. Access paths are present within the site.

Land to the west and immediately north and south is vacant. Residential properties are present further north and south. Large commercial type sheds and other structures are present on the lot east of the site.

1955 – The site and surrounding land appeared to remain relatively unchanged between 1947 and 1955.

1965 – An east to west aligned ground disturbance is evident within the northern part of the site. The site area at the Forrester Road entrance appeared to have been used for vehicle parking.

The surrounding landuse remains relatively unchanged between 1955 and 1965 with the exception of land immediately north of the site (part of Lot 3) which appears to contain a number of buildings and stockpiles.

1975 – The site appeared to remain relatively unchanged between 1965 and 1975.

Infilling of commercial/industrial type development has occurred to the north and east of the site.

1982 – The 1982 aerial imagery is of a poor quality (site features are not clearly visible). More access pathways appear to have been constructed at the site and west of the site. No other change is evident within the site. Surrounding land remained relatively unchanged.

1994 – Ground disturbance is present in the northern part in the site. The three circular radio towers observed in previous aerial photographs have been removed. The Forrester Road entrance area continued to be used for vehicle parking. A number of potential buildings or ground disturbances can be seen in the Lot 3 portion of the site and further north beyond the site.

2005 – The majority of the site appeared to have been filled and levelled. Ground disturbance (likely stockpiling area) is evident on the Lot 3 portion of the site. Two water bodies (detention basin and a pond) can be seen in their present day locations the north and west of the site. A shed (the current day unloading facility) can be seen east of the pond in the railway corridor.

An approximate 250 m long stockpile (SP3) is present along the south eastern site boundary. DP understands (informed during a meeting with Pacific National on 20 February 2019) that the stockpile was formed from topsoil stripped from the Lot 2 portion of the site prior to filling. The stockpile (SP3) is currently in place on the site.

The majority of building structures north of the site have been demolished. Other surrounding land appears to have been developed to its current day state.

2011 – Numerous soil stockpiles can are present within site. No changes were evident at the immediate off-site properties.

The eastern portion of Lot 2 has been sub-divided to create the present day industrial subdivision to the adjoining off-site east.

2018 – A number of new soil stockpiles (covered with overgrown vegetation) can be seen within the site. No other changes were noted at the site and immediate off-site properties.

5.3 Section 10.7 (2) & (5) Planning Certificates

Section 10.7 (2) and (5) planning certificates issued by the Council on 29 November 2018 were reviewed. A copy of planning certificates is provided in Appendix G. A review of planning certificates indicates the following:

- The site is zoned IN1 General Industrial (with the exception of the railway corridor which is zoned IN1 General Industrial and SP 2 Infrastructure – Railway) under the Penrith Local Environmental Plan 2010;
- Penrith Development Control Plan 2014 applies for carrying out any development at the site;
- Council has adopted a number of policies on hazard risk restrictions. Of these, asbestos policy applies to the site. The site is not affected by any other policies adopted 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); and
- There are no listed site contamination matters relating to Section 59 (2) of the CLM Act 1997.

5.4 NSW EPA Records

DP conducted a search of NSW EPA's contaminated site register (maintained under Section 58 of CLM Act 1997) and a database of licenses, applications, notices and enforceable undertakings (maintained under Section 308 of the POEO Act 1997). The NSW EPA website search results are included in Appendix H. A review of the NSW EPA search results indicates the following:

- The site is not listed in NSW EPA's contaminated site register. No notices or orders made under the *CLM Act 1997* have been issued for the site; and
- There are no current environment protection licences or notices issued to the site under the POEO Act 1997. The site is also not included in the list of enforceable undertakings.

However, it is to be noted that a number of commercial/industrial premises adjacent to the site (including commercial/industrial properties that previously operated within the broader site in Lot 2, D.P. 734445 and Lot 3, D.P. 876781) are listed in the NSW EPA's contaminated site register and the POEO database. A list of licenses and notices issued to the surrounding premises, including POEO licensed and delicensed premises, is provided in Appendix H (with the commercial/industrial premises that are located within a 500 m distance from the site are highlighted green). Notices issued by NSW EPA to the adjoining off-site properties are summarised below:

- A S 91 clean up notice was issued on 2 October 2003 to Ableway Waste Management Pty Ltd (located at 37 - 55 Lee Holm Road in Lot 2 D.P 734445 – i.e. located within the broader site boundary). A S 110 revocation of clean up notice was issued on 30 January 2004;
- Multiple S 91 clean-up/penalty notices were issued between 22 April 2002 and 21 December 2017 to Hi-Quality Waste management Pty Ltd (located at 37 Lee Holm Street); and
- A S 91 clean up notice was issued on 18 October 2017 to Sims Group Australia Holdings Limited (located at 76 – 100 Christie Street).

5.5 SafeWork NSW Records

A SafeWork NSW record search was conducted on 21 December 2018 to identify the past and current storage of hazardous chemicals at the site. A copy of search results is provided in Appendix I and the review findings are summarised below:

- No record was located pertaining to the storage of hazardous chemical at 69 – 81 Lee Holm Road, St Marys; and
- Record 35/016228 pertaining to the storage of hazardous chemicals at 2 Forrester Road, St Marys was identified. The record indicates underground storage tanks (UST) for storing petrol and diesel, above ground storage tanks (AST) for storing liquefied petroleum gas and roofed package storage existed at Lot 2 Forrester Road between 1975 and 2000.

However, DP notes that Record 35/016228 appears to be for the property located off-site southeast of the site and not related to the site or the broader site based on the following evidences:

- The hand sketch showing the layout of the USTs, AST and the buildings provided in Record 35/016228 does not match up with the layout of the site or the broader site but it matches-up with the layout of the off-site southeast property as seen in the historical aerial imagery from 1975 to 1994;

- The facsimile transmission dated 3 November 2000 included in the Record 35/016228 indicates that the inspector “could not identify the property”. Furthermore, hand written note dated 21 April 1995 by the license assessor (Phil) states “This file does not refer to ADI, St Marys...”; and
- DP undertook a geotechnical investigation at the adjoining off-site southeast property in April 1999 (*Geotechnical Investigation, Proposed Warehouse/Factory Development, Lot 2, Forrester Road, St Marys, Project 27638B* dated 16 April 1999 (DP, 1999)). DP reported this off-site property as Lot 2, Forrester Road. The building layout in the site plan included in the DP (1999) report to some extent matches up with the hand sketch drawings provided in SafeWork NSW search record 35/016228.

5.6 Previous Investigation Reports

DP is aware of the following investigations previously undertaken at the site and its vicinity:

- Parsons Brinckerhoff Australia Pty Limited (PB) report on *Proposed Container Freight Terminal at 6-8 Forrester Road, St Marys, Geotechnical Investigation Report, Document No: 2135587S-GEO-REP-350A Rev A* dated 2 September 2015 (PB, 2015);
- Environmental Resources Management Australia Pty Ltd (ERM) report on *55 - 67 and 69 - 81 Lee Holm Drive, St Marys, NSW, Phase 1 Environmental Site Assessment, Project No: 0030809 Draft* dated 15 April 2005 (ERM, 2005a); and
- ERM report on *55 - 67 and 69 - 81 Lee Holm Drive, St Marys, NSW, Phase 2 Soil and Groundwater Investigation, Project No: 0030809RP2V3 Final* dated 30 August 2005 (ERM, 2005b).

ERM report on *55-67 and 69-81 Lee Holm Drive, St Marys, NSW, Validation Report, Project No: 0021594RP1 Final* dated 22 December 2005 (ERM, 2005c);

The key findings of the above-listed investigations that are relevant for this PSI are summarised in the following sub-sections. Extracts of figures from the above-listed reports showing the former investigation locations are included in Appendix J. The boundaries of former investigations are shown on Drawing 2, Appendix B.

5.6.1 PB (2015)

PB (2015) was a preliminary geotechnical investigation undertaken within the Lot 2 portion of the site to assess the geotechnical properties of sub-surface fill. Information presented in PB (2015) indicates that filling was completed around 2000 to raise the surface elevation above the 1:100 flood levels. Material generated at the ex-North Side Sewerage Tunnel project was imported and stockpiled at the site.

Eight test pits (TP 01 to TP 08) were excavated to a maximum depth of 4.2 m bgl within the site and the samples collected from the test pits were analysed for various geotechnical parameters. No contamination testing was undertaken during PB (2015).

Fill was encountered to depths of between 0.5 m – 3 m in all eight test pits during PB (2015). Fill material was generally consistent throughout the area investigated. Given the presence of potentially unsuitable materials (organics, sandstone cobbles and silt), filling was considered as uncontrolled fill. Residual and alluvium soils were encountered beneath fill in TP 01 and TP 08. Extreme to highly weather rock (fine to coarse grained sandstone of extremely low to very low strength) was also encountered from 1.5 m bgl in TP 01. PB (2015) recommended further geotechnical investigation to assess the quality of fill and the underlying natural material at the wider site area.

5.6.2 ERM (2005a)

ERM (2005a) was a due diligence assessment undertaken within Lot 2, D.P 734445 and Lot 3, (i.e. a portion of the site and the broader site) to assess potential liabilities and risk to the future land owner from any soil and groundwater contamination and environmental compliance issues associated with the land. ERM (2005a) comprised a desktop review of site history, permits/authorisations and a site walkover.

Information presented in ERM (2005a) indicates the following:

- Fill was present up to 2.9 m in Lot 3 (based on information presented in *Fill Contamination Assessment Report* prepared by Geotechnique Pty Ltd in October 2003). The extent of filling undertaken at Lot 3 after October 2003 was not known;
- Hallinan's Recycling (Hallinan's) operated at and oversaw the management of Lot 2, D.P 734445 and Lot 3. A number of activities were undertaken in the past within Lot 2 D.P 734445 (not within the site), including tyre processing, shredding and disposal (operated by Ableway Waste Management Pty Ltd), machine recycling assembly, soil decontamination treatment and cardboard recycling. At the time of ERM (2005a) a number of stockpiles including tyres, soil/debris, portable containers, machinery and a small concrete block metal roofed building used for cardboard recycling and soil remediation were present within Lot 2, D.P 734445. The soil decontamination building had one above ground storage silo, air filter unit, wheel wash facility and eight drums containing fertiliser and torque fluid (without secondary containment). The decontamination methodology and the type of material decontaminated was not known;
- A small pipe line and factory second business that repaired concrete pipes and pits operated on the south-eastern corner of Lot 3 (i.e. within the site). Some small buildings and minor amounts of concrete parts associated with this business operation were present at the time of ERM (2005a); and
- Based on the assessment completed, ERM (2005a) identified a risk of soil and groundwater contamination within Lot 2, D.P 734445 and Lot 3, and recommended undertaking a Phase 2 contamination investigation.

5.6.3 ERM (2005b)

ERM (2005b) was undertaken within Lot 2, D.P 734445 and Lot 3 to characterise fill and the underlying natural material at these lots and to assess the potential for soil and groundwater contamination in Lot 2, D.P 734445 from the historic site activities. DP was only provided with the executive summary of ERM (2005b) that provided no information on the number and depths of ERM (2005b) investigation. A review of Figure 2 included in the validation report (ERM, 2005c) indicates that 88 test pits (TP 001 to TP 088) were excavated and three monitoring wells (MW 1 to MW 3) were installed at these two lots during ERM (2005b).

ERM (2005b) reported the following exceedances above the site assessment criteria (SAC) in the soil samples analysed:

- Within Lot 2, D.P 734445: Concentration of TRH C₁₀-C₃₆ in soil samples from TP 001 (0.15 m), TP 019 (0.1 m) and TP 088 (0.2 m), and the concentration of PAH in soil sample from TP 001 (0.15 m); and
- Within Lot 3: Concentration of toluene in soil sample MW 1 (0.1 m). In addition, a fragment of bonded cement sheet was also observed in fill material at TP 039 (0.1 m). Asbestos fibres were also reported in sample TP 035 (0.1 m).

ERM (2005b) concluded that the site was suitable for the ongoing commercial/industrial use provided contamination identified at the above-mentioned locations was remediated and validated. DP notes that the executive summary of ERM (2005b) provides no information on groundwater assessment.

5.6.4 ERM (2005c)

ERM (2005c) comprised excavation of impacted fill material from the six hot spots identified during ERM (2005b) and decommissioning of three monitoring wells (MW 1 to MW 3). Impacted fill was excavated down to the underlying natural soil at former intrusive locations (TP 001, TP 019, TP 035, TP 039, TP 088 and MW 1), now of which are within the site. All target analytes were reported below the relevant validation criteria in the soil samples analysed from the remediation excavations. Fragments of asbestos or asbestos fibres were not detected in the soil samples analysed from TP 35 and TP 39 locations. The monitoring wells were decommissioned in accordance with *Minimum Construction Requirements for Water Bores in Australia* (September, 2003).

Based on the remediation and validation works completed, ERM (2005c) concluded Lot 2, D.P 734445 and Lot 3 as suitable for the ongoing commercial/industrial use.

6. Site Walkover

As part of this PSI, an environmental engineer from DP undertook a site walkover on 4 December 2018. The site conditions observed during the site walkover are summarised below and are shown on Drawing 3, Appendix B. Photographs taken during the site walkover are provided in the Photographic Plates 1 to 8, Appendix C.

- Tall grass was present in some parts of site (refer to Photograph 1). All vegetation appeared to be in healthy condition;
- The site was vacant and was bound by a fence line along the northern, eastern and southern boundaries. Railway tracks and a metal shed (the unloading facility) were present along the western site boundary (refer to Photographs 2);
- Some surficial refuse/litter (old mattress, glass bottles, pipe, milk crates, corroded metal pipe etc.) were noted on the side of the access pathway from the Forrester Road entrance (refer to Photograph 3);
- One suspected fragment of ACM was observed at the former stockpile area in the southeast corner of Lot 3, D.P 876781 (refer to Photograph 4);

- There were multiple stockpiles of soil and construction material (timber and railway sleepers) throughout the Lot 2 portion of the site. One stockpile of waste tyres and a disused drum was also present at the centre of this lot. The soil stockpiles ranged from approximately 5 m³ to an estimated 25,000 m³. Some of the stockpiles were covered with over-grown vegetation. Anthropogenic material comprising one or more of fragments of tiles, PVC, concrete, scrap metals and timber were noted in numerous soil stockpiles. Some rail sleepers and timber were scattered on the site surface (Refer to Photographs 5 and 8);
- Two stockpiles of sandstone boulders (with multiple sections of broken concrete pipe near the stockpile base) were observed immediately to the south of the sediment detention basin (refer to Photograph 9). One additional stockpile of sandstone boulder with anthropogenic material was also noted to the west of access pathway approximately 150 m from the Forrester Road entrance (refer to Photograph 10);
- One stockpile of soil containing building demolition material was also observed within the southeast portion of Lot 3 (refer to Photograph 11); and
- Five timber power poles supporting the over-head power lines were present in the western portion Lot 2, D.P 876781 (refer to Photograph 12).

7. Potential Areas of Environmental Concerns (PAEC)

Based on the site history information review and site walkover as summarised in Sections 5 and 6, the potential sources of contamination identified at the site can be broadly categorised into the following PAEC group:

- PAEC 1: The footprints of former buildings and stockpile areas ;
- PAEC 2: Deep filling present throughout the site;
- PAEC 3: Stockpiles (of soil/rock, construction material and demolition/tyre waste);
- PAEC 4: Timber power poles;
- PAEC 5: Surficial ACM fragments, including potential asbestos contamination of railway corridor from discarded brake shoes;
- PAEC 6: Former leaks and spills (in the vehicle parking area and the storage of chemicals within the potential former buildings footprints);
- PAEC 7: General surficial refuse/litter;
- PAEC 8: Off-site sources; and
- PAEC 9: Former use of the site by James Hardie & Coy Pty Limited.

Table K1, Appendix K provides descriptions of PAECs identified at the site.

8. Preliminary Conceptual Site Model (CSM)

A conceptual site model (CSM) is a representation of site-related information regarding contamination sources, receptors and exposure pathways between those sources and receptors (linkages). The CSM provides a framework for identifying how the site became 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).

8.1 Potential Sources

The identified potential sources of contamination and associated COPC based on a review of site history information and site walkover are summarised in Table 1 below.

Table 1: Potential Sources of Contamination

Potential Source	Description of Potential Source	COPC
Former and existing building/site structures, stockpile areas, degradation and demolition (S1)	<p>Stockpile areas within the northern portion of Lot 2, and Lot 2</p> <p>Former structures (potentially radio towers) were present in the northern portion of Lot 2.</p> <p>An unloading facility and a metal/concrete structure currently exists at the site.</p> <p>Demolition and alterations to these buildings/structures in the past, including degradation of paints and, may lead to hazardous materials being present within the near surface soils at these structure footprints.</p> <p>Hazardous material may have been placed in stockpile areas.</p>	Asbestos, OCP and metals
Import deep filling (S2)	Site history information indicates ground disturbances and filling of site with imported material.	Metals, TRH, BTEX, PAH, phenols, OCP, OPP, PCB, and asbestos.
Stockpiles of soil/construction material/demolition and tyre waste (S3)	<p>Multiple stockpiles of soil/gravel/rock/construction material and demolition/tyre waste are currently present at the site. Building demolition waste is indicative of possible presence of hazardous material, including asbestos.</p> <p>Degradation of construction materials (railway sleepers, lengths of railway tracks and timber) may lead to hazardous materials being present within the near surface soils.</p>	Metals, TRH, BTEX, PAH, phenols, OCP, OPP, PCB, and asbestos.

Potential Source	Description of Potential Source	COPC
Power poles (S4)	Hydrocarbons, metals and pesticides based chemicals used to treat timber pole (wood) and spray paint used in steel tower can leach with a prolong exposure to sun and rain over time. This, in turn, could contaminate soil present at the base of such structures.	Metals TRH, BTEX, PAH, phenols, OCP and OPP.
Asbestos (S5)	A fragments of suspected ACM were observed at the site surface. Discarded brake shoes associated with the railway operation can cause asbestos contamination. Degradation of ACM can lead to hazardous materials (asbestos fibres and fines) being present within the near surface soils.	Asbestos
Leaks and Spills (S6)	Area near the Forrester Road entrance was previously used for vehicle parking. A pipeline and concrete repair factory second business previously operated in the southeast corner of Lot 3.. Any leaks and spills of fuel from vehicles (and stored chemicals within the former structures) have a potential to contaminate soil and groundwater at the site.	Metals, TRH, BTEX, VOC, PAH and phenols.
Scattered surficial refuse/litters (S7)	A minor quantity of scattered litter (old mattress, glass bottles, pipe, milk crates and corroded metal pipe) was present on the side of the access pathway from Forrester Road. Some scattered timber, scrapped metals, waste tyres and railway siding were also present at the site surface, which could pose an aesthetic issue.	Metals, TRH, BTEX, PAH, phenols, OCP, OPP and PCB.
Off-site sources (S8)	A number of industrial premises are present within a 500 m distance from the site. Chemicals and fertilisers were previously stored in the soil decontamination building located within Lot 2, D.P 734445. Off-site south-eastern property appears to have USTs and ASTs for storing petroleum products in the past. Migration of impacted groundwater from the surrounding off-site sources has a potential to impact groundwater present beneath the site.	Metals, TRH, BTEX, PAH, phenols, VOC, OCP, OPP and PCB.
Former activities of James Hardie & Coy Pty Limited (S9)	James Hardie & Coy Pty Limited is known for manufacturing and distribution of asbestos based building products.	Asbestos

Notes: TRH: Total Recoverable Hydrocarbons;
 BTEX: Benzene, toluene, ethylbenzene and total xylenes;
 PAH: Polycyclic Aromatic Hydrocarbons;
 OCP: Organochlorine pesticides;
 OPP: Organophosphorus pesticides;
 PCB: Polychlorinated biphenyls; and
 VOC: Volatile organic compounds.

8.2 Potential Receptors

Based on the current site conditions and the proposed development the following potential human health and ecological receptors have been identified.

Human health receptors:

- R1 – Construction and intrusive maintenance workers during site development;
- R2 – Future users following site development; and
- R3 – Adjacent land users (commercial/industrial).

Environmental (Ecological) Receptors

- R4 – Local groundwater and receiving water bodies;
- R5 – Surface water receptor (Little Creek and South Creek); and
- R6 – Terrestrial ecology. DP notes that potential ecological receptors are usually associated with the upper 2 m (root zone and habitation zone for many species) of the soil profile.

8.3 Potential Pathways

Potential pathways for contamination to impact receptors include the following:

- P1 – Ingestion and dermal contact;
- P2 – Inhalation of vapours, fibres and/or dust;
- P3 – Leaching of contaminants and vertical migration into groundwater;
- P4 – Lateral migration of groundwater; and
- P5 – Surface water runoff and contact with terrestrial ecology.

8.4 Summary of Potentially Complete Pathway

A 'source–pathway–receptor' approach has been used to assess the potential risks of harm being caused to human, water or environmental receptors from contamination sources on or in the vicinity of the site, via exposure pathways that are complete. DP considers that scattered surficial refuse/litter (PAEC8) is of aesthetic concern and any sub-surface contamination arising from this source is likely to be limited. Therefore, the source-pathway-receptor pathway is considered to be incomplete for this contamination source. The possible complete pathways between the sources (S1 – S7 and S9) and receptors (R1 to R6) are provided in Table 2 below.

Table 2: Summary of Potentially Complete Pathways

Source	Exposure Pathway	Receptor	Requirement for Additional Data and/or Management
S1: Former and existing building/site structures, degradation and demolition	P1 – Ingestion and dermal contact; P2 – Inhalation of fibres and/or dust and/or vapours	R1 - Construction and maintenance workers working on site. R2 – Future site users	An intrusive investigation is required to quantify and assess possible contamination including chemical testing of soil and groundwater.
S2: Import of fill/ground disturbance and deep filling	P2 – Inhalation of fibres and/or dust/particles and/or vapours	R3 – Adjacent land users.	
S3: Stockpiles of soil/construction material/demolition and tyre waste	P3 – Leaching of contaminants and vertical migration into soil and groundwater.	R4 – Local groundwater and R6 – Terrestrial ecology.	
S4: Power poles	P4 – Lateral migration of groundwater providing base flow to watercourses.	R4 – Local groundwater R5 – Surface water (Little Creek, South Creek and its tributaries)	
S6: Surficial Asbestos			
S7: Leaks and Spills			
S8: Scattered surficial refuse/litters	P5 – Surface water run-off and contact with terrestrial ecology.	R6 – Terrestrial ecology.	
S9: Off-site sources			
S10: Former activity of James Hardie and Coy Pty Limited			

9. Field Investigation

Field investigations associated with this PSI were undertaken on 4 to 7 and 10 December 2018 and 8 and 10 January 2019 by a DP environmental scientist. The field investigation was designed in accordance with the seven step data quality objectives (DQO) process provided in Appendix B, Schedule B2 of the *National Environment Protection (Assessment of Site Contamination) Measure 1999* as amended 2013 (NEPC, 2013). The DQO adopted for this PSI are provided in Appendix L. The investigation methodology and rationale are summarised in the following sub-sections.

The investigation reported herein was originally undertaken for a larger site boundary. The site boundary was subsequently reduced which meant some sampling locations were located outside of the updated site boundary. Samples collected from these locations (as referenced in laboratory reports - namely BH/MW 105, TP114 and TP115, and ACM 2) are not commented on in this report.

9.1 Soil Investigation

9.1.1 Methodology

Four 150 mm diameter bore holes (BH 101 to BH 104) were drilled on 4 and 5 December 2018 using a MC-T200 truck mounted drilling rig utilising solid flight augers and a polycrystalline diamond compact (PDC) drill bit. Bore holes were drilled for dual purposes: a) to assess fill depth and contamination status; and b) to install monitoring wells for groundwater contamination assessment. Bore holes were drilled to a maximum depth of 10.5 m bgl targeting the following locations:

- General site area in the southern portion of Lot 2 (for a provision of up-gradient monitoring well installation and also to assess any groundwater contamination migration from adjacent off-site southeast property) - targeted by BH 101;
- General site area in the middle of Lot 2, (down-gradient of stockpiles SP 2 and SP 3) - targeted by BH 102; and
- Former structure footprints and its vicinity in the northern portion of Lot 2 - targeted by BH 103 and BH 104.

Thirteen test pits (TP 106 to TP 113) were excavated on 6 December 2018 to a minimum depth of 0.5 m into natural material or to a maximum depth of 3.3 m using an 8 tonne backhoe. The test pits targeted the identified PAEC locations where possible (refer to Table 3 in Section 9.1.3) and general site area. Inspection pits were also excavated in some soil stockpiles (SP 1 to SP 6), for a preliminary visual assessment of the stockpiled material.

Soil samples were generally collected from surface and approximately 0.5 m depth intervals within the bore holes and the test pits for field screening and laboratory analysis. Soil samples were retrieved from the auger flights during soil bore drilling and from the backhoe bucket during test pit excavation. The geological profile observed during drilling and test pit excavation was logged in the field. All bore hole and test pit soil samples were screened using a photo-ionisation detector (PID) for the presence of VOC in soil.

A fragment of suspected ACM (observed at the potential former building footprint in the southeast corner of Lot 3 and near the northern end of the railway corridor) were collected for laboratory analysis.

The soil bore and test pit locations are shown on Drawing 4, Appendix B. The observed geological profile at the bore holes/test pits along with the recorded PID readings during field screening is provided in the bore hole/ test pit logs in Appendix M. Descriptions of filling encountered in stockpiles SP 1 to SP 6 during inspection pit excavation are also provided in the remarks section of the test pit logs TP 107 to TP 111.

9.1.2 Rationale for Sampling Location and Analysis

The rationale for the sampling locations and analytes tested for soil investigation is provided in Table 3 below. Sampling locations are shown on Drawing 4, Appendix B.

Table 3: Summary of Sampling and Analysis Rationale

Location	Sample Depth * (m bgl)	Investigation depth (m bgl)	Depth of filling (m bgl)	Analytes	Targeted Location	Sample Target
BH 101	0.4-0.5 2.4-2.5	10.5	3.3	Metals, TRH, BTEX, PAH, phenols, OCP, OPP, PCB and asbestos	General site coverage/ filled area	Fill
BH 102	0-0.2 3.4-3.5	10.0	3.2	Metals, TRH, BTEX, PAH, phenols, OCP, OPP, PCB and asbestos	General site coverage/ filled area	Fill
BH 103	0.9-1.0 1.9-2.0	7.0	2.2	Metals, TRH, BTEX, PAH, phenols, OCP, OPP, PCB and asbestos	Former structure footprint at Lot 2, D.P 876781// filled area	Fill
BH 104	0.4-0.5 2.4-2.5	10.5	3.5	Metals, TRH, BTEX, PAH, phenols, OCP, OPP, PCB and asbestos	Former structure footprint at Lot 2, D.P 876781/ filled area	Fill
BH 105	0-0..2 1.4-1.5	10.0	1.8	Metals, TRH, BTEX, PAH, phenols, OCP, OPP, PCB and asbestos	General site coverage/filled area	Fill
TP 106	0-0.2	1.3	0.4	Metals, TRH, BTEX, PAH, phenols, OCP, OPP, PCB and asbestos	Former car park/ filled area	Fill
TP 107	0-0.2 0.4-0.5 0.9-1.0	1.6	0.8	Metals, TRH, BTEX, PAH, phenols, OCP, OPP, PCB and asbestos	General site coverage/filled area	Fill
TP 108	1.4-1.5	2.4	2.0	Metals, TRH, BTEX, PAH, phenols, OCP, OPP, PCB and asbestos	General site coverage/filled area	Fill
TP 109	2.9-3.0	3.3	3.3	Metals, TRH, BTEX, PAH, phenols, OCP, OPP, PCB and asbestos	General site coverage/filled area	Fill
TP 110	0-0.2	3.3	3.3	Metals, TRH, BTEX, PAH, phenols, OCP, OPP, PCB and asbestos	General site coverage/filled area	Fill
TP 111	0.9-1.0 2.4-2.5	2.8	1.8	Metals, TRH, BTEX, PAH, phenols, OCP, OPP, PCB and asbestos	General site coverage/filled area	Fill

Location	Sample Depth * (m bgl)	Investigation depth (m bgl)	Depth of filling (m bgl)	Analytes	Targeted Location	Sample Target
TP 112	0-0.2 0.9-1.0	1.8	1.3	Metals, TRH, BTEX, PAH, phenols, OCP, OPP, PCB and asbestos	Former building footprint in the southeast corner of Lot 3, D.P 876781 / filled area	Fill
TP 113	0-0.2 0.4-0.5	1.3	0.6	Metals, TRH, BTEX, PAH, phenols, OCP, OPP, PCB and asbestos	General site coverage/filled area	Fill
ACM 1	0-0.1	Surface	NA	Asbestos identification	Former building footprint in the southeast corner of Lot 3, D.P 876781	ACM

Note: * Sample depth relates to the selected samples that were analysed for the COPC.

NA: Not applicable

9.2 Groundwater Investigation

A groundwater monitoring well, constructed of a 50 mm diameter PVC screen and casing, was installed in each soil bore BH 101 to BH 104 on 4 and 5 December 2018. A small quantity of duct tape was used at the casing/screen join and at the base of screen. Use of duct tape is a non-conformance with DPs standard operating procedures for groundwater well installation, due to the possibility of cross contaminating the sample. This non-conformance is discussed further in Appendix P. Monitoring wells (BH/MW 101 to BH/MW 104) were screened targeting water bearing silty clay and shale formations. The screened section of each well was backfilled with a washed sand filter pack to approximately 0.5 m above the screened interval. A hydrated bentonite plug generally 0.5 m thick was placed above the sand filter pack, with the remaining bore annulus filled with soil cuttings. Monitoring well construction details are shown in the bore hole logs included in Appendix M. Monitoring well locations are shown on Drawing 4, Appendix B.

Following their installation each monitoring well was surveyed using a differential GPS. Each groundwater monitoring well was then developed on 8 January 2019 by removing up to five well volumes of water from each well, or until the well went dry. The purpose of well development was to remove as far as practicable sediment introduced via drilling and to facilitate connection of the well to the local groundwater regime.

A groundwater monitoring event (GME) was undertaken on 10 January 2018 (the “GME”) during which a gauging round was first undertaken to determine the depth to groundwater in each monitoring well. Monitoring wells were then purged and sampled using a low flow sampling method to reduce the potential loss of volatile contaminants, if present, in groundwater. Monitoring wells were purged until groundwater parameters stabilised (minimum of three consecutive readings within 10% of the previous readings), or well purged dry (with the exception of well BH/MW 101 where three sets of stabilised parameters could not be collected due to insufficient water present in the well). Water quality parameters comprising pH, redox potential (Eh), electrical conductivity (EC), dissolved oxygen (DO) and temperature were recorded using a calibrated water quality meter. Once the groundwater parameters stabilised, the groundwater samples were collected directly in the laboratory supplied sample containers containing appropriate preservatives. Appropriate quality control (QC) samples comprising duplicate sample, field blank, field rinsate blank, trip blank and trip spike samples were also collected. Groundwater samples collected for metal analysis were filtered in the field using a 0.45 micron filter before placing in the sample containers.

Well gauging data from the GME are summarised in Table N1, Appendix N. Field purging and well development datasheets are provided in Appendix N.

9.3 Field sampling, sample handling and transport

The general field sampling, sample handling, transport and tracking procedures adopted during soil, sediment/surface water and groundwater investigations comprised the following:

- Surveying the locations of bore holes/monitoring wells and test pits using a differential GPS;
- Completion of bore hole/ test pit logs for all bore holes drilled and the test pits excavated. Bore hole/ test pit logs included, where relevant, sample identification, coordinates, elevations, date of collection, a description of the subsurface conditions encountered, visual or olfactory evidence of contamination, the depth of samples collected, any QA/QC samples collected, the sampler and equipment used;
- Use of disposable nitrile gloves to collect samples during all three investigations (soil, sediment/surface water and groundwater investigations). Gloves were replaced prior to the collection of each sample in order to prevent cross-contamination;
- Collection of samples from the auger flights or backhoe bucket into the laboratory-prepared sample jars with Teflon lined lids by hand, capping immediately and ensuring headspace within the sample jar is minimised during soil investigation;
- Collection of a replicate sample in a zip-lock bag for PID screening during soil investigation;
- Collection of surface water and groundwater samples directly into the laboratory supplied sample containers with proper preservatives;
- Labelling of each sample container with individual and unique identification including project number, sample ID, depth and date of sampling during all three investigations; and
- Preparation of chain-of-custody documentation detailing sample ID, sample collection date and the analysis required. The samples for laboratory analysis were chilled in an esky and submitted to NATA accredited laboratory along with the chain-of-custody documentation.

9.4 Analytical Rationale

All samples (soil, ACMs, sediment, surface water and groundwater) collected during this PSI were submitted to Envirolab Services Pty Ltd (Envirolab) for analysis. Envirolab is accredited by the NATA for the analysis performed.

Selected samples collected during the soil investigation were analysed as indicated below:

- Based on the results of PID screening and the observed fill strata, one fill sample was analysed from each fill layer for a preliminary contamination assessment. Note that up to three different fill strata were noted during soil investigation. The samples were analysed for TRH, BTEX, metals, PAH, phenols, OCP, OPP, PCB and asbestos; and
- Groundwater samples collected during the GME were analysed for TRH, BTEX, metals (including Al, Br Fe and Mn), PAH, phenols, OCP, OPP, PCB, VOC, oil and grease, hardness and nutrients (ammonia, nitrogen and phosphate).

The chain-of-custody indicating analysis requested, sample receipt notifications and the laboratory certificates of analysis are included in Appendix Q.

10. Adopted Assessment Criteria

The site assessment criteria (SAC) applied for soil investigation and the groundwater investigation in this PSI have been informed by the proposed development and the CSM – which identified human and ecological receptors to potential contamination on the site (refer Section 8). Analytical results of soil and groundwater were assessed (as a Tier 1 assessment) against the investigation and screening levels as per Schedule B1, *National Environment Protection (Assessment of Site Contamination) Measure* 1999, as amended 2013 (NEPC, 2013).

As this assessment has been undertaken to determine the site's suitability for the proposed freight hub development, the investigation and screening levels adopted for soil and groundwater assessments are consistent with a generic commercial and industrial land use scenario. The derivations of the SAC for soil and groundwater assessment are included in Appendix L. The adopted SAC are listed with the analytical results summary tables provided in Appendix O.

11. Results

11.1 Soil Investigation

11.1.1 -Fieldwork Observations

The bore hole and test pit logs are included in Appendix M, together with notes defining classification methods and descriptive terms.

Relatively uniform conditions were encountered across most of the site. The general strata across the site is summarised as follows:

- FILLING / TOPSOIL – Slightly silty sandy gravel topsoil filling with some vegetation and rootlets to a depth of 0.12 m in TP 113.

- **FILLING** – Typically sandy gravel, gravelly sand or clayey gravel filling with inclusions of sand, sandstone gravel, plastic, glass and brick fragments to depths ranging between 0.4 m and 3.5 m in all test pits and boreholes. TP 109 and TP 110 were discontinued within the filling.
- **NATURAL SOILS** – Typically stiff to hard, brown silty clay or gravelly clay with traces of fine gravel in all boreholes and test pits except for TP 109 and TP 110. In TP 112 a layer of silty sand was encountered from 1.3 m to 1.5 m depth.
- **WEATHERED BEDROCK** – Generally extremely low strength shale at depths of between 7.5 m and 10 m in BH 101, BH 102 and BH 104.

Groundwater was observed at depths of approximately depths of 7.0 m and 3.5 m in BH 102 and BH 103 respectively, during drilling. Groundwater was not observed during the drilling of the remaining boreholes or during the excavation of the remaining test pits. Backfilling of the test pits at the completion of excavation precluded long-term monitoring of the groundwater levels at the test pit locations.

PID measurements were less than 10 ppmv for all soil samples screened for VOC in field during soil investigation.

Anthropogenic material consisting of plastic, glass and brick fragments (that are indicative of building demolition waste) were observed in sandy gravel fill to a depth of up to 0.4 m bgl at TP 106. Some concrete fragments were also observed in sandy gravel fill to a depth of up to 0.4 m bgl at TP 107. A trace of plastic was also noted in silty clayey gravelly filling at depths of 0.15 m to 0.6 m bgl in TP 113.

Anthropogenic material comprising fragments of concrete, concrete sleepers, metal I-beam, cans and reinforced steel was observed within stockpile SP 1. A number of other stockpiles of soil/rock and construction material also had some anthropogenic inclusions which is summarised in Table K1, Appendix K.

A suspected fragments of ACM was observed on the site surface (refer to Photograph 4) in the Lot 3 portion of the site (as shown on Drawing 2, Appendix B.)

11.1.2 Analytical Results

The analytical results of the soil samples analysed during this PSI are summarised in Table O1, Appendix O, together with the adopted SAC. The laboratory certificate of analysis is provided in Appendix Q.

A summary of results is provided below:

- There was no exceedance of the adopted SAC in the soil samples analysed. Concentrations of TRH, BTEX, total phenols, OPP, OCP and asbestos were reported below their respective laboratory practical quantitation limit (PQL) in all soil samples analysed;
- Concentrations of metals, PAH and PCB were reported below the laboratory PQL and/or SAC in all of the samples analysed; and
- The suspected ACM fragments (ACM1) analysed was reported as compressed beige fibre cement material, and contained chrysotile, amosite and crocidolite asbestos.

11.2 Groundwater Investigation

11.2.1 Fieldwork Observations

The groundwater gauging data from the GME are provided in Table N1, Appendix N. Field purging sheets are also provided in Appendix N.

The field observations are summarised below:

- Light aqueous phase liquid (LNAPL), hydrocarbon odour or sheen was not detected in the groundwater collected from monitoring wells BH/MW 101 to BH/MW 104 during the GME. The groundwater samples collected were turbid;
- The depth to groundwater at the site ranged from 17.65 m below top of casing (m bTOC) to 21.75 m bTOC. Groundwater was noted to be present within the silty clay and shale formations;
- Based on the groundwater gauging data groundwater at the site is inferred to flow towards the northwest; and
- Based on the groundwater field quality parameters, groundwater at the site appears to be mildly acidic and highly saline (not suitable for potable use). The dissolved oxygen (DO) parameters appear to be anomalous. The measured redox potentials are indicative of oxidising groundwater environment.

11.2.2 Analytical Results

A summary of laboratory analytical results for the groundwater samples analysed during the GME, assessed against the adopted SAC, are presented in Tables O2 and O3, Appendix O, and summarised below. The laboratory certificates of analysis are included in Appendix Q.

- Dissolved phase hydrocarbons (TRH C₆-C₉ and toluene) were reported above the laboratory PQL in groundwater samples analysed from monitoring wells BH/MW 101 to BH/MW 104. However, the reported concentrations did not exceed the health screening levels (HSL) for the commercial/industrial landuse and the intrusive maintenance workers or the adopted GILs. The HSLs for intrusive workers are "non-limiting" indicating that theoretically soil vapour concentrations for petroleum mixtures cannot exceed a level that would result in the maximum allowable vapour risk;
- Concentrations of copper in groundwater samples analysed from all five monitoring wells and the concentrations of zinc and manganese in groundwater samples analysed from wells BH/MW 101, BH/MW 102 and BH/MW 104 exceeded the respective adopted GILs;
- The reported concentrations of PAHs, total phenols, VOC, OCP, OPP and PCB were below the respective laboratory PQLs in groundwater samples analysed from BH/MW 101 to BH/MW 105; and
- One or more of nutrients (ammonia, nitrogen and/or phosphorous) were reported at concentrations marginally above the laboratory PQL in all four groundwater samples analysed. There was no exceedance of the adopted GIL for ammonia.

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

The QA/QC procedures adopted during this PSI are summarised in Appendix P. A review of the adopted QA/QC procedures and results (Appendix O) indicates that the DQIs have generally been met. On this basis, the sampling and laboratory methods used during the investigation were found to meet DQOs for this project.

13. Discussion

The scope of the PSI included review of background information, a site walkover, a limited groundwater investigation, and limited soil sampling and analysis. Given the extent of filling at the site as informed by the site history information, soil investigation during this PSI was primarily focused on assessing filling present at the site. The intrusive locations were positioned targeting the general site area and some PAECs for a preliminary screening of site contamination. DP notes that not all of the identified PAECs were assessed during this PSI.

A discussion of the findings of the assessment in relation to the identified PAEC is outlined below.

PAEC 1: Former building and stockpile area footprints

Footprints of potential former and existing structures were identified within the site. A fragment of ACM was identified in one former stockpile area. Three sampling locations targeted the building footprints however indicators of contamination were not observed (with the exception of the ACM) and concentrations of COPC were below the adopted SAC. Notwithstanding this, shallow soil contamination is potential present within and in the immediate vicinity of PAEC 1.

Further investigation is required to determine the contamination status and any remediation requirements for PAEC 1. Given the limited area of PAEC 1, and the nature of potential contamination (i.e. limited to surface soils), any remediation is likely to be minimal in the context of the development.

PAEC 2: Deep Fill

The site has been filled to depths of greater than 3.3 m. The filling appears to have been imported between 1994 and 2000 and is understood to have been sourced from material generated during the North Side Sewerage Tunnel project.

Intrusive investigations sampling and analysis was completed at 13 locations within the fill as part of this investigation. Filling across the site was generally uniform with no visual or olfactory evidence of contamination observed. The observed fill is consistent with observation made during previous investigations of the site. Twenty seven fill samples were collected and analysed for COPC. Concentrations of all COPC in fill samples submitted for laboratory analysis was below the LOR or adopted SAC.

Based on the findings of the limited soil investigation, DP considers that fill imported to the site as part of North Side Sewerage Tunnel project between 1994 and 2000 has a low potential for contamination. DP notes that a relatively sparse sampling regime was undertaken as part of the PSI and as such an unexpected finds protocol should be developed and implemented to appropriately manage unexpected potential contamination issues encountered during development works.

PAEC 3: Stockpiles

Multiple soil stockpiles were identified within the site. A limited visual assessment of the stockpiles was undertaken as part of this assessment. Further investigation is required to determine the contamination status and any remediation requirements for the identified stockpiles.

PAEC 4: Timber Power Poles

Five timber power poles were identified within the site. Leached timber treatment chemical from poles have the potential to impacted soil in close vicinity to the poles (anticipated to potentially be within 2 m of poles, if present).

Further investigation is required to determine the contamination status and any remediation requirements for PAEC 4. Given the limited potentially impacted area associated with PAEC 4, any remediation is likely to be minimal in the context of the development.

PAEC 5: Surficial ACM

Surficial ACM was identified in one area of the site associated with a former building footprint (PAEC 1). DP also considered that there is a potential for surficial ACM to also be present within the rail corridor associated with abandoned train brake pads.

Further investigation is required to determine the contamination status and any remediation requirements for PAEC 5.

PAEC 6: Fuel and Chemical Leaks and Spills

There is a potential that any fuel and chemical leaks and spills of fuel from vehicles (and stored chemicals within the former structures) have a potential to contaminate soil at the site. A limited visual assessment of PAEC 6 was undertaken as part of this assessment.

Further investigation is required to determine the contamination status and any remediation requirements for PAEC 7. Given the limited area of PAEC 6, and the nature of potential contamination (i.e. limited to surface soils), any remediation is likely to be minimal in the context of the development.

PAEC 7: General Surficial Refuse/ Litters

For aesthetic reasons, areas of surficial refuse and litter identified during the investigation require removal prior to development the site. No further investigation of PAEC 7 is required.

PAEC 8: Off-site Sources

Migration of impacted groundwater from the surrounding off-site sources has a potential to impact groundwater present beneath the site. Concentrations of contaminants of potential concern were below the LOR or the adopted SAC in all samples submitted for laboratory analysis with the exception of metals (copper, zinc, manganese) which exceeded adopted groundwater investigation levels. The metals concentrations are considered to be naturally occurring background concentrations and do not constrain the site from the proposed industrial use.

Low concentrations of toluene ranging between 4 and 100 µg/L were identified in BH/MW101 to BHMW104. The concentrations are below the adopted SAC. DP considers that the concentrations are potentially associated with non-conforming well construction material (as discussed in Appendix P).

Based on the results of the current assessment DP considers that there is a low potential for groundwater contamination at the site. Given the presence of off-site contamination sources, an unexpected finds protocol should be developed and implemented in the event impacted groundwater is encountered at the site during the proposed development works.

PAEC 9: Potential former site use by James Hardie & Coy Pty Limited

As discussed in Section 5, the majority of the site was owned by James Hardie and Coy Pty Limited between 1969 and 1984. James Hardie sites are associated with manufacture and disposal of asbestos waste. Review of historic aerial photography during the period of Jamie Hardie ownership does not indicate evidence of the manufacture of asbestos (i.e. development of industrial type buildings) or filling with asbestos waste (i.e. no extensive disturbance areas) at the site.

DP understands that stockpile SP3 was generated though the stripping of the site surface following the site ownership by James Hardie and prior to filling. Further investigation of stockpile SP3 is required to assess potential site surface impacts during the ownership of the site by James Hardy. Further investigation into the ownership and the past on-site activities of James Hardie & Coy Pty Limited is necessary.

14. Conclusion and Recommendations

Based on the results of the PSI, DP considers that the site is suitable for the proposed industrial use subject to the further investigation and remediation (as required) of the below PAEC:

- PAEC 1: Footprints of former building and stockpile areas;
- PAEC 3: Stockpiles;
- PAEC 4: Soil surrounding timber power poles;
- PAEC 5: Surficial ACM;
- PAEC 6: Fuel and chemical leaks and spills; and
- PAEC 9: Former activity of James Hardie & Coy Pty Limited.

Areas of surficial refuse (PAEC 7) should also be disposed from the site with reference the NSW EPA Waste Classification Guidelines prior to site development works.

Notwithstanding the above, the potential remains for isolated pockets of contamination to be present in untested areas of the site. To appropriately manage unexpected potential contamination issues encountered during development works, DP recommends the implementation of an unexpected finds protocol during the development at this site. Additionally, any materials requiring off-site disposal must be classified, managed and disposed in accordance with the Protection of the Environment Operations Act 1997.

15. Limitations

Douglas Partners Pty Ltd (DP) has prepared this report (or services) for this project at the proposed Stage 1 development of St Marys Freight Hub at St Marys, NSW in accordance with DP's proposal NWS 180083 dated 2 November 2018 and acceptance received from Pacific National Services Pty Ltd dated 16 November 2018. The work was carried out under DP's Conditions of Engagement. This report is provided for the exclusive use of for this project only and for the purposes as described in the report. It should not be used by or relied upon for other projects or purposes on the same or other site or by a third party. 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.

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.

The contents of this report do not constitute formal design components such as are required, by the Health and Safety Legislation and Regulations, to be included in a Safety Report specifying the hazards likely to be encountered during construction and the controls required to mitigate risk. This design process requires risk assessment to be undertaken, with such assessment being dependent upon factors relating to likelihood of occurrence and consequences of damage to property and to life. This, in turn, requires project data and analysis presently beyond the knowledge and project role respectively of DP. DP may be able, however, to assist the client in carrying out a risk assessment of potential hazards contained in the Comments section of this report, as an extension to the current scope of works, if so requested, and provided that suitable additional information is made available to DP. Any such risk assessment would, however, be necessarily restricted to the environmental and groundwater components set out in this report and to their application by the project designers to project design, construction, maintenance and demolition.

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Appendix A

About This Report

About this Report

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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.



Rock Strength

Rock strength is defined by the Point Load Strength Index ($Is_{(50)}$) and refers to the strength of the rock substance and not the strength of the overall rock mass, which may be considerably weaker due to defects. The test procedure is described by Australian Standard 4133.4.1 - 2007. The terms used to describe rock strength are as follows:

Term	Abbreviation	Point Load Index $Is_{(50)}$ MPa	Approximate Unconfined Compressive Strength MPa*
Extremely low	EL	<0.03	<0.6
Very low	VL	0.03 - 0.1	0.6 - 2
Low	L	0.1 - 0.3	2 - 6
Medium	M	0.3 - 1.0	6 - 20
High	H	1 - 3	20 - 60
Very high	VH	3 - 10	60 - 200
Extremely high	EH	>10	>200

* Assumes a ratio of 20:1 for UCS to $Is_{(50)}$. It should be noted that the UCS to $Is_{(50)}$ ratio varies significantly for different rock types and specific ratios should be determined for each site.

Degree of Weathering

The degree of weathering of rock is classified as follows:

Term	Abbreviation	Description
Extremely weathered	EW	Rock substance has soil properties, i.e. it can be remoulded and classified as a soil but the texture of the original rock is still evident.
Highly weathered	HW	Limonite staining or bleaching affects whole of rock substance and other signs of decomposition are evident. Porosity and strength may be altered as a result of iron leaching or deposition. Colour and strength of original fresh rock is not recognisable
Moderately weathered	MW	Staining and discolouration of rock substance has taken place
Slightly weathered	SW	Rock substance is slightly discoloured but shows little or no change of strength from fresh rock
Fresh stained	Fs	Rock substance unaffected by weathering but staining visible along defects
Fresh	Fr	No signs of decomposition or staining

Degree of Fracturing

The following classification applies to the spacing of natural fractures in diamond drill cores. It includes bedding plane partings, joints and other defects, but excludes drilling breaks.

Term	Description
Fragmented	Fragments of <20 mm
Highly Fractured	Core lengths of 20-40 mm with some fragments
Fractured	Core lengths of 40-200 mm with some shorter and longer sections
Slightly Fractured	Core lengths of 200-1000 mm with some shorter and longer sections
Unbroken	Core lengths mostly > 1000 mm

Rock Descriptions

Rock Quality Designation

The quality of the cored rock can be measured using the Rock Quality Designation (RQD) index, defined as:

$$\text{RQD \%} = \frac{\text{cumulative length of 'sound' core sections} \geq 100 \text{ mm long}}{\text{total drilled length of section being assessed}}$$

where 'sound' rock is assessed to be rock of low strength or better. The RQD applies only to natural fractures. If the core is broken by drilling or handling (i.e. drilling breaks) then the broken pieces are fitted back together and are not included in the calculation of RQD.

Stratification Spacing

For sedimentary rocks the following terms may be used to describe the spacing of bedding partings:

Term	Separation of Stratification Planes
Thinly laminated	< 6 mm
Laminated	6 mm to 20 mm
Very thinly bedded	20 mm to 60 mm
Thinly bedded	60 mm to 0.2 m
Medium bedded	0.2 m to 0.6 m
Thickly bedded	0.6 m to 2 m
Very thickly bedded	> 2 m



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

Sampling Methods

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.



Description and Classification Methods

The methods of description and classification of soils and rocks used in this report are based on Australian Standard AS 1726-1993, Geotechnical Site Investigations Code. 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	20 - 63
Medium gravel	6 - 20
Fine gravel	2.36 - 6
Coarse sand	0.6 - 2.36
Medium sand	0.2 - 0.6
Fine sand	0.075 - 0.2

The proportions of secondary constituents of soils are described as:

Term	Proportion	Example
And	Specify	Clay (60%) and Sand (40%)
Adjective	20 - 35%	Sandy Clay
Slightly	12 - 20%	Slightly Sandy Clay
With some	5 - 12%	Clay with some sand
With a trace of	0 - 5%	Clay with a trace of sand

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

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

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	SPT N value	CPT qc value (MPa)
Very loose	vl	<4	<2
Loose	l	4 - 10	2 - 5
Medium dense	md	10 - 30	5 - 15
Dense	d	30 - 50	15 - 25
Very dense	vd	>50	>25

Soil Descriptions

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;
- Transported soils - formed somewhere else and transported by nature to the site; or
- Filling - moved by man.

Transported soils may be further subdivided into:

- Alluvium - river deposits
- Lacustrine - lake deposits
- Aeolian - wind deposits
- Littoral - beach deposits
- Estuarine - tidal river deposits
- Talus - scree or coarse colluvium
- Slopewash or Colluvium - transported downslope by gravity assisted by water. Often includes angular rock fragments and boulders.

Symbols & Abbreviations

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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

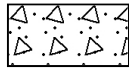
General



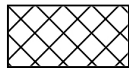
Asphalt



Road base



Concrete



Filling

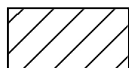
Soils



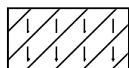
Topsoil



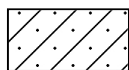
Peat



Clay



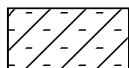
Silty clay



Sandy clay



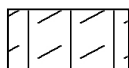
Gravelly clay



Shaly clay



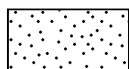
Silt



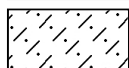
Clayey silt



Sandy silt



Sand



Clayey sand



Silty sand



Gravel



Sandy gravel



Cobbles, boulders



Talus

Sedimentary Rocks



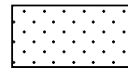
Boulder conglomerate



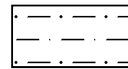
Conglomerate



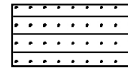
Conglomeratic sandstone



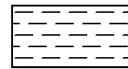
Sandstone



Siltstone



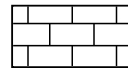
Laminite



Mudstone, claystone, shale

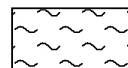


Coal

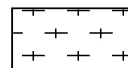


Limestone

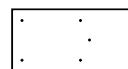
Metamorphic Rocks



Slate, phyllite, schist

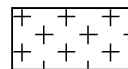


Gneiss

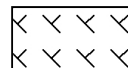


Quartzite

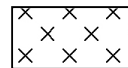
Igneous Rocks



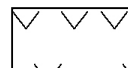
Granite



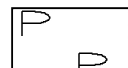
Dolerite, basalt, andesite



Dacite, epidote



Tuff, breccia



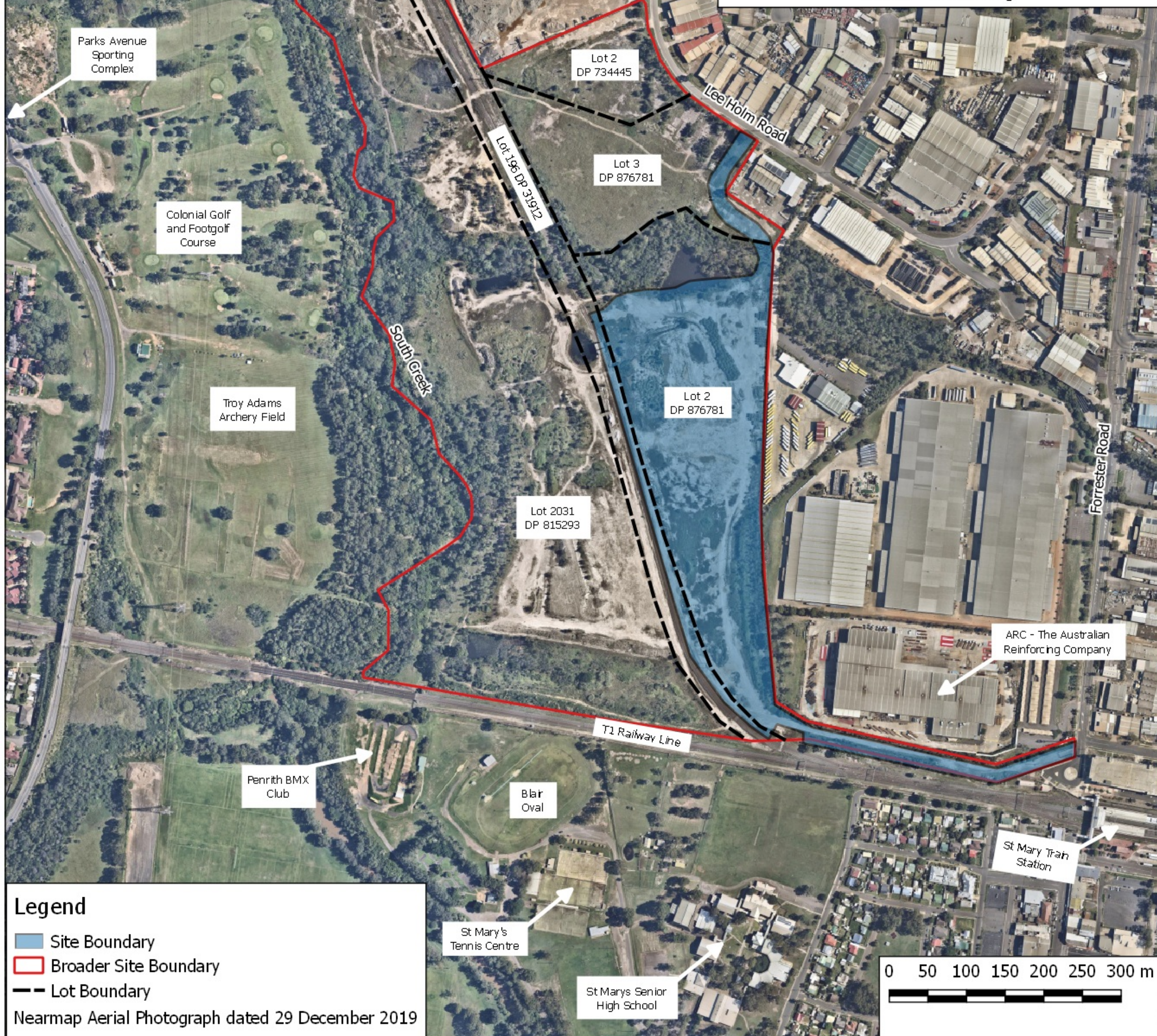
Porphyry

Appendix B

Drawings 1 to 4



Site Locality



Legend

- Site Boundary
- Broader Site Boundary
- Lot Boundary

Nearmap Aerial Photograph dated 29 December 2019

0 50 100 150 200 250 300 m



TITLE: Site Layout and Locality
Preliminary Site Contamination Investigation
2 Forrester Rd, St Marys, NSW



OFFICE: Macarthur

DRAWN: CKM

DATE: 28.2.19

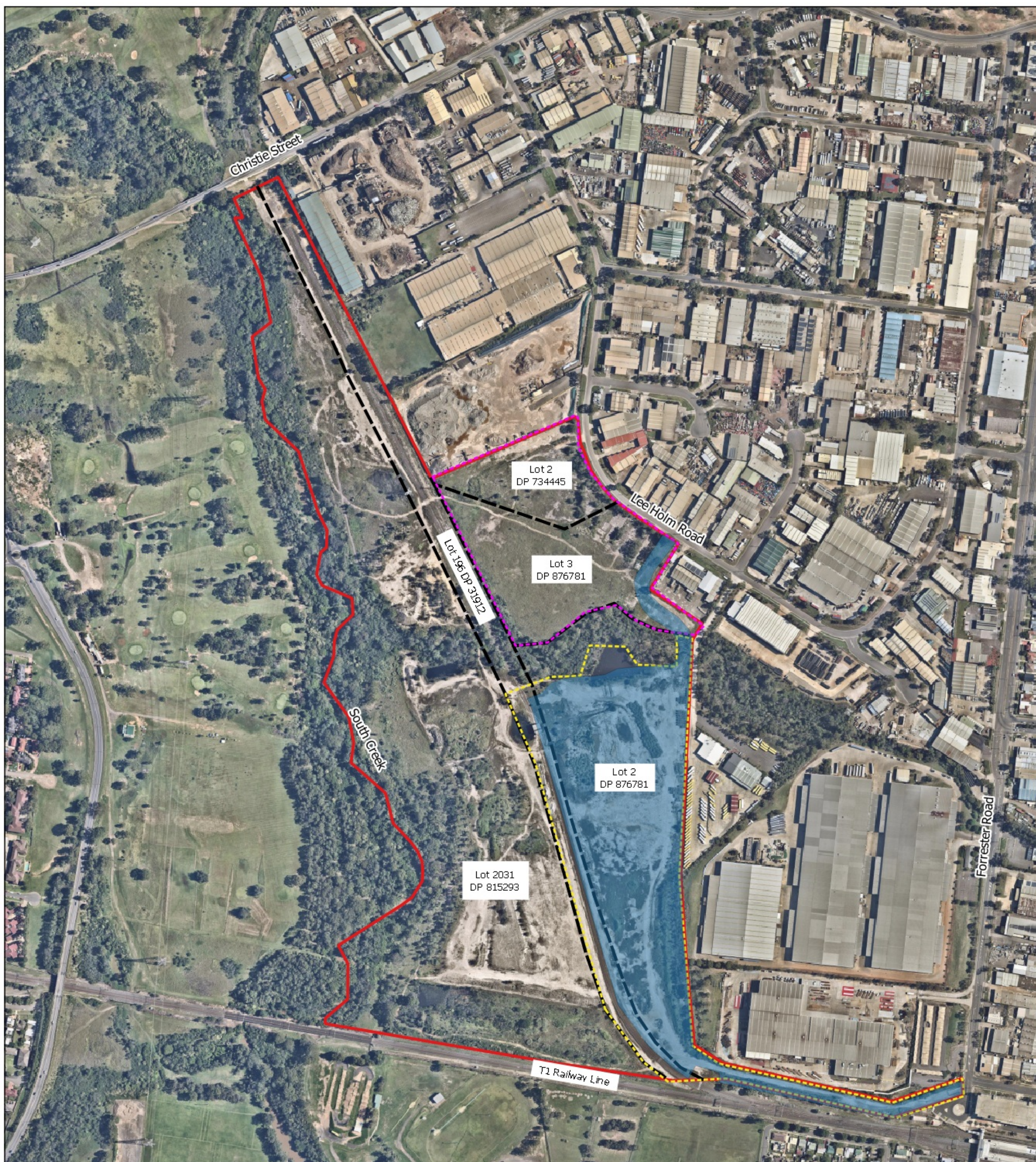
SCALE: As Shown

CLIENT: Pacific National (NSW) Pty Ltd

PROJ. 94525.02

DRAWING No: 1

REVISION: 0



Legend

- Site Boundary
- - - ERM (2005a, 2005b & 2005c)
- - - PB 2015
- - - Lot Boundary
- Broader Site Boundary

nearmap Aerial Photograph dated 29 December 2018

0 50 100 150 200 250 300 m



TITLE: **Former Investigation Boundaries
Preliminary Site Contamination Investigation
2 Forrester Rd, St Marys, NSW**



OFFICE: Macarthur

DRAWN BY: CKM

DATE: 28.2.19

CLIENT: Pacific National (NSW) Pty Ltd

PROJ. 94525.02

DRAWING No: 2

REVISION: 0

SCALE: As Shown






Legend

- Site Boundary
- Suspected ACM Location
- ⊕ Bore Holes
- Test Pits

Nearmap Aerial Photograph dated 29 Decer

 Douglas Partners <i>Geotechnics Environment Groundwater</i>	TITLE: Investigation Locations Preliminary Site Contamination Investigation 2 Forrester Rd, St Marys, NSW			 MGA	OFFICE: Macarthur
					DRAWN CKM
					DATE: 28.2.19
CLIENT: Pacific National (NSW) Pty Ltd	PROJ. 94525.02	DRAWING No: 4	REVISION: 0	SCALE: As Shown	

Appendix C

Photographic Plates



Photo 1 - Site surface covered with overgrown vegetation in parts of site



Photo 2 - Unloading facility along the railway corridor



<div>Site Photographs</div> <div>Preliminary Site Contamination Investigation</div> <div>Proposed St Marys Freight Hub - Stage 1, 2 Forrester Road, St Marys, NSW</div> <div>CLIENT: Pacific National</div>	PROJ:	94525.00
	PLATE:	1
	REV:	A
	DATE:	1-Mar-19



Photo 3 - Refuse on the side of access pathway from the Forrester Road entrance



Photo 4 - Exposed site surface comprising aggregate filling with some anthropogenic material near
Road entrance

Forrester


	Site Photographs	PROJ:	94525.00
	Preliminary Site Contamination Investigation	PLATE:	2
	Proposed St Marys Freight Hub - Stage 1, 2 Forrester Road, St Marys, NSW	REV:	A
	CLIENT: Pacific National	DATE:	1-Mar-19



Photo 5 - Soil stockpile covered with overgrown vegetation along the eastern boundary



Photo 6 - Soil stockpile with demolition waste on top

	Site Photographs	PROJ:	94525.00
	Preliminary Site Contamination Investigation	PLATE:	3
	Proposed St Marys Freight Hub - Stage 1, 2 Forrester Road, St Marys, NSW	REV:	A
	CLIENT: Pacific National	DATE:	1-Mar-19

Appendix D

Site Environmental Setting Maps & Bore Search Results

Appendix D: Site Environmental Setting – Extracts of Maps

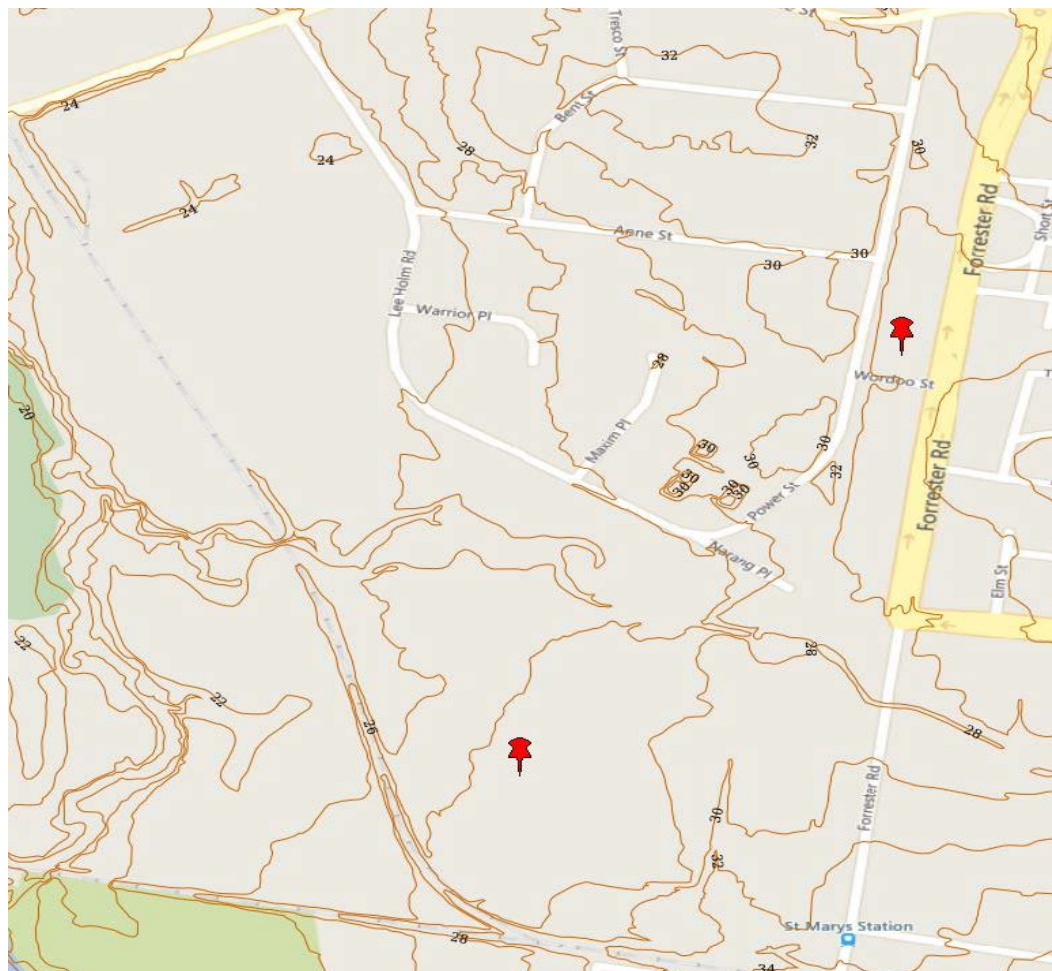


Figure D1: Extract of Topographic Map of NSW – 2 m Elevation Contour, NSW Department of Lands, April 2009.

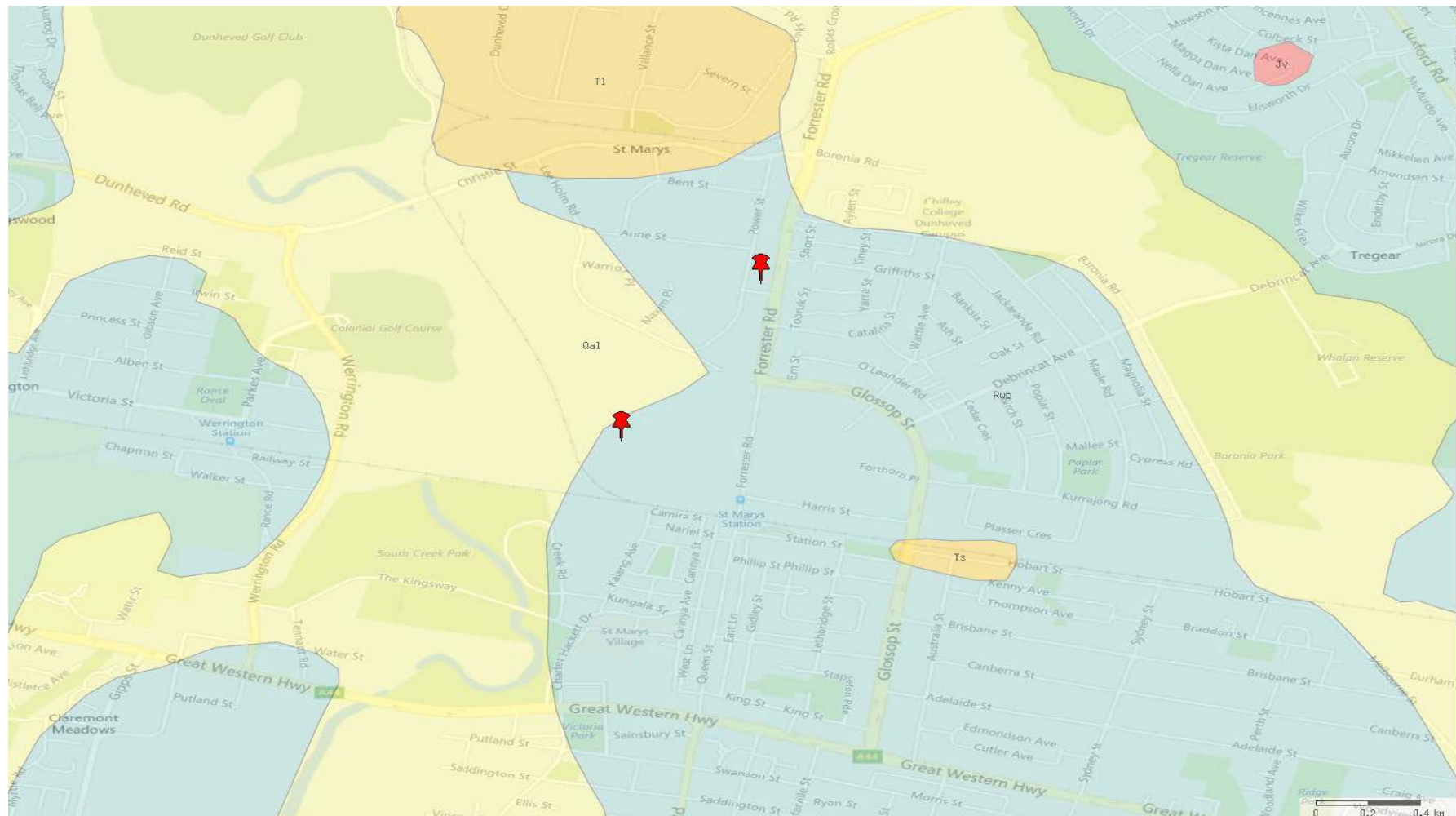


Figure D2: Extract of Penrith 1:100,000 Geology Sheet, Edition 1, 1991

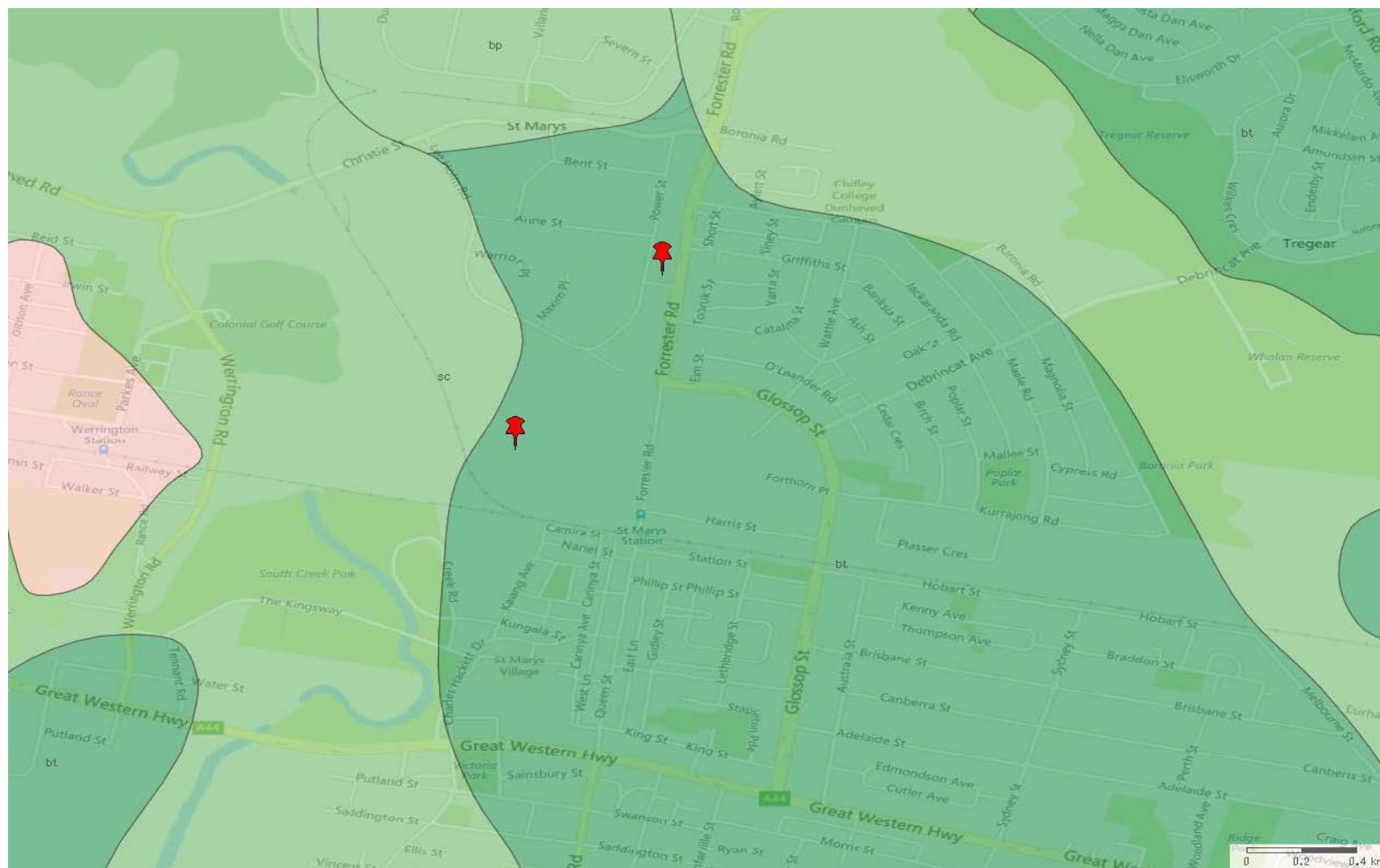


Figure D3: Extract of Penrith 1:100,000 Soil Landscape Sheet, Edition 1, 1989

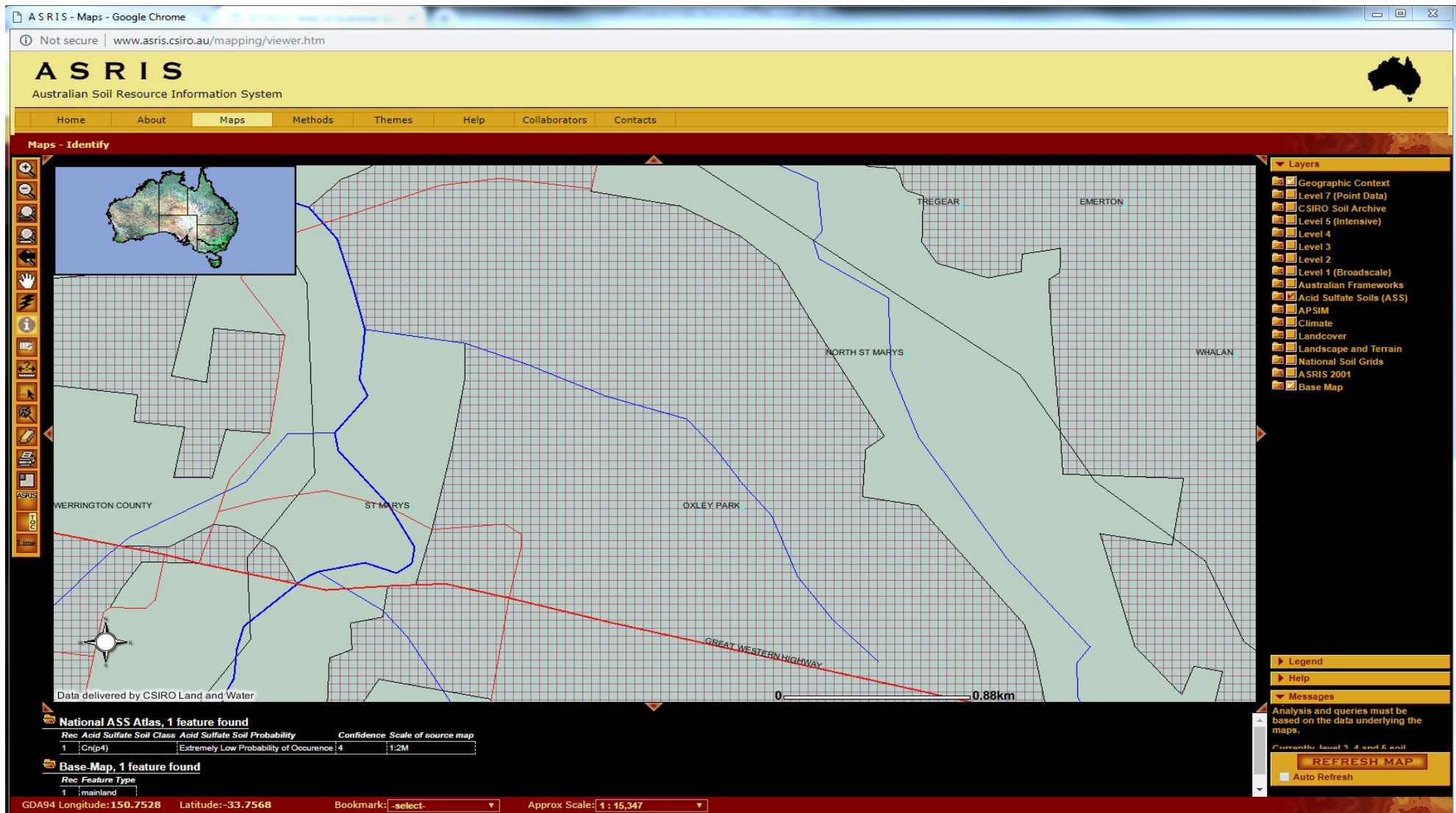


Figure D4: Output from CSIRO - The Atlas of Australian Acid Sulfate Soils

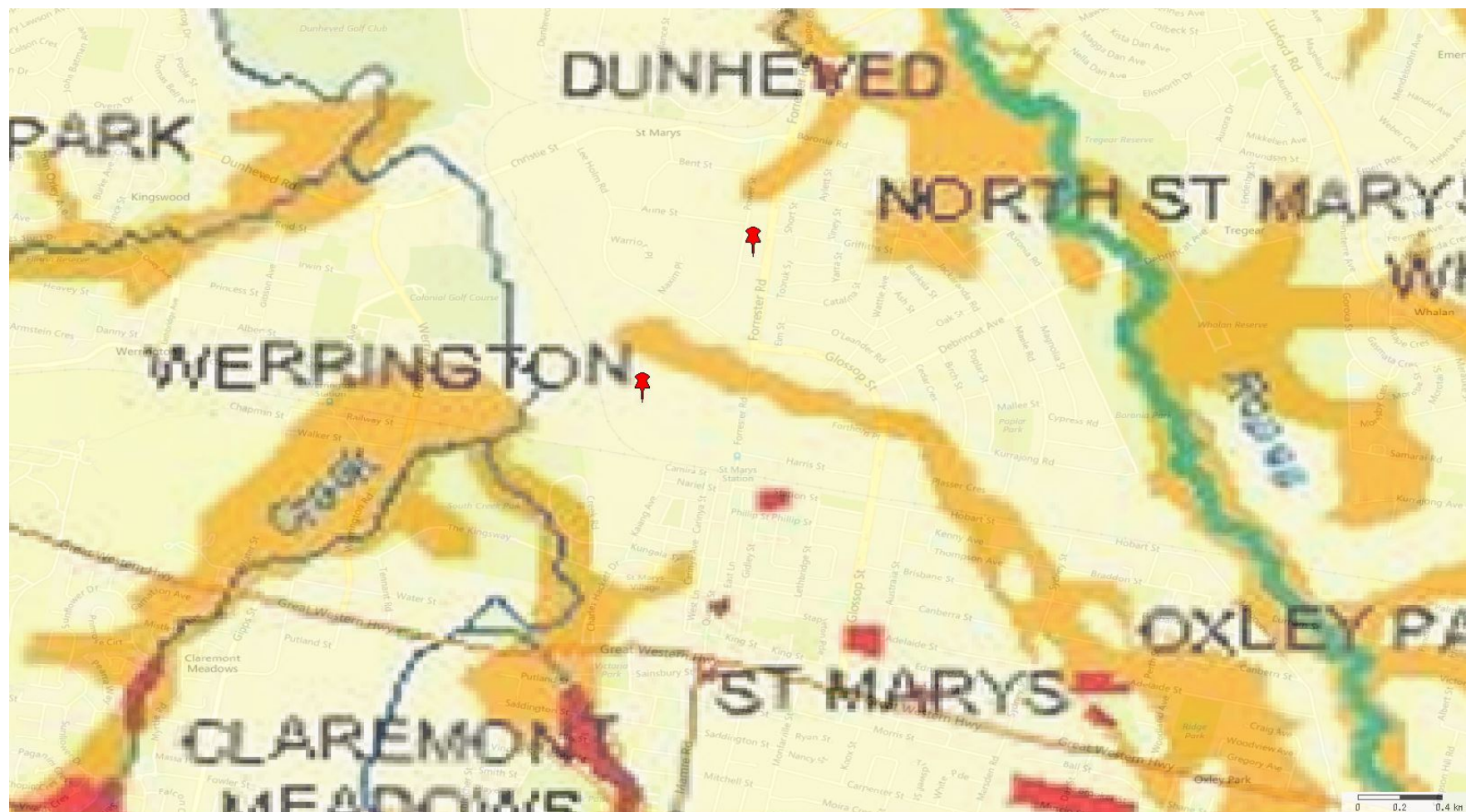


Figure D5: Extract of Map of Salinity Potential in Western Sydney – 2002, NSW Department of Infrastructure, Planning and Natural Resources

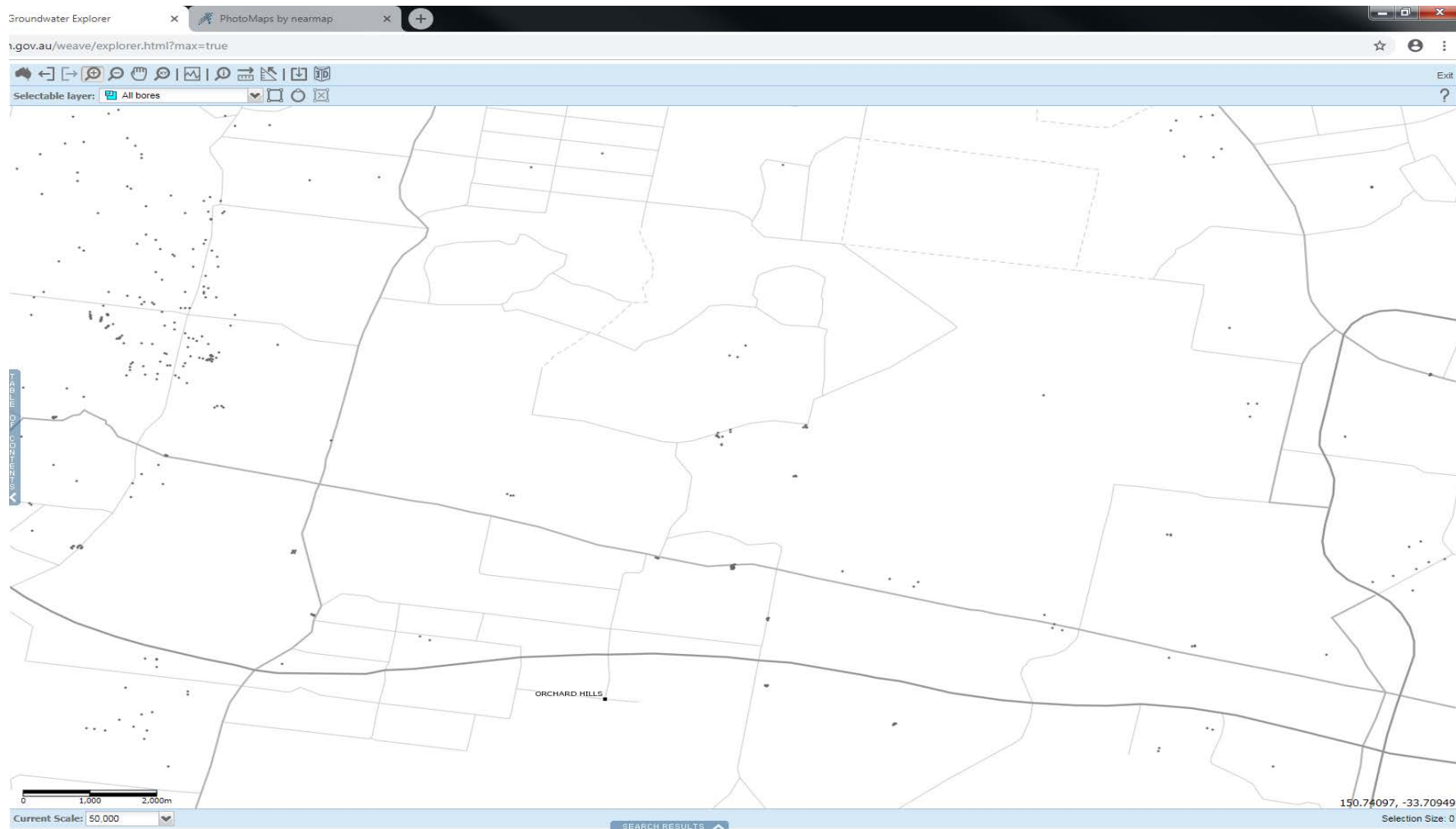


Figure D6: Groundwater Bore Search Results – Australian Groundwater Explorer

Appendix E

Title Deeds



ABN: 36 092 724 251
Ph: 02 9099 7400

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

Report

NSW LRS
(Formerly LPI)

Sydney

Address: - 196 Christie Street, 2 Forrester Road & 69-81 Lee Holm Road, St Marys

Description: - Lot 196 D.P. 31912 & Lots 2 & 3 D.P. 876781

As regards Lot 196 D.P. 31912

As regard the parts tinted pink on the attached Cadastre

<u>Date of Acquisition & term held</u>	<u>Registered Proprietor(s) & Occupations where available</u>	<u>Reference to Title at Acquisition and sale</u>
09.12.1927 (1927 to 1937)	John William Fisher (Grazier)	Vol 4089 Fol 120
11.06.1937 (1937 to 1939)	George Mercer Hall (Grazier)	Vol 4089 Fol 120 Now Vol 4858 Fol 66
17.01.1939 (1939 to 1941)	Leonard Nourse P'Anson (Grazier)	Vol 4858 Fol 66
31.03.1941 (1941 to 1941)	Frederick Charles Pye (Grazier)	Vol 4858 Fol 66 Now Vol 5221 Fol 233

As regard the parts tinted green on the attached Cadastre

Note: - Formerly a Road 100 feet wide between Parish Portion 110 & 112

Continued as regards the whole of Lot 196 D.P. 31912

<u>Date of Acquisition & term held</u>	<u>Registered Proprietor(s) & Occupations where available</u>	<u>Reference to Title at Acquisition and sale</u>
21.08.1941 (1941 to 1989)	The Commonwealth of Australia (Resumed for Defence Purposes)	Government Gazette Now 196/31912
05.09.1989 (1989 to 1999)	Australian Defence Industries Pty Ltd Now Adi Limited	196/31912
16.11.1999 (1999 to Date)	# St Marys Land Limited	196/31912

Denotes Current Registered Proprietor

Easements: -

- 10.08.1943 (D384881) – Easement for Transmission Line 66 feet wide
- 02.10.1958 (H83909) - Easement for Transmission Line 100 feet wide
- 27.03.1966 (K403219) – Easement for Railway Transmission Line variable width
- 06.05.1994 (I641710) – Right of Carriageway variable width

Leases: -

- 18.04.2005 (AB377449) – To Pacific National (NSW) Pty Limited of Lot 1 D.P. 1080932 – expires 14.02.2008
- 18.04.2005 (AB377450) – To Pacific National (NSW) Pty Limited of Lot 1 D.P. 1080932 – commences 15.02.2008 – expires 14.02.2013
- 18.04.2005 (AB377452) – To Pacific National (NSW) Pty Limited of Lot 1 D.P. 1080932 – commences 15.02.2013 – expires 14.02.2018
- 18.04.2005 (AB377451) – To Pacific National (NSW) Pty Limited of Lot 1 D.P. 1080932 – commences 15.02.2018 – expires 14.02.2023



ABN: 36 092 724 251
Ph: 02 9099 7400

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

As regards Lot 3 D.P. 876781

As regards the part tinted purple on the attached copy of D.P. 876781

<u>Date of Acquisition and term held</u>	<u>Registered Proprietor(s) & Occupations where available</u>	<u>Reference to Title at Acquisition and sale</u>
09.12.1927 (1927 to 1937)	John William Fisher (Grazier)	Vol 4089 Fol 120
11.06.1937 (1937 to 1939)	George Mercer Hall (Grazier)	Vol 4089 Fol 120 Now Vol 4858 Fol 66
17.01.1939 (1939 to 1941)	Leonard Nourse P'Anson (Grazier)	Vol 4858 Fol 66
31.03.1941 (1941 to 1941)	Frederick Charles Pye (Grazier)	Vol 4858 Fol 66 Now Vol 5221 Fol 233
21.08.1941 (1941 to 1969)	The Commonwealth of Australia (Resumed for Defence Purposes)	Government Gazette Now Vol 9043 Fol 116
11.03.1969 (1969 to 1986)	Jaywoth Industries Limited Now Jaywoth Industries Pty. Limited	Vol 9043 Fol 116
21.11.1986 (1986 to 1998)	State Rail Authority of New South Wales (Resumed for Railway Purposes)	Vol 9043 Fol 116 Now 3/876781

As regards the part tinted blue on the attached copy of D.P. 876781

<u>Date of Acquisition and term held</u>	<u>Registered Proprietor(s) & Occupations where available</u>	<u>Reference to Title at Acquisition and sale</u>
09.12.1927 (1927 to 1937)	John William Fisher (Grazier)	Vol 4089 Fol 120
11.06.1937 (1937 to 1939)	George Mercer Hall (Grazier)	Vol 4089 Fol 120 Now Vol 4858 Fol 66
17.01.1939 (1939 to 1941)	Leonard Nourse P'Anson (Grazier)	Vol 4858 Fol 66
31.03.1941 (1941 to 1941)	Frederick Charles Pye (Grazier)	Vol 4858 Fol 66 Now Vol 5221 Fol 233
21.08.1941 (1941 to 1969)	The Commonwealth of Australia (Resumed for Defence Purposes)	Government Gazette Now Vol 9043 Fol 115
04.12.1969 (1969 to 1984)	James Hardie & Coy. Pty. Limited	Vol 9043 Fol 115
03.12.1984 (1984 to 1986)	Colmlee (Lands) Pty. Limited	Vol 9043 Fol 115
21.11.1986 (1986 to 1998)	State Rail Authority of New South Wales (Resumed for Railway Purposes)	Vol 9043 Fol 115 Now 3/876781



ABN: 36 092 724 251
Ph: 02 9099 7400

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

As regards the part tinted green on the attached copy of D.P. 876781

<u>Date of Acquisition and term held</u>	<u>Registered Proprietor(s) & Occupations where available</u>	<u>Reference to Title at Acquisition and sale</u>
09.12.1927 (1927 to 1937)	John William Fisher (Grazier)	Vol 4089 Fol 120
11.06.1937 (1937 to 1939)	George Mercer Hall (Grazier)	Vol 4089 Fol 120 Now Vol 4858 Fol 66
17.01.1939 (1939 to 1941)	Leonard Nourse P'Anson (Grazier)	Vol 4858 Fol 66
31.03.1941 (1941 to 1941)	Frederick Charles Pye (Grazier)	Vol 4858 Fol 66 Now Vol 5221 Fol 233
21.08.1941 (1941 to 1969)	The Commonwealth of Australia (Resumed for Defence Purposes)	Government Gazette Now Vol 9043 Fol 111
04.12.1969 (1969 to 1984)	James Hardie & Coy. Pty. Limited	Vol 9043 Fol 111
03.12.1984 (1984 to 1986)	Colmlee (Lands) Pty. Limited	Vol 9043 Fol 111
21.11.1986 (1986 to 1998)	State Rail Authority of New South Wales (Resumed for Railway Purposes)	Vol 9043 Fol 111 Now 3/876781

Continued as regards the whole of Lot 2 D.P. 876781

<u>Date of Acquisition and term held</u>	<u>Registered Proprietor(s) & Occupations where available</u>	<u>Reference to Title at Acquisition and sale</u>
14.07.1998 (2002 to 2005)	Tranteret Pty Limited	3/876781
14.09.2005 (2005 to 2007)	Maremma Pty Limited	3/876781
28.09.2007 (2007 to Date)	# Asciano Properties Operations Pty Ltd	3/876781

Denotes Current Registered Proprietor

Easements: -

- 10.08.1943 (D384881) – Easement for Transmission Line – released not investigated
- 02.10.1958 (H83909) - Easement for Transmission Line 100 feet wide – released not investigated
- 30.08.1960 (D.P. 31912) – Easement for Drainage 30 feet wide – released not investigated
- 14.11.1963 (J340279) – Easement for Drainage and Stormwater – released not investigated
- 30.05.1963 (J340280) – Easement for Transmission Line – released not investigated
- 04.10.1969 (L648866) – Easement for Water Pipeline – released not investigated
- 01.12.1969 (L686302) – Easement for Railway Line – released not investigated
- 10.03.1971 (M418516) – Easement for Railway Line – released not investigated
- 14.07.1998 (5102977) – Easement for Electrical Transmission Line 30.48 wide
- 14.07.1998 (5102977) – Easement for Electrical Transmission Line 9.145 and 5.18 wide
- 14.07.1998 (5102977) – Easement for Drainage 9.145 wide
- 14.07.1998 (5102977) – Easement for Water Pipeline 3.05 wide
- 21.10.2004 (D.P. 1070668) – Easement for Drainage of Water 6 metre(s) wide

Leases: -

- 14.12.1998 (5462972) – expired not investigated



ABN: 36 092 724 251
Ph: 02 9099 7400

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

As regards Lot 2 D.P. 876781

As regards the part tinted pink on the attached copy of D.P. 876781

<u>Date of Acquisition and term held</u>	<u>Registered Proprietor(s) & Occupations where available</u>	<u>Reference to Title at Acquisition and sale</u>
09.12.1927 (1927 to 1937)	John William Fisher (Grazier)	Vol 4089 Fol 120
11.06.1937 (1937 to 1939)	George Mercer Hall (Grazier)	Vol 4089 Fol 120 Now Vol 4858 Fol 66
17.01.1939 (1939 to 1941)	Leonard Nourse P'Anson (Grazier)	Vol 4858 Fol 66
31.03.1941 (1941 to 1941)	Frederick Charles Pye (Grazier)	Vol 4858 Fol 66 Now Vol 5221 Fol 233
21.08.1941 (1941 to 1969)	The Commonwealth of Australia (Resumed for Defence Purposes)	Government Gazette Now Vol 9043 Fol 115
04.12.1969 (1969 to 1984)	James Hardie & Coy. Pty. Limited	Vol 9043 Fol 115
03.12.1984 (1984 to 1986)	Colmlee (Lands) Pty. Limited	Vol 9043 Fol 115
21.11.1986 (1986 to 2002)	State Rail Authority of New South Wales (Resumed for Railway Purposes)	Vol 9043 Fol 115 Now 2/876781

As regards the part tinted yellow on the attached copy of D.P. 876781

<u>Date of Acquisition and term held</u>	<u>Registered Proprietor(s) & Occupations where available</u>	<u>Reference to Title at Acquisition and sale</u>
09.12.1927 (1927 to 1937)	John William Fisher (Grazier)	Vol 4089 Fol 120
11.06.1937 (1937 to 1939)	George Mercer Hall (Grazier)	Vol 4089 Fol 120 Now Vol 4858 Fol 66
17.01.1939 (1939 to 1941)	Leonard Nourse P'Anson (Grazier)	Vol 4858 Fol 66
31.03.1941 (1941 to 1941)	Frederick Charles Pye (Grazier)	Vol 4858 Fol 66 Now Vol 5221 Fol 233
21.08.1941 (1941 to 1969)	The Commonwealth of Australia (Resumed for Defence Purposes)	Government Gazette Now Vol 9043 Fol 111
04.12.1969 (1969 to 1984)	James Hardie & Coy. Pty. Limited	Vol 9043 Fol 111
03.12.1984 (1984 to 1986)	Colmlee (Lands) Pty. Limited	Vol 9043 Fol 111
21.11.1986 (1986 to 2002)	State Rail Authority of New South Wales (Resumed for Railway Purposes)	Vol 9043 Fol 111 Now 2/876781



ABN: 36 092 724 251
Ph: 02 9099 7400

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

As regards the part tinted turquoise on the attached copy of D.P. 876781

Note: - We have not investigated the ownership of this part of land prior to the Government Gazette in 1941

<u>Date of Acquisition and term held</u>	<u>Registered Proprietor(s) & Occupations where available</u>	<u>Reference to Title at Acquisition and sale</u>
21.08.1941 (1941 to 1969)	The Commonwealth of Australia (Resumed for Defence Purposes)	Government Gazette Now Vol 9043 Fol 111
04.12.1969 (1969 to 1984)	James Hardie & Coy. Pty. Limited	Vol 9043 Fol 111
03.12.1984 (1984 to 1986)	Colmlee (Lands) Pty. Limited	Vol 9043 Fol 111
21.11.1986 (1986 to 2002)	State Rail Authority of New South Wales (Resumed for Railway Purposes)	Vol 9043 Fol 111 Now 2/876781

Continued as regards the whole of Lot 2 D.P. 876781

<u>Date of Acquisition and term held</u>	<u>Registered Proprietor(s) & Occupations where available</u>	<u>Reference to Title at Acquisition and sale</u>
12.06.2002 (2002 to 2003)	Freight Rail Corporation	2/876781
27.03.2003 (2003 to Date)	# Pacific National (NSW) Pty Ltd	2/876781

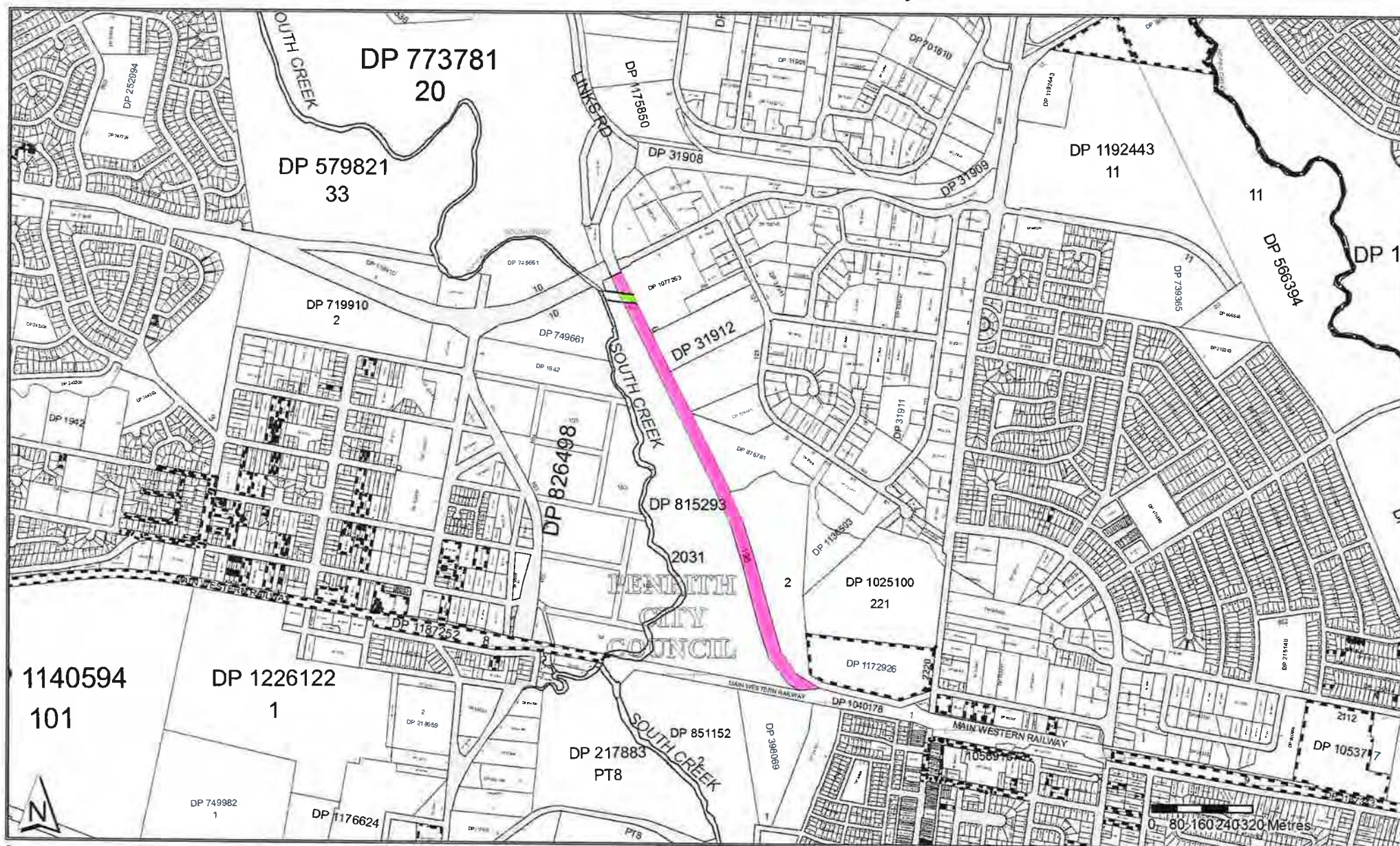
Denotes Current Registered Proprietor

Easements: -

- 10.08.1943 (D384881) – Easement for Transmission Line – released not investigated
- 02.10.1958 (H83909) - Easement for Transmission Line 100 feet wide – released not investigated
- 30.08.1960 (D.P. 31912) – Easement for Drainage 30 feet wide – released not investigated
- 27.03.1961 (K403219) – Easement for Railway Transmission Line 66 feet wide – released not investigated
- 14.11.1963 (J340279) – Easement for Drainage and Stormwater – released not investigated
- 30.05.1963 (J340280) – Easement for Transmission Line – released not investigated
- 04.10.1969 (L648866) – Easement for Water Pipeline – released not investigated
- 01.12.1969 (L686302) – Easement for Railway Line
- 01.12.1969 (L686302) – Easement for P.M.G. Cable – released not investigated
- 10.03.1971 (M418516) – Easement for Railway Line – released not investigated
- 12.06.2002 (8661181) – Easement for Drainage 3.0 wide and variable
- 12.06.2002 (8661181) – Easement for Transmission Line variable width
- 12.06.2002 (8661181) – Easement for Railway Transmission Line 20.115 wide
- 12.06.2002 (8661181) – Easement for Noise and Vibration
- 12.06.2002 (8661181) – Easement for Electrolysis
- 12.06.2002 (8661181) – Easement for Drainage 9.145 wide
- 12.06.2002 (8661181) – Easement for Transmission Line 9.145 wide

Yours Sincerely
James McDonnell
30 November 2018

Email: james.mcdonnell@infotrack.com.au



PLAN FORM 2

Plan Drawing only to appear in this space

*OFFICE USE ONLY

DP 876781

Registered: 5 5 1998

C.A.:

Title System: TORRENS

Purpose: SUBDIVISION

Ref. Map: U 7360-54
U 7360-63

Last Plan: DP 31912, DP 734445

PLAN OF SUBDIVISION OF
LOTS 119 & 123 D.P. 31912
AND LOT 1 D.P. 734445

Lengths are in metres Reduction Ratio 1:2500

LGA. PENRITH CITY

Locality ST. MARYS

Parish ROOTY HILL

County CUMBERLAND

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

I, DOUGLAS LACHLAN MACLEAN
DECORATED SMITH AND PARTNERS
of 2 WERRING ST. CORDON
a surveyor registered under the Surveyors Act 1926, 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 16 MARCH 1998

The survey relates to LOTS 1, 2 & 3

(Signature) *D. Maclean*

Deputy Line "X" - "Y" Surveyor registered under
the Surveyors Act 1926

Plans used in preparation of survey/compilation

D.P. 31912
D.P. 734445
D.P. 801552
D.P. 860775

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.

1. PROPOSED EASEMENT FOR TRANSMISSION LINE 90.48 WIDE

2. PROPOSED EASEMENT FOR TRANSMISSION LINE 9.145 WIDE AND 5.18 WIDE

3. PROPOSED EASEMENT FOR DRAINAGE 9.145 WIDE

4. PROPOSED EASEMENT FOR WATER PIPELINE 9.05 WIDE

5. PROPOSED EASEMENT FOR TRANSMISSION LINE 18.29 WIDE

6. PROPOSED EASEMENT FOR TRANSMISSION LINE 9.145 WIDE

7. PROPOSED EASEMENT FOR RAILWAY TRANSMISSION LINE 20.115 WIDE

8. EASEMENT FOR P.M.G. CABLE 12.19 WIDE (VIDE L686302)

9. EASEMENT FOR RAILWAY LINE 20.115 WIDE (VIDE L686302)

10. EASEMENT FOR P.M.G. CABLE 7.05 WIDE (VIDE L686302)

11. EASEMENT FOR P.M.G. CABLE 1.83 WIDE (VIDE L686302)

12. COVENANT L686302

SURVEYORS (PRACTICE) REGULATION 1996 CLAUSE 32(2)

MARK	EASTING	NORTHING	ZONE	ACC
S.S.M. 86001	278 892 840	1 263 487 333	56/1	4
P.M. 41946	275 693 661	1 251 349 764	56/1	2
P.M. 24186	279 037 689	1 262 798 23	56/1	2

SOURCE: C.A.L.M. DATE: FEB. 1998

COMBINED SCALE FACTOR 0.99994

SURVEYOR'S REFERENCE: 25866DP1/2 CHECKLIST MPD

WARNING: CREASING OR FOLDING WILL LEAD TO REJECTION

R2B471

PLAN FORM 1

SIGNATURE AND SEALS ONLY

Plan Drawing only to appear in this space

OFFICE USE ONLY

DP 876781

Registered: 555 998

CA: _____

Title System: TORRENS

Purpose: SUBDIVISION

Ref Map: U 7360-54
U 7360-63

Last Plan: DP 31912, DP 734445

PLAN OF SUBDIVISION OF LOTS 119 & 123 D.P. 31912 AND LOT 1 D.P. 734445

Lengths are in metres Reduction Ratio 1:2500

L.G.A. PENRITH CITY

Locality ST. MARYS

Parish ROOTY HILL

County CUMBERLAND

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

I DOUGLAS LADLAN MACLEAN DECARDARD SMITH AND PARTNERS of 2 MERRIMA ST. CORDON a Surveyor registered under the Surveyors Act 1926 hereby certify that the survey represented in this plan is accurate, has been made in accordance with the Surveyors Act 1926 and was completed on 15 MARCH 1998

The survey relates to LOTS 1, 2 & 3

(Signature) *D. Maclean*

Deputy Line "X" "Y" Surveyor registered under the Surveyors Act 1926

Plans used in preparation of survey/compilation

D.P. 31912
D.P. 734445
D.P. 80552
D.P. 860775

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.

Crown Lands Office Approval

PLAN APPROVED _____

Authorised Officer _____

Land District _____

Page No. _____

Field Book _____

pages _____

Council's Certificate

I hereby certify that -

(a) the requirements of the Local Government Act 1993 (other than the requirements for the registration of plans), and

(b) the requirements of Part 3 Division 2 of the Water Board Act 1987, or Part 3 Division 7 of the Hunter Water Board (Corporation) Act 1991.

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

Subdivision No _____

Date _____

(Signature) _____

General Manager/Authorised Person _____

Council File No. _____

This part of certificate is to be sealed where the applicant is only a consolidated lot or the sharing of a new road or the land to be subdivided is wholly outside the area of jurisdiction of the Hunter Water Board and the Hunter Water Board's consent is required.

Delete if inapplicable

SURVEYORS (PRACTICE) REGULATION 1986 CLAUSE 32(2)

MARK	I S G CO-ORDINATES		ZONE	ACC
	EASTING	NORTHING		
S.S.M. 86001	278 882.840	1 263 483.933	56/1	4
P.M. 41946	274 038.661	1 263 104.764	56/1	2
P.M. 2466	275 037.886	1 262 768.201	56/1	2

SOURCE: C.A.L.M. DATE: FEB. 1998

COMBINED SCALE FACTOR 9.99994

DP 876781

SURVEYOR'S REFERENCE: 258660P1/5

CHECKLIST

MPD

WARNING: CREASING OR FOLDING WILL LEAD TO REJECTION

DP 876781

[illegible]

This negative is a photograph made as a permanent record of a document in the custody of the Registrar General this day. 5th July, 1986

City
~~Municipality~~ of Penrith

D.P. 31912 Sh 1/2. (E)

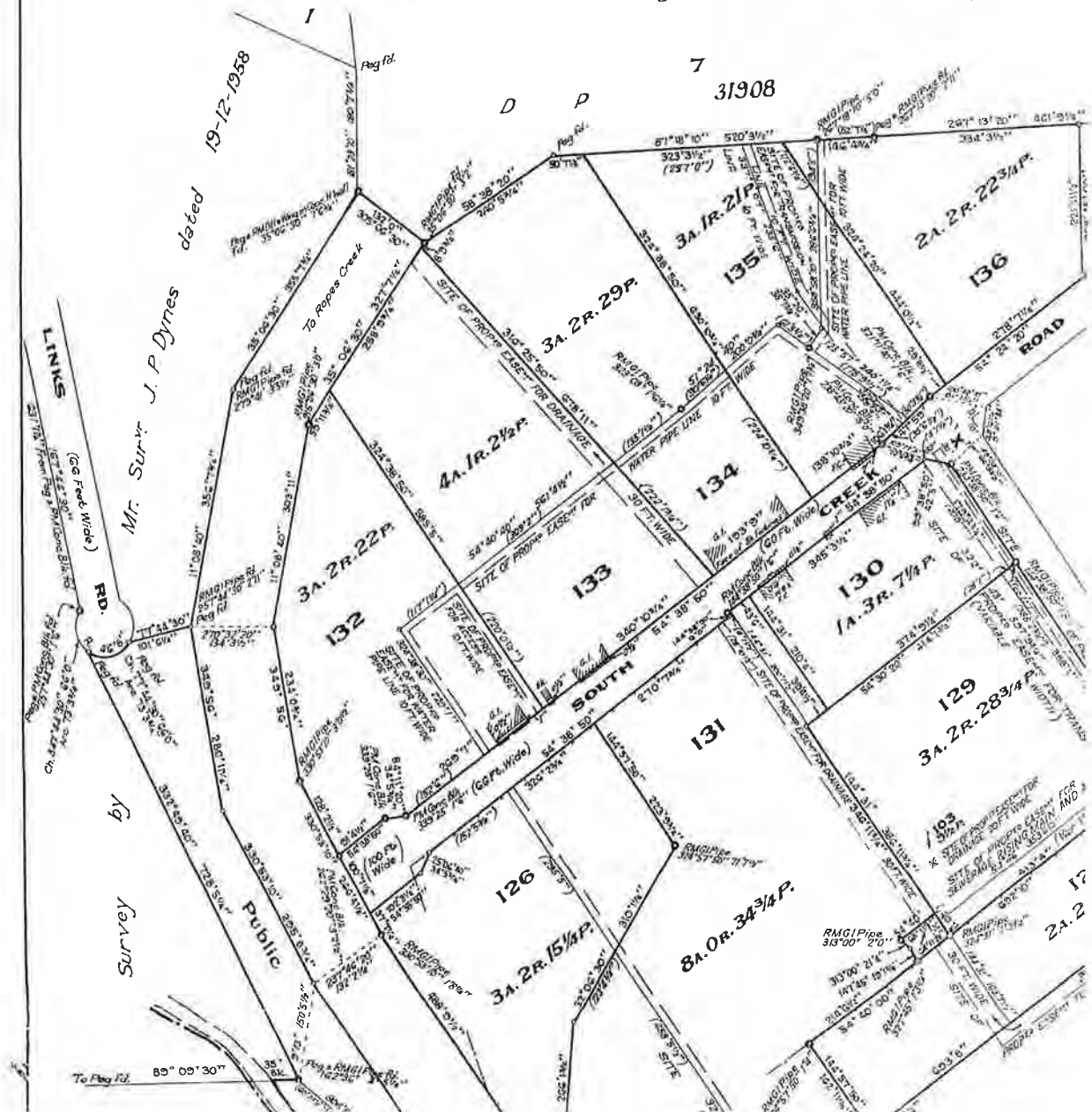
H589355 30, 8, 60

PLAN

of subdivision of part of the land comprising
and the land Acquired by The Commonwealth
PARISH OF ROOTY HILL **COUNCIL**

Scale 150 feet to an inch

Survey by Mr. Surveyor J. P. Dynes dated 12th. December, 1958



PLAN

PM 56/997

SHEET 1
(of 2 Sheets)

8237 70

D. P. 31912 (E)

of the land comprised in C.T. Vol. 5500 Fol. 131
by The Commonwealth Gaz. No. 83 of 23.12.59 p.4630
COUNTY OF CUMBERLAND

Scale 150 feet to an inch

Registered:	74/59	28.7.59
C.A.:	Tarrens	
Title System:	Subdivision	
Purpose:	Ph & CCC 322	
Ref. Map:	App's 26115 - 35377 & 41584	
Last Plan:	61474 (G)	

led 12th. December, 1958

Notes

It is intended to dedicate the new roads and the Road Widening to the Public.

It is intended to transfer lot 103 to the Metropolitan Water, Sewerage and Drainage Board.

It is intended to transfer lot 125 to the Council of the Municipality of Penrith.

It is intended to transfer lot 198 to the Commissioner for Railways.

It is intended to create

Easements for Water Pipe Line:

5 ft. wide through lots 128, 129 and 130

10 ft. wide through lots 112, 120, 121, 122, 123, 125, 126, 131, 132, 133, 134, 135 and 136

5 and 10 ft. wide through lot 127

In favour of the Metropolitan Water, Sewerage and Drainage Board.

Easements for Drainage:

20 ft. wide through lots 103 and 127 from north westerly to south westerly resp.

30 ft. wide through lots 118, 119, 120 from north westerly

In favour of the Council of the Municipality of Penrith and as appurtenance to Les Holm & South Creek Roads

Easement for Access: 10 ft. wide within lot 132 in favour of the Metropolitan Water, Sewerage and Drainage Board

Easement for Sewerage Rising Main and Access

Var. width through lot 129

In favour of the Metropolitan Water, Sewerage and Drainage Board

Easements for P.M.G. Cable:

6 ft. wide through lots 118, 119, 120 and 124

10 ft. wide through lot 125

10 and 40 ft. wide through lot 118 & 119

40 ft. wide through Public Garden and Recreation Space

In favour of the Commonwealth of Australia

Easements for Transmission Lines:

17 ft. wide through lot 123

13 and 30 ft. wide through lot 124

60 ft. wide through lots 118 and 119

In favour of the Electricity Commission of New South Wales

30 ft. wide through lots 118 and 119

In favour of the Council of the Municipality of Penrith

66 ft. wide through lot 119

Variable Width through lot 125 and 126 and Public Garden and Recreation Space

In favour of the Commissioner for Railways

Easement for Communications Cable:

10 ft. wide through Public Garden and Recreation Space

In favour of the Commissioner for Railways

Easements for Railway Lines:

66 ft. wide through lot 118 in favour of lot 119

66 ft. wide through lot 118 in favour of lots 110, 112, 113, 114, 115, 117 and 119 D. P. 31911

66 ft. wide through lot 119 in favour of lots 110, 112, 113, 114, 115, 117 and 118 D. P. 31911

Easement for Transmission Line

10 ft. wide through lot 135

15 ft. wide through lots 127 & 128

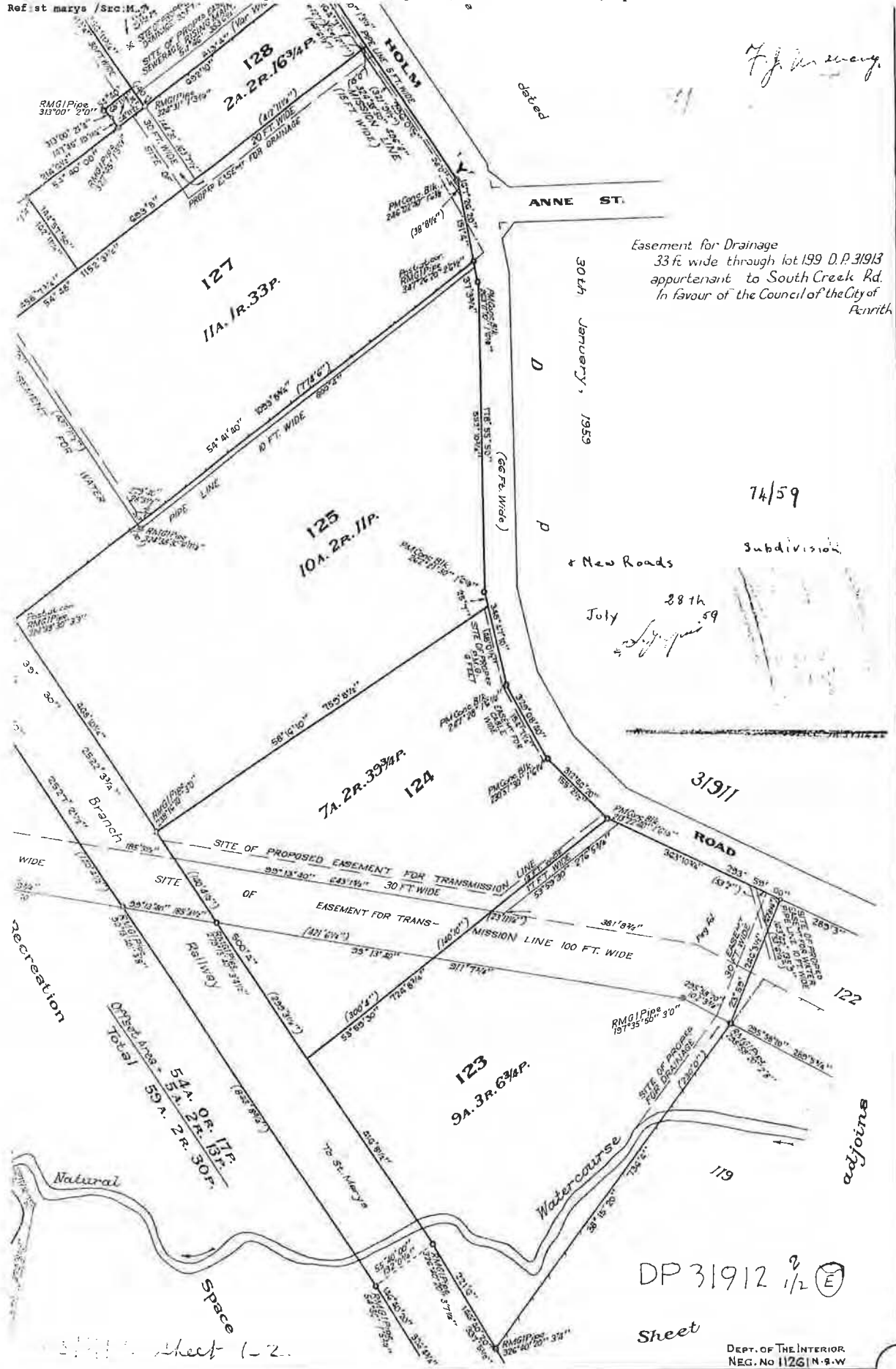
Variable width through lots 129 & 130

In favour of the Council of the Municipality of Penrith



ANNE ST.

Handwritten signature



PM 59/997

SHEET 2
(of 2 Sheets)

D. P. 31912 (E)
Registered: 2/8/51

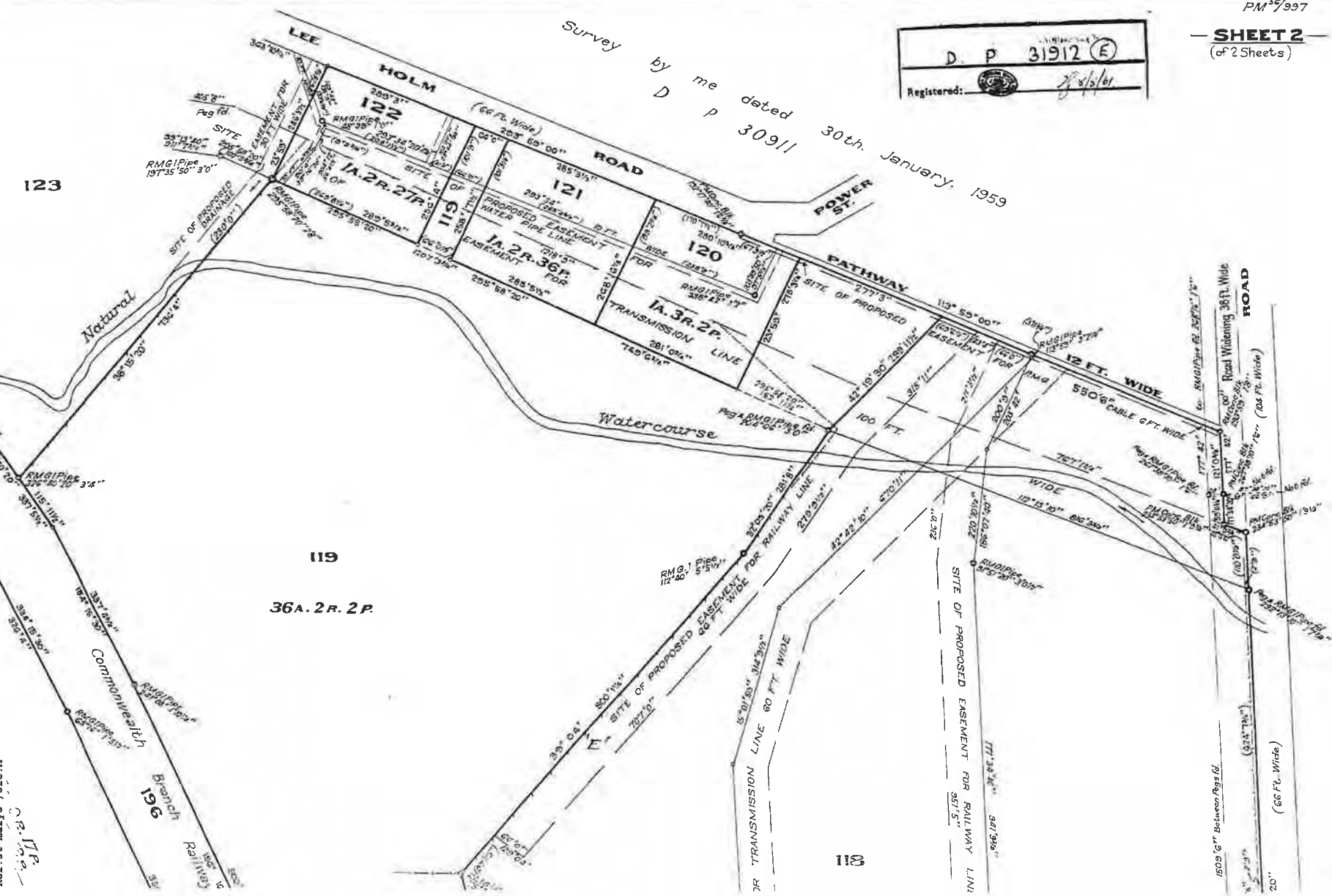
Survey by me dated 30th. January, 1959
D. P. 30911

123

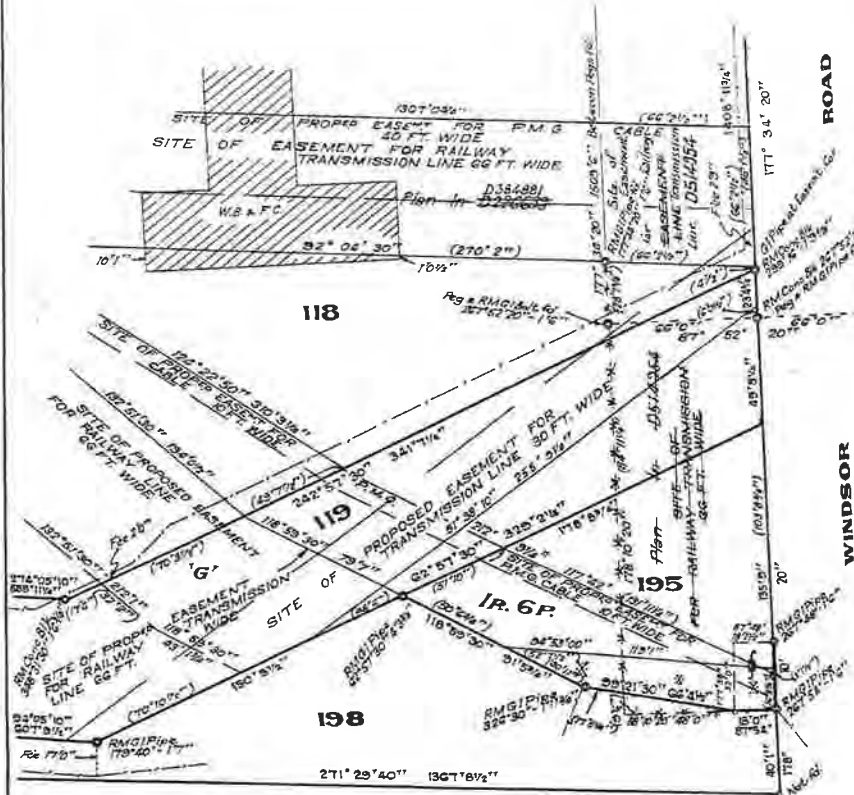
119

118

Req: R656005 / Doc: DP 0031912 P / Rev: 11-Apr-1995 / Sts: OK, OK / Pgs: ALL / Prt: 29-Nov-2018 10:24 / Seq: 6 of 10
Ref: st maps / Src: M



Scale: 50 Feet to an inch



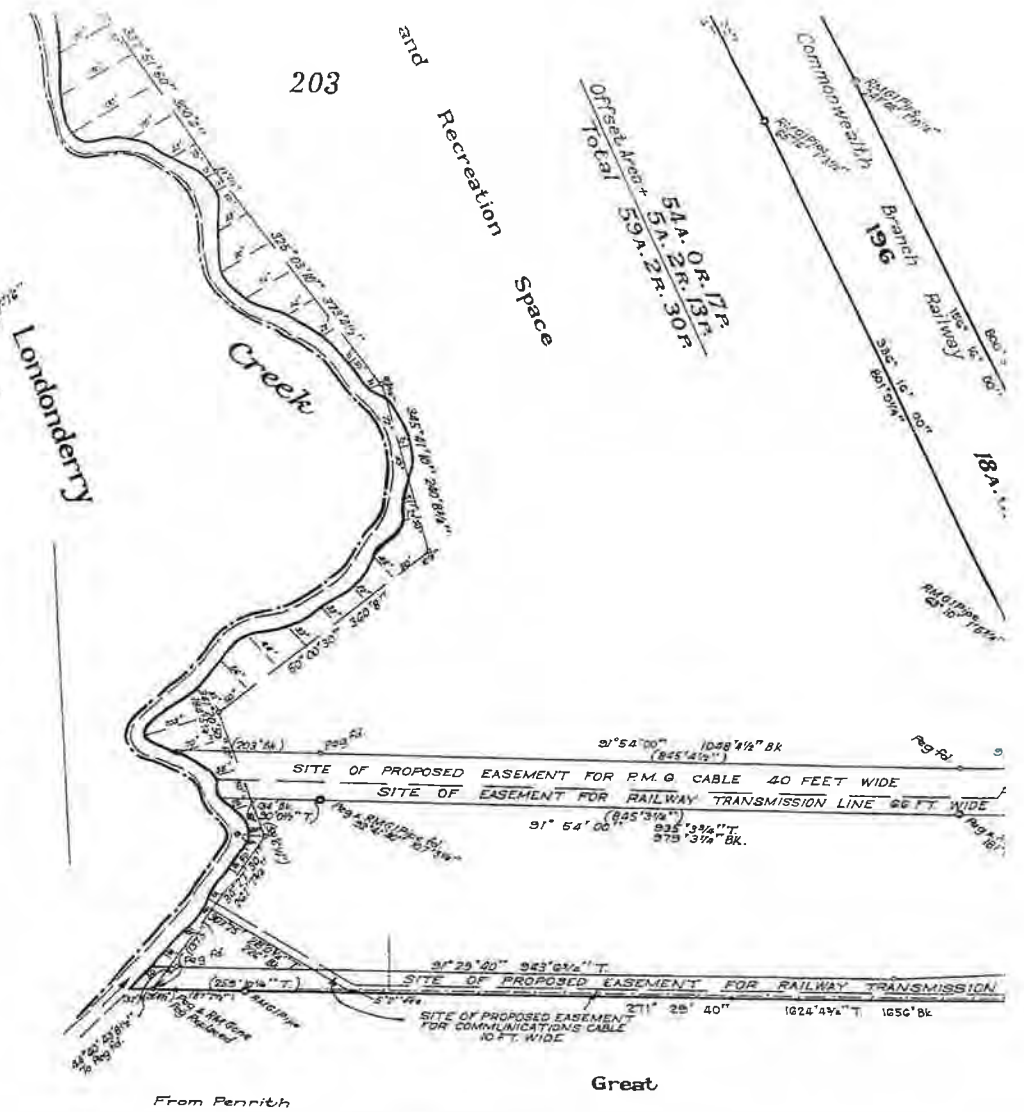
Great Western Railway

DP 31912 © 2/2

✱ SITE OF PROPOSED EASEMENT FOR RAILWAY TRANSMISSION LINE VARIABLE WIDTH

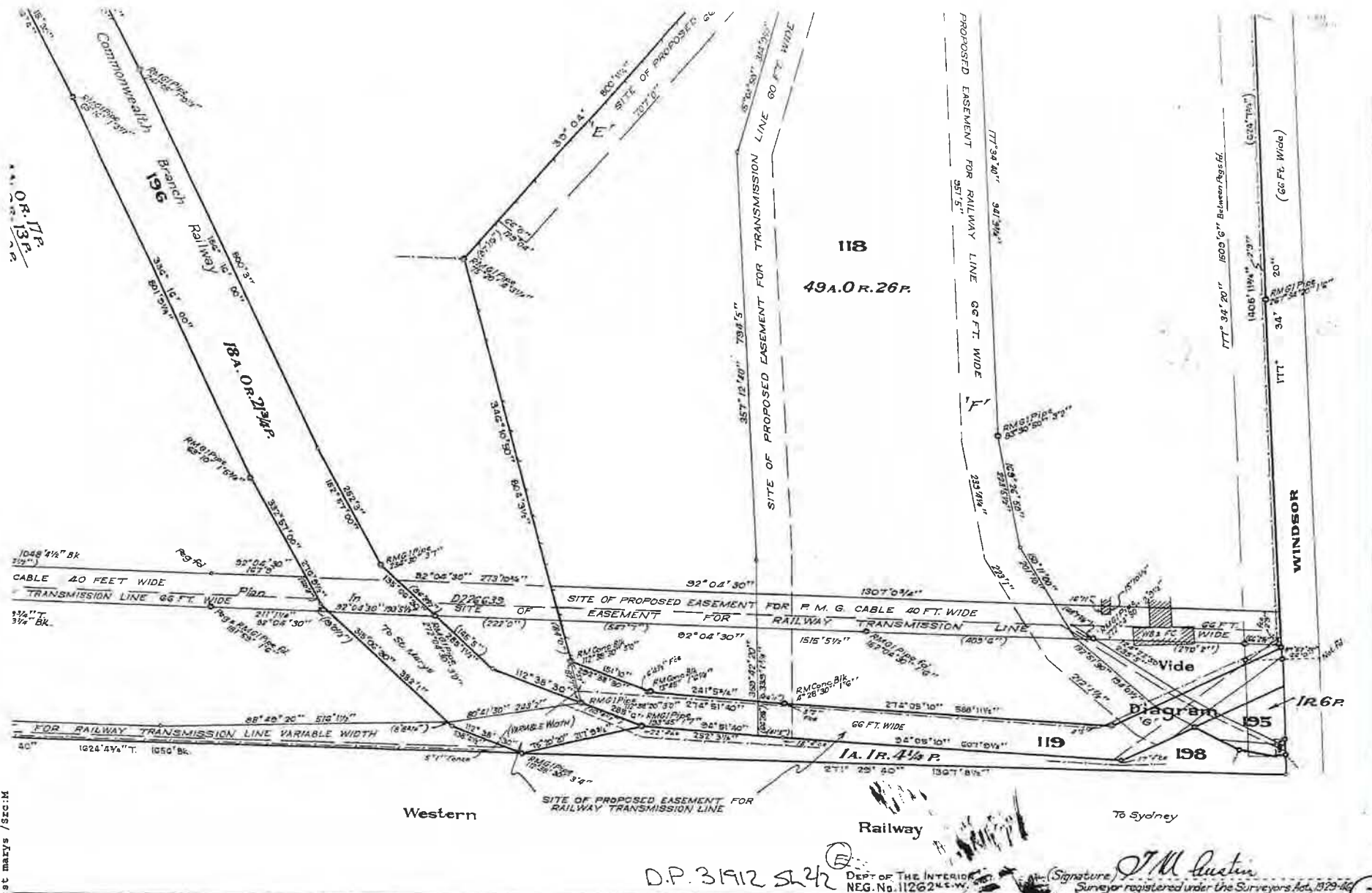
DP.31912 sheet 2-2

ACQUIRED BY THE COMMONWEALTH
Gaz. No 63 of 23-12-59 p.4630



From Penrith

Great

$$\begin{array}{r} 17^{\text{P.}} \\ \text{OR } 13^{\text{P.}} \\ \hline 2^{\text{P.}} \end{array}$$


CONVERSION TABLE ADDED IN
 REGISTRAR GENERAL'S DEPARTMENT

DP 31912	SH 1/2	
FEET INCHES	METRES	
- 0 1/4	0.006	
- 0 1/2	0.013	
- 1	0.025	
- 1 1/4	0.032	
- 2	0.051	
- 4	0.102	
1 3 1/8	0.364	
1 3 1/2	0.394	
1 3 3/4	0.400	
1 4	0.406	
1 5 3/4	0.451	
1 6	0.457	
1 6 1/8	0.460	
1 6 1/4	0.464	
1 6 3/8	0.467	
1 7 3/4	0.502	
1 8 1/4	0.514	
1 8 1/2	0.521	
2	0.610	
2 6 1/2	0.778	
2 7 1/2	0.800	
2 8	0.813	
2 11	0.889	
3	0.914	
3 1/2	0.927	
3 3/4	0.965	
3 2 1/2	0.978	
3 3	0.991	
3 4	1.015	
3 4 1/2	1.029	
3 5 1/2	1.054	
3 7 1/4	1.099	
3 8	1.118	
4 1 1/2	1.251	
4 5 1/4	1.353	
5	1.324	
5 1 1/2	1.562	
6	1.829	
6 11 1/8	2.111	
6 11 7/8	2.130	
7 6 3/4	2.305	
7 7 1/4	2.318	
8 9 3/4	2.686	
10	3.048	
12 1	3.683	
13	3.962	
15	4.572	
15 2 7/8	4.645	
17	5.182	
17 10 3/8	5.445	
18 2	5.537	
19 1 3/4	5.836	
20	6.096	
21 4	6.502	
23 11 1/4	7.296	
25 7	7.798	
25 10 1/2	7.887	
26	7.925	
28 1	8.560	
28 3 1/8	8.614	
28 3 1/2	8.623	
28 8	8.738	
29 6 1/2	8.955	
30	9.144	
33	10.058	
34	10.363	
34 5 3/4	10.509	
35	10.668	
35 1 3/4	10.712	
35 6 1/2	10.833	
37 3 3/4	11.373	
37 7 1/4	11.462	
38 4 7/8	11.766	
38 8 1/2	11.788	
39 4 1/2	12.002	
40	12.192	
42 4 3/4	12.422	

CONVERSION TABLE ADDED IN
 REGISTRAR GENERAL'S DEPARTMENT

DP 31912	SH 1/2	CONTO
FEET INCHES	METRES	
42 5	12.929	
42 6 1/4	12.960	
42 6 1/2	12.967	
43 5	13.259	
45	14.021	
46 6	14.224	
47	14.326	
48	14.630	
50	15.240	
50 4 3/4	15.361	
50 7 1/4	15.424	
52	15.650	
53 2	16.205	
53 5 1/4	16.313	
54	16.459	
56	17.069	
59 11 3/4	18.282	
60	18.288	
62 6 3/4	18.558	
61	18.593	
61 0 3/4	18.612	
61 1 3/4	18.637	
61 3 3/4	18.688	
62 3 3/4	19.120	
64	19.507	
64 11 1/2	19.799	
66	20.117	
66 3 3/4	20.212	
66 5 3/4	20.364	
67	20.422	
68	20.726	
68 1 1/2	20.765	
70	21.590	
71	21.641	
71 7 1/2	21.831	
73 3 3/4	22.346	
73 5 3/4	22.422	
74	22.525	
77	23.470	
78 6	23.978	
79	24.079	
80	24.384	
81	24.689	
81 1 3/4	24.733	
82 7 1/4	25.178	
85	25.308	
86	26.213	
89 3 3/4	27.273	
90 6 1/4	27.591	
91 1 3/8	27.781	
91 4 1/2	27.851	
94 5	28.778	
96	29.870	
98 11 3/4	30.169	
100	30.480	
100 7 1/8	30.661	
101 5 1/4	30.944	
101 6 1/2	30.950	
102 3 1/2	31.179	
102 3 3/4	31.185	
104 11 1/2	31.931	
105 4 1/4	32.112	
106 1 3/4	32.353	
111 1 1/4	33.865	
112 4 3/4	34.258	
115	35.052	
117 1 1/4	35.693	
120	36.576	
123 4 3/4	37.611	
127 5 3/4	38.856	
128 3 1/2	39.678	
132	40.224	
132 0 1/4	40.240	
132 2 1/4	40.291	
133 3 1/2	40.932	
135	41.140	
135 1 1/4	41.180	

CONVERSION TABLE ADDED IN
 REGISTRAR GENERAL'S DEPARTMENT

DP 31912	SH 1/2	CONTO
FEET INCHES	METRES	
135 9	41.377	
138 10 3/4	42.355	
140 4 1/2	42.786	
140 10	42.926	
146 4 3/4	44.521	
148 0 1/2	45.123	
150	45.720	
150 1 1/2	45.758	
150 5 1/2	45.860	
151 4	46.126	
152 5 3/4	46.475	
152 6	46.482	
154 7 1/4	47.123	
154 7 1/2	47.120	
155 2 1/2	47.308	
160	48.768	
162 11 1/4	49.663	
163 7 1/2	49.473	
164 6 1/2	50.192	
164 7	50.165	
178 9 1/2	54.496	
180 7 3/4	55.061	
185 3 1/2	56.477	
193 9 3/4	59.025	
200 0 3/4	60.979	
200 1 1/2	60.998	
209 7	63.881	
209 11	63.988	
210	64.110	
214 6 1/2	65.392	
220 0 1/4	67.062	
220 1	67.081	
221 5	67.313	
221 11 1/2	67.693	
222 1 3/4	67.710	
223 9 3/4	68.218	
224 10 3/4	68.548	
230	70.108	
234 0 3/4	71.342	
235 6	71.780	
240 1 1/4	73.184	
240 3 3/4	73.298	
246 3 1/2	75.070	
257	78.334	
258 4	78.740	
258 9 3/4	78.886	
260 2 3/4	79.518	
266 1 3/4	81.121	
266 4 7/8	81.201	
269 7	82.169	
270 7 3/4	82.493	
276 5 3/4	84.271	
278 7 1/4	84.919	
278 8	84.958	
279 8 1/2	85.255	
280 11 1/4	85.630	
286 6 3/4	87.344	
289 1 1/4	88.119	
289 3	88.163	
289 5 3/4	88.233	
295 5	90.043	
295 8 3/4	90.150	
296 0 1/2	90.254	
299 3 1/4	91.218	
300 4	91.542	
303 11	92.654	
309 2	94.254	
310 1 1/4	94.520	
321 9 1/2	98.082	
323 3 1/2	98.559	
326 2 3/4	99.485	
326 4 3/4	99.485	
327 7 1/4	99.824	
330	100.554	
334 3 1/2	101.892	
337 0 1/2	102.897	
340 10 3/4	105.905	

CONVERSION TABLE ADDED IN
 REGISTRAR GENERAL'S DEPARTMENT

DP 31912	SH 1/2	CONTO
FEET INCHES	METRES	
345 5 1/2	105.245	
346 11 3/4	105.759	
353 6 1/4	107.753	
355 7 3/4	108.401	
355 7 3/4	108.706	
363 10 3/4	110.915	
370 10	113.030	
374 9 1/4	114.280	
381 3 3/4	116.351	
383 5 3/4	116.884	
386 11 3/4	117.951	
388 1	118.288	
388 2 3/4	118.332	
412 11 1/4	125.863	
415 4	125.984	
414 1 3/4	126.232	
416 8 1/2	127.013	
421 6 1/4	128.480	
437 1 1/2	133.236	
437 8 1/2	133.414	
444 0 1/2	135.344	
458 9 1/2	139.758	
458 7 3/4	139.795	
461 9 1/4	140.748	
463 9 3/4	141.370	
468 10 1/4	142.907	
488 9 1/2	148.984	
496 4	151.282	
501 4	152.808	
520 3 1/2	158.585	
542 4 3/4	165.322	
553 10 3/4	168.827	
556	169.469	
561 0 3/4	171.012	
561 4 1/2	171.107	
583 5	178.435	
597 9 3/4	182.213	
630 10 3/4	192.297	
631 1 1/4	192.561	
631 1 3/4	192.573	
643 1 3/4	196.031	
678 11	206.734	
692 10	211.176	
693 5	211.430	
724 8 3/4	220.897	
728 5 1/4	222.028	
728 5 1/2	222.034	
736 4	228.434	
759 8 1/2	231.559	
774 5	236.058	
800 4	243.942	
843 8 3/4	257.169	
911 7 3/4	277.870	
1093 8 3/4	333.369	
1152 3 3/4	351.225	
1201	366.062	
2240 10 3/4	683.026	
2522 3 3/4	768.801	
2527 2 1/2	770.293	

AC RD P	SH
- 9 1/2	290.3
1 3 7 1/4	7265

AC RD P	HA
2 2 16 3/4	1.084
2 2 22 3/4	1.069
3 1 21	1.368
3 2 15 1/4	1.455
3 2 22	1.472
3 2 28 3/4	1.489
3 2 29	1.49
4 1 2 1/2	1.726
5 2 13	2.259
7 2 39 3/4	3.136

CONVERSION TABLE ADDED IN
 REGISTRAR GENERAL'S DEPARTMENT

DP 31912	SH 1/2	CONTO
AC RD P	HA	
8 - 34 3/4	3.325	
9 3 6 3/4	3.963	
10 2 11	4.277	
11 1 33	4.636	
18 - 21 3/4	7.329	
54 - 17	21.9	
59 2 30	24.15	

CONVERSION TABLE ADDED IN
REGISTRAR GENERAL'S DEPARTMENT

OP 31912	SH 2/2	
FEET INCHES	METRES	
- 4 1/2	0.114	
- 6	0.152	
- 6 3/4	0.171	
- 9	0.229	
- 11	0.279	
1 -	0.305	
1 0 1/2	0.319	
1 2	0.356	
1 3 1/2	0.394	
1 5 3/4	0.451	
1 6	0.457	
1 6 1/4	0.464	
1 6 3/8	0.467	
1 6 3/4	0.475	
1 7	0.483	
1 7 3/4	0.502	
1 8	0.508	
1 9 1/4	0.540	
1 9 3/8	0.543	
1 10	0.559	
1 10 1/4	0.565	
1 11 3/4	0.603	
2 -	0.610	
2 8	0.813	
2 9	0.838	
2 9 1/4	0.845	
3 -	0.914	
3 0 1/2	0.927	
3 1	0.940	
3 1 1/2	0.955	
3 2	0.965	
3 2 1/4	0.972	
3 4	1.016	
3 7	1.092	
3 7 1/4	1.099	
3 11 3/4	1.213	
4 -	1.219	
4 3 1/4	1.302	
4 3 3/4	1.314	
4 5	1.321	
4 6	1.346	
5 -	1.524	
5 1	1.549	
5 2	1.575	
5 3 1/2	1.664	
6 -	1.829	
6 0 1/2	1.842	
6 4 1/2	1.943	
8 8 3/4	2.438	
9 2 3/4	2.661	
9 6	2.896	
9 7 3/8	2.931	
9 11 7/8	3.045	
10 -	3.048	
10 8	3.251	
11 3 1/2	3.442	
12 -	3.658	
13 8	3.962	
15 -	4.572	
16 8 1/4	5.086	
16 11	5.156	
17 5	5.182	
17 4	5.283	
17 5 1/4	5.515	
18 -	5.486	
18 1 1/2	5.525	
19 10 1/2	5.604	
20 -	6.096	
22 -	6.706	
23 -	7.010	
23 4 1/2	7.125	
23 4 3/4	7.131	
24 -	7.315	
25 -	7.620	
29 -	8.534	
20 4 1/2	8.649	

CONVERSION TABLE ADDED IN
REGISTRAR GENERAL'S DEPARTMENT

OP 31912	SH 2/2	CONTD
FEET INCHES	METRES	
28 7 3/4	8.751	
29 -	8.859	
29 0 1/2	9.025	
30 -	9.144	
32 -	9.754	
32 2	9.804	
33 -	10.058	
34 -	10.363	
35 -	10.668	
38 -	11.882	
40 -	12.192	
40 1	12.217	
40 1 1/2	12.250	
40 11	12.471	
41 -	12.497	
41 4	12.598	
41 5	12.624	
41 9 3/4	12.744	
42 -	12.802	
43 -	13.106	
43 1 3/4	13.131	
43 4	13.208	
43 8 1/2	13.322	
44 -	13.411	
45 -	13.716	
46 -	14.021	
46 11	14.300	
48 -	14.630	
48 6	14.783	
48 7 3/4	14.827	
49 -	15.245	
49 5 1/4	15.069	
49 7 1/2	15.126	
50 -	15.240	
50 6	15.342	
50 6 3/4	15.411	
51 -	15.545	
51 4 3/4	15.663	
51 10	15.799	
52 7 1/2	16.040	
53 -	16.134	
53 6 1/4	16.313	
54 -	16.489	
56 -	17.089	
56 4 1/2	17.193	
57 -	17.374	
58 6 1/2	17.844	
59 11 3/4	18.282	
60 -	18.286	
60 8	18.491	
60 9 1/4	18.523	
62 -	18.898	
62 8 3/4	19.120	
64 -	19.507	
66 -	20.117	
66 0 1/2	20.130	
66 2 1/2	20.180	
66 3 1/4	20.199	
66 4 1/2	20.231	
67 8 3/4	20.544	
67 9 1/2	20.663	
69 6 1/4	21.190	
70 7	21.356	
70 3 1/2	21.425	
70 10 1/2	21.603	
72 -	21.946	
74 -	22.555	
77 -	23.470	
78 -	23.774	
79 7	24.257	
80 -	24.584	
82 1	25.019	
84 -	25.603	
86 -	26.213	
87 -	26.518	
87 2 1/2	26.581	
90 0 1/2	27.448	

CONVERSION TABLE ADDED IN
REGISTRAR GENERAL'S DEPARTMENT

OP 31912	SH 2/2	CONTD
FEET INCHES	METRES	
90 4	27.534	
91 5 3/4	27.883	
96 5 1/2	29.477	
97 1 1/4	29.597	
97 3 1/2	29.705	
98 -	29.870	
99 2 1/4	30.232	
100 -	30.480	
101 3 1/4	30.867	
101 9	31.013	
102 0 1/4	31.096	
102 5 3/4	31.185	
103 -	31.394	
103 8 3/4	31.617	
104 -	31.699	
107 3 1/4	32.696	
110 -	33.528	
110 0 1/4	33.534	
110 10 1/4	33.788	
113 1 1/2	34.557	
115 11 1/2	35.344	
119 -	36.297	
121 0 3/4	36.900	
130 -	39.624	
131 11 1/4	40.213	
132 0 1/4	40.240	
134 -	40.843	
135 9	41.377	
137 5	41.885	
138 4 1/2	42.177	
145 5	44.323	
150 -	45.720	
150 5 1/2	45.860	
151 10	46.279	
167 9	51.130	
170 1 1/2	52.007	
170 8 3/4	54.477	
182 11 1/2	55.766	
184 5 3/4	56.229	
184 11 1/4	56.369	
193 5 1/2	58.966	
194 0 1/2	59.144	
200 9	61.189	
203 -	61.874	
204 1 1/2	62.217	
211 1 1/4	64.345	
211 3 1/2	64.402	
212 1	64.643	
212 1 1/2	64.656	
212 1 1/4	64.853	
213 4 1/4	65.030	
217 9 3/4	66.389	
218 0 3/4	66.465	
220 10 1/4	67.316	
221 5	67.513	
222 -	67.666	
223 1	67.996	
223 5 1/2	68.110	
225 -	68.885	
230 -	70.104	
235 5	71.793	
236 -	71.933	
238 8	72.746	
239 4 1/4	72.955	
240 3 3/4	73.374	
241 5 3/4	73.603	
243 2	74.117	
246 5 1/2	75.070	
252 3	76.856	
252 3 1/4	76.892	
255 9 1/4	77.959	
256 4	78.130	
258 7 1/2	78.829	
259 10 1/4	79.204	
261 7 3/4	79.750	
263 5 1/4	81.845	
269 8 1/4	82.701	

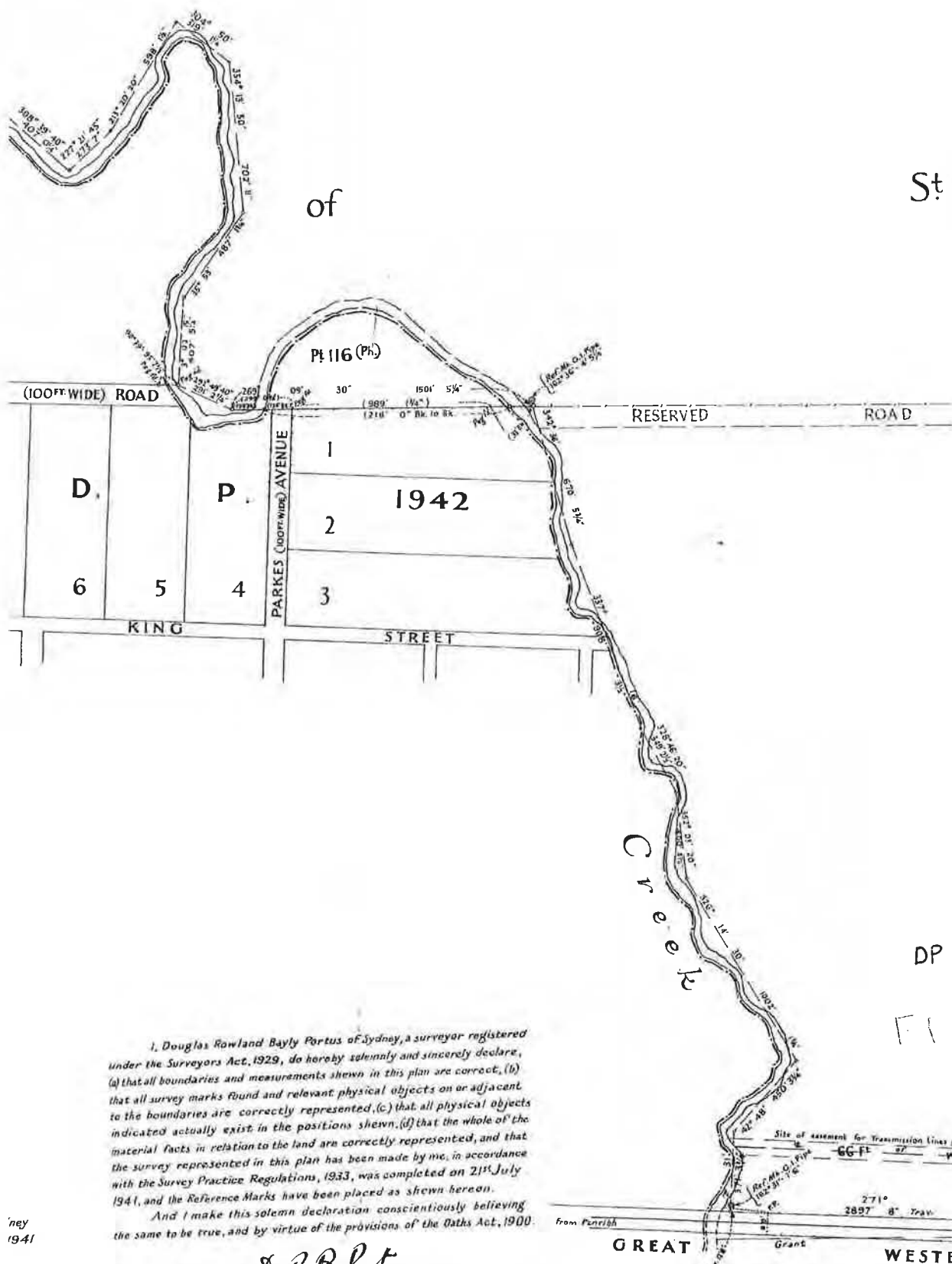
CONVERSION TABLE ADDED IN
REGISTRAR GENERAL'S DEPARTMENT

OP 31912	SH 2/2	CONTD
FEET INCHES	METRES	
270 2	82.347	
273 10 3/4	83.483	
275 9 1/2	84.366	
277 3	84.506	
278 3 1/4	84.817	
279 8 1/2	85.255	
279 9 1/2	85.281	
280 10 3/4	85.617	
281 0 3/4	85.668	
281 8	85.852	
285 1 1/2	86.906	
285 3 1/2	86.997	
285 3 3/4	86.963	
285 5 1/2	87.008	
285 6	87.020	
289 3	88.163	
289 5 3/4	88.253	
299 11 1/2	91.427	
300 4	91.542	
301 4 3/4	91.865	
310 3 1/4	92.571	
314 9 1/2	95.949	
315 11	96.291	
326 4	99.466	
326 4 3/4	99.485	
329 2 1/4	100.336	
332 1	101.219	
337 4 3/4	102.838	
337 5 1/2	102.857	
339 1 3/4	103.372	
341 7 1/4	104.121	
360 8	109.931	
363 10 3/4	110.915	
373 4 1/2	113.805	
405 4	123.647	
409 6	124.816	
413 -	125.882	
416 8 1/2	127.013	
515 1 1/2	157.315	
547 7	166.903	
550 6	167.792	
551 -	167.945	
553 -	168.554	
561 0 3/4	171.012	
588 11 1/4	179.508	
588 11 1/2	179.515	
607 9 1/4	185.249	
607 9 1/2	185.255	
607 11 5/8	185.309	
624 7 3/4	190.392	
670 11	208.495	
707 -	215.494	
736 4	224.434	
749 6 3/4	228.467	
794 5	242.138	
800 1 1/4	243.872	
800 3	243.916	
801 9 1/4	244.380	
804 3 1/2	245.148	
816 3 3/4	248.812	
845 8 1/2	257.162	
845 3 1/4	257.639	
845 4 1/2	257.670	
911 7 3/4	277.870	
935 3 3/4	285.083	
941 9 3/4	287.064	
943 6 3/4	287.598	
979 3 1/4	290.482	
1048 4 1/2	319.545	
1207 3 3/4	367.989	
1218 9	371.475	
1307 0 3/4	398.393	
1367 0 1/2	416.878	
1468 11 3/4	429.457	
1509 6	460.096	
1515 5 1/2	461.012	
1524 4 3/4	495.116	

CONVERSION TABLE ADDED IN
REGISTRAR GENERAL'S DEPARTMENT

OP 31912	SH 2/2	CONTD
FEET INCHES	METRES	
1556 -	504.749	
2121 1	646.506	
2522 3 1/4	768.788	
2527 2 1/2	770.293	
3301 4 3/4	1006.255	
AC RD P	SD 4	
- 1 6	1163	
1 1 4 1/4	5166	
1 2 27	6753	
1 2 36	6981	
1 3 2	7133	
AC RD P	HA	
5 2 13	2.259	
18 - 21 3/4	7.239	
36 2 2	14.78	
49 - 26	19.9	
54 - 17	21.9	
59 2 30	24.15	

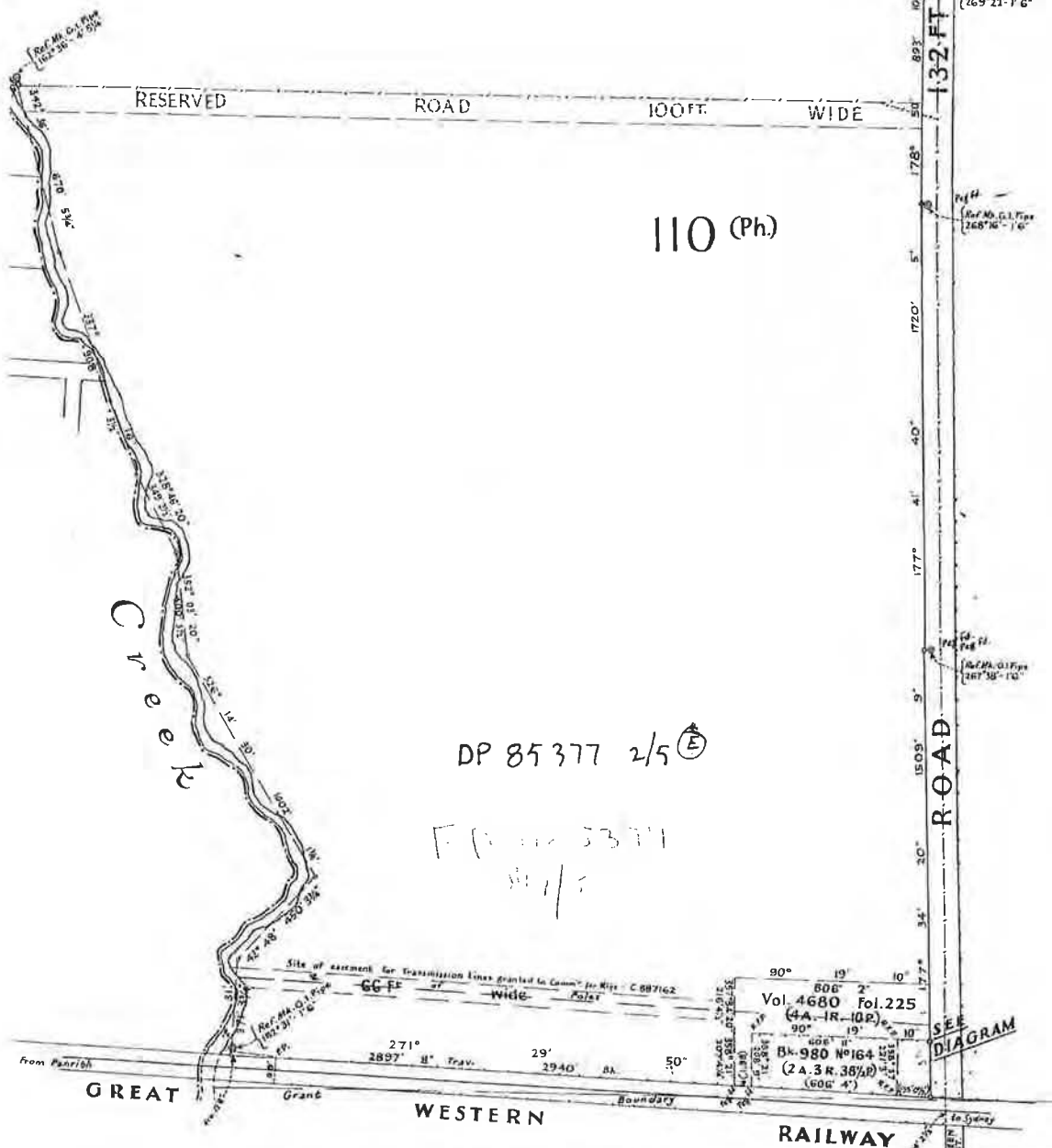
(OFFSET AREA + 11A. 1R. 34P.)



OFFSET AREA + 11A.1R.34P.)

DP 85377 4/5 (E)

St Marys



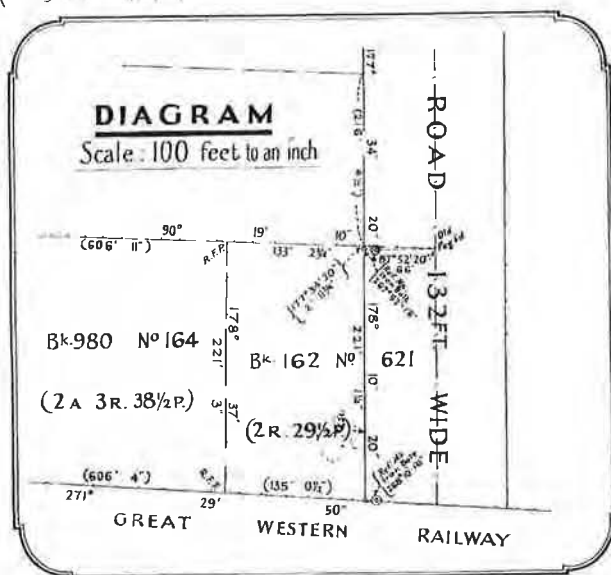
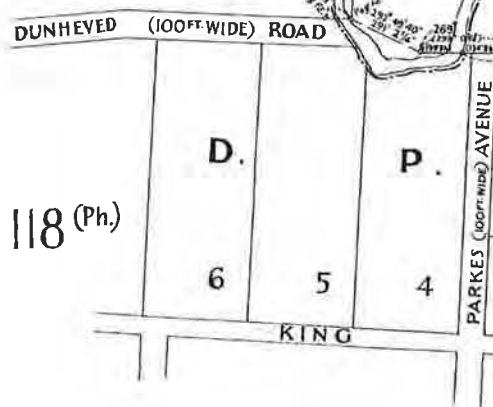
DP 85377 2/5 (E)

DP 85377

11/1

of
 DP 85377 2/5^(E)
 Municipality

Parish



I, Douglas Rowland Bayly
 under the Surveyors Act, 1929, do
 (a) that all boundaries and measure
 that all survey marks found and rel
 to the boundaries are correctly i
 indicated actually exist in the p
 material facts in relation to the la
 the survey represented in this p
 with the Survey Practice Regulatio
 1941, and the Reference Marks hav
 And I make this solemn
 the same to be true, and by virtue

Subscribed and declared before me at Sydney
 this...eighth...day of October 1941

FP85377 sh 2/5^(E) 7030(L)
 PA35377 Plan 2 D185534

L. Doyle J.P.
 Justice of the Peace

This plan has not been machine scaled

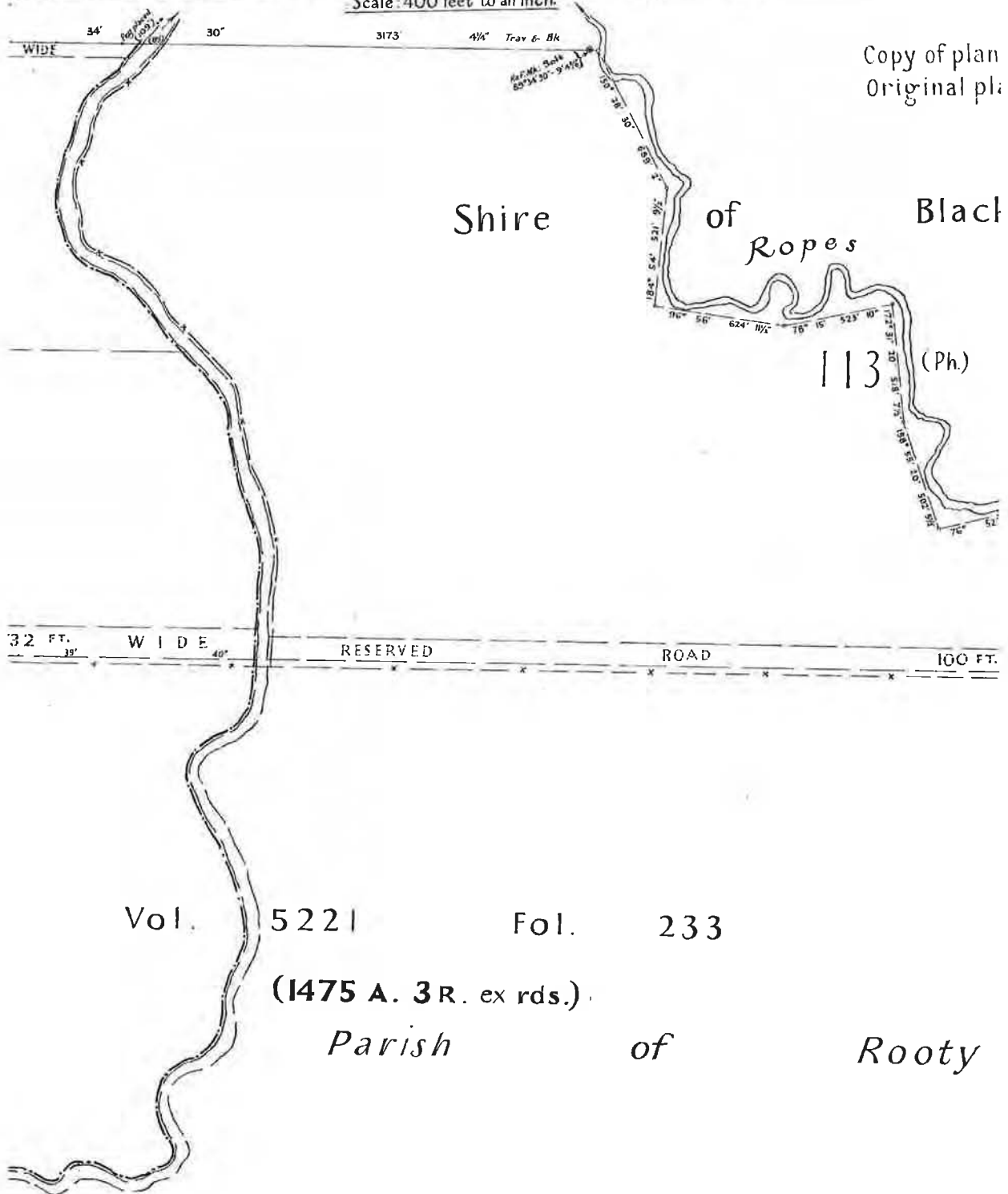
10264 R.

PLAN

DP 85377 sh 215 ⑥²

Shewing part of land acquired by notification in Commonwealth Gazette of 21st Aug. 41, No 167
Shires of Londonderry & Rooty Hill *County of Cumberland.*

Scale: 400 feet to an inch.



1521 A. 1 R.

(OFFSET AREA + 11 A. 1 R. 34 P.)

monwealth Gazette of 21st Aug. 41, No 167
 County of Cumberland.
 in inch.

PP 85377 Sh 2/5

6

Copy of plan filed in Plan Room as 7030(L)
 Original plan filed in Vaults under D185534.

re of Ropes Blacktown

113 (Ph)

Creek

ROAD 100 FT. WIDE

6

ol. 233

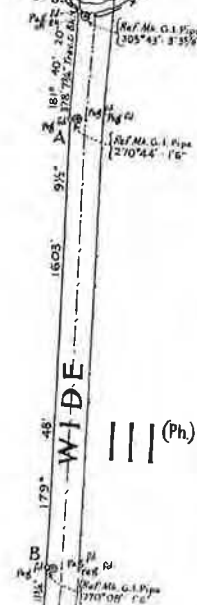
112 (Ph)

ls.)

of Rooty Hill

1521 A. I R.

OFFSET AREA + 11A. IR. 34P.)



CONVERSION TABLE ADDED IN
REGISTRAR GENERAL'S DEPARTMENT

DP 85377	SH	1/5	
FEET INCHES		METRES	
-	2 1/2	0.064	
-	6	0.152	
-	9	0.229	
1	5	0.432	
1	5	0.437	
2	-	0.610	
2	2 7/8	0.683	
2	6 3/4	0.781	
2	9 1/4	0.845	
2	11 1/2	0.902	
3	0 3/8	0.924	
3	0 1/2	0.927	
3	3 1/2	1.003	
3	3 5/8	1.006	
3	5 7/8	1.064	
3	9 1/4	1.149	
3	9 7/8	1.163	
4	5 3/4	1.365	
4	7 3/8	1.511	
5	9	1.753	
6	1 3/8	1.921	
6	9	2.057	
6	9 1/2	2.070	
7	9 5/8	2.378	
8	7 7/8	2.565	
10	8	3.251	
12	-	3.658	
14	5 1/2	4.407	
16	6 1/2	4.812	
14	6 3/4	4.439	
16	0 7/8	4.899	
16	1 7/8	4.924	
20	-	7.620	
30	-	9.144	
33	-	10.058	
35	-	10.668	
36	10	11.227	
38	-	11.582	
40	0 1/8	12.195	
41	-	12.497	
43	-	13.106	
44	10	13.665	
47	-	14.325	
47	7	14.583	
48	-	14.630	
49	-	14.935	
50	-	15.240	
50	0 3/4	15.259	
51	7 1/4	15.729	
53	-	16.154	
57	4 1/4	17.482	
64	5	19.689	
66	-	20.117	
66	2	20.164	
66	9 1/2	20.358	
66	10 1/2	20.384	
69	3 1/2	21.120	
73	1 3/4	22.295	
80	1 1/2	24.422	
82	0 1/2	25.006	
83	4 3/8	26.019	
87	7 3/4	26.714	
93	10	28.600	
119	-	36.271	
121	10 3/4	37.154	
122	0 1/4	37.192	
123	10	37.744	
126	-	38.506	
132	-	40.234	
149	10 3/4	45.688	
170	2 3/4	51.806	
186	4 1/4	56.801	
208	0 3/4	63.417	
213	11	65.202	
252	6 1/4	76.368	
258	2 5/8	78.703	

CONVERSION TABLE ADDED IN
REGISTRAR GENERAL'S DEPARTMENT

DP 85377	SH	1/5	CONTD
FEET INCHES		METRES	
259	10 1/4	79.204	
276	5 1/4	84.284	
325	-	99.060	
329	11	100.859	
332	9 1/4	101.429	
338	11 1/2	103.315	
362	10 1/4	110.598	
446	-	135.941	
503	9	153.543	
534	10 1/4	163.024	
567	0 1/2	172.854	
570	7 3/4	173.933	
587	10 3/4	179.191	
590	10	180.086	
613	2	186.893	
621	10 1/2	189.548	
654	0 3/4	199.358	
683	7 1/2	208.369	
685	11 3/4	209.086	
816	1	246.742	
818	2 1/2	249.390	
832	-	253.594	
842	0 1/4	256.648	
952	2	290.220	
975	11 1/4	296.854	
983	7 1/4	299.803	
996	7	303.759	
1024	5 1/2	312.255	
1063	6	324.155	
1070	10 1/4	326.396	
1139	1 5/4	347.212	
1153	-	351.434	
1238	5 3/4	377.514	
1255	11 3/4	382.822	
1451	2	442.316	
1466	3 3/4	446.932	
1598	1 1/2	487.109	
2521	-	768.401	
2521	2 1/2	768.464	
3304	5 1/2	1007.199	
3497	-	1065.866	
21002	-	6401.410	
71297	1 1/4	21751.357	
AC RD P SQ M			
-	-	7 3/4	196
AC RD P HA			
1399	1	-	566.3

CONVERSION TABLE ADDED IN
REGISTRAR GENERAL'S DEPARTMENT

DP 85377	SH	2/5	
FEET INCHES		METRES	
1	6	0.457	
2	11 3/4	0.908	
3	3 5/8	1.006	
4	1 1/4	1.251	
6	7 1/4	2.013	
9	4 5/8	2.861	
10	-	3.048	
12	8	3.861	
16	-	4.877	
19	10	6.045	
20	-	6.096	
22	1 1/4	6.737	
28	-	8.539	
29	-	8.839	
33	-	10.058	
38	-	11.582	
40	-	12.192	
41	-	12.497	
48	-	14.630	
52	-	15.850	
79	10	24.335	
100	-	30.480	
104	2 1/2	31.763	
109	-	35.223	
132	-	40.234	
135	2 5/4	40.843	
139	0 1/2	41.161	
150	-	48.720	
207	4 1/4	63.202	
208	0 3/4	63.417	
216	4 1/2	65.951	
221	1 1/4	67.393	
221	3	67.437	
233	8 1/2	77.330	
263	1 1/4	80.194	
267	-	81.382	
275	5 1/2	83.350	
273	7	83.368	
291	2 1/4	88.754	
299	-	91.135	
319	1 1/4	97.263	
321	3 1/2	97.930	
349	2 1/2	106.459	
366	5 3/4	111.703	
371	3 3/4	113.176	
373	7	113.868	
375	4	114.402	
378	7 3/4	115.411	
400	3 1/2	122.009	
407	0 1/4	124.060	
407	5 1/2	124.193	
446	0 1/4	135.947	
450	3 3/4	137.295	
487	1 3/4	148.482	
502	5 1/2	163.149	
517	5 1/2	157.721	
518	7 1/2	158.077	
521	9 1/2	159.042	
521	10 3/4	159.074	
521	11 3/4	159.099	
522	11 3/4	159.404	
523	10	159.664	
541	8	165.100	
598	1 1/4	182.302	
598	1 1/2	182.309	
606	4	184.810	
606	11	184.988	
624	11 1/2	190.487	
633	3 1/4	193.021	
670	5 3/4	204.362	
685	11 3/4	209.086	
689	2	210.058	
702	11	214.249	
806	2	245.720	

CONVERSION TABLE ADDED IN
REGISTRAR GENERAL'S DEPARTMENT

DP 85377	SH	2/5	CONTD
FEET INCHES		METRES	
842	0 1/4	256.648	
893	10 3/4	272.459	
908	3 1/2	276.847	
952	2	290.220	
973	2	296.621	
989	1 3/4	301.492	
1002	1 3/4	305.454	
1180	7 1/4	359.848	
1186	0 1/4	361.499	
1218	-	371.246	
1509	9	460.172	
1603	9 1/2	488.836	
1720	5	524.383	
2515	10 1/2	766.839	
2897	8	889.209	
2940	-	896.112	
21638	3 1/2	6590.351	
32298	1 3/4	15940.475	
AC RD P SQ M			
-	2 29 1/2	2770	
AC RD P HA			
2	3 38 1/2	1.21	
4	1 10	1.745	
11	1 34	6.439	
1875	3	597.2	
1521	1	615.6	

CONVERSION TABLE ADDED IN
REGISTRAR GENERAL'S DEPARTMENT

DP 85377	SH	3/5	
LINKS		METRES	
22	-	4.426	
38	-	11.064	
100	-	20.117	
1	6	0.457	
1	6 1/8	0.460	
3	3 5/8	1.006	
222	-	40.234	
442	-	86.916	
943	-	189.701	
3057	-	614.971	
3189	-	641.525	
3207	-	645.146	
7551	-	1519.020	
7706	-	1550.201	
9113	-	1833.244	
9453	-	1901.641	
11025	-	2217.877	
AC RD P HA			
162	2	-	65.76
166	2	-	67.39
171	2	-	69.4
500	2	-	202.5
503	3	-	203.9

CONVERSION TABLE ADDED IN
REGISTRAR GENERAL'S DEPARTMENT

DP 85377	SH	4/5	
FEET INCHES		METRES	
-	1 5/4	0.044	
-	10	0.254	
1	6	0.457	
1	6 1/8	0.460	
3	3 5/8	1.006	
20	-	6.096	
29	-	8.839	
40	-	12.192	
43	-	13.106	
46	10	14.275	
46	10 3/8	14.284	
48	-	14.630	
54	-	16.489	
66	-	20.117	
90	9	27.661	
93	3	29.032	
132	-	40.234	
147	6 1/4	44.964	
287	2	87.528	
287	6	87.630	
378	7 3/4	115.411	
379	11 1/4	115.805	
445	6 1/2	135.801	
445	6 3/4	135.807	
447	11 1/4	136.531	
462	9	141.046	
512	1 1/4	156.089	
522	11 5/4	159.404	
523	1 1/4	159.442	
673	11	205.410	
1602	5	488.417	
1503	9 1/2	488.836	
2667	0 1/2	812.914	
2681	-	817.169	
2681	1 3/4	817.213	
3909	7 1/2	1191.854	
AC RD P HA			
19	2 28 1/2	7.963	

CONVERSION TABLE ADDED IN
REGISTRAR GENERAL'S DEPARTMENT

DP 85377	SH	5/5	
FEET INCHES		METRES	
1	6	0.457	
2	11 3/4	0.908	
10	-	3.048	
16	-	4.877	
18	-	5.486	
18	1 1/2	5.525	
19	10	6.045	
20	-	6.096	
22	-	6.706	
22	-	8.839	
32	-	9.754	
32	0 1/4	9.760	
40	1	12.217	
41	-	12.497	
50	-	15.240	
52	-	15.850	
54	-	16.459	
66	-	20.117	
66	1 1/4	20.149	
73	9 1/8	22.482	
132	-	40.234	
133	2 3/4	40.608	
159	2	46.685	
172	0 1/4	52.432	
221	1 1/4	67.393	
267	-	81.382	
445	6 3/4	135.807	

EXPENDITURE UNDER TREASURY REGULATION 67 MADE UNDER SECTION 71 OF THE AUDIT ACT 1901-1904.

PRIME MINISTER'S DEPARTMENT.

4433 10s. 6d.—James Hardy and Company Proprietary Limited, Sydney.—Fibrolite, pipes and fittings.

DEPARTMENT OF THE INTERIOR.

23,115 12s.—International Harvester Co. of Australia Pty. Ltd., Camperdown, Sydney, N.S.W.—Purchase of five International standard coupe utilities with spare parts.

2376.—Pumps & Power Co. Ltd., 40s Cordova-street, Vancouver, B.C., Canada.—Purchase of two "Paramount Cub" multi-stage self-pumping centrifugal pumps.

DEPARTMENT OF HEALTH.

2339.—Melford Motors, Melbourne.—One Ford Model V.8 deluxe coupe motor car for Commonwealth Serum Laboratories.

2348.—Melford Motors, Melbourne.—One Ford model V.8 deluxe sedan motor car for Commonwealth Serum Laboratories.—(Ex. Min. No. 46.)

POSTMASTER-GENERAL'S DEPARTMENT.

2342 5s., plus exchange.—Telephones and Cables Pty. Ltd., Sydney, N.S.W.—Purchase of telegraph distortion testers and spares for use by the Postmaster-General's Department in New South Wales.—(Ex. Min. No. 60.)

ROBERT G. MENZIES, Prime Minister.

COMMONWEALTH OF AUSTRALIA.

The Lands Acquisition Act 1906-1936.

NOTIFICATION OF THE ACQUISITION OF LAND BY THE COMMONWEALTH.

IT is hereby notified and declared by His Excellency the Governor-General acting with the advice of the Federal Executive Council, that the land hereunder described has been acquired by the Commonwealth under the Lands Acquisition Act 1906-1936, for the following public purpose, namely: Defence purposes at St. Mary's, New South Wales.—(C.L.7519.)

Dated this sixth day of August, One thousand nine hundred and forty-one.

GOWRIE

Governor-General.

By His Excellency's Command,

T. J. COLLINS

for Minister of State for the Interior.

DESCRIPTION OF LAND REFERRED TO.

All that piece of land containing an area of 2,921 acres more or less being Portions 105, 106, 107, 108, 110, 111, 112 and 121 parts of Portions 104 and 110 the 1 chain road along the eastern boundaries of Portions 108, 121, 110 and 111 and passing through Portion 112, part of the reserved road 2 chains wide along northern boundaries and an eastern boundary of Portion 104, the reserved road 1 chain wide along the northern boundary of Portion 106 and the reserved road 2 chains wide along the southern boundary of Portion 107, Parish of Londonderry, Portion 112 and parts of Portion 110 and 113 the reserved road 100 feet wide along the northern boundary of Portion 110 and part of the reserved road 100 feet wide along the southern boundary of Portion 113, Parish of Rooty Hill, and part of the bed of South Creek excluding thereout the road 1 chain wide passing through Portion 108, Parish of Londonderry, County of Cumberland, State of New South Wales, as shown hachured on plan hereunder: Commencing on a south-eastern side of Bringelly-road at the south-western corner of Portion 112, Parish of Londonderry, and bounded thence by south-eastern and north-eastern sides of that road bearing—

10 degrees 41 minutes 0 seconds	368 feet 10½ inches
10 " 3 " 0 "	870 " 7½ "
10 " 23 " 30 "	858 " 0 "
9 " 49 " 30 "	883 " 7½ "
9 " 22 " 30 "	849 " 4 "

8 degrees 15 minutes 30 seconds	269 feet 10½ inches
4 " 54 " 30 "	372 " 6 "
10 " 37 " 30 "	740 " 8½ "
36 " 54 " 15 "	734 " 9 "
31 " 59 " 50 "	338 " 11½ "
18 " 58 " 40 "	332 " 8½ "
6 " 58 " 30 "	120 " 10½ "
2 " 43 " 40 "	232 " 1½ "
355 " 40 " 30 "	191 " 2½ "
354 " 30 " 0 "	274 " 2½ "
322 " 9 " 0 "	318 " 6½ "
286 " 46 " 20 "	456 " 2½ "
296 " 51 " 10 "	446 " 1½ "
and 305 " 54 " 20 "	58 " 10 "

thence by a northern boundary of Portion 108, Parish of Londonderry a line other northern boundaries of that Portion and a line bearing in all 89 degrees 10 minutes 30 seconds 879 feet 1 inch 87 degrees 40 minutes 10 seconds 252 feet 6½ inches and 89 degrees 11 minutes 30 seconds 1,269 feet 4 inches, thence by part of the western boundary a northern boundary and part of an eastern boundary of Portion 105, Parish of Londonderry, bearing 357 degrees 28 minutes 30 seconds 613 feet 2 inches 88 degrees 43 minutes 35 seconds 3,832 feet 3½ inches and 178 degrees 43 minutes 35 seconds 66 feet, thence by the centre line of the reserved road 2 chains wide along a northern boundary an eastern boundary and part of another northern boundary of Portion 104, Parish of Londonderry, bearing 88 degrees 43 minutes 35 seconds 3,497 feet 179 degrees 36 minutes 5 seconds 276 feet 6½ inches and 89 degrees 49 minutes 25 seconds 51 feet 7½ inches, thence by lines bearing—

185 degrees 30 minutes 50 seconds	1,063 feet 6 inches
185 " 40 " 0 "	1,135 " 6 "
200 " 29 " 50 "	126 " 4 "
199 " 39 " 20 "	87 " 7½ "
170 " 40 " 40 "	57 " 4½ "
123 " 44 " 10 "	47 " 7 "
131 " 12 " 0 "	80 " 1½ "
187 " 53 " 20 "	82 " 0½ "
and 193 " 31 " 20 "	1,024 " 5½ "

thence by part of the southern boundary of Portion 104, Parish of Londonderry aforesaid and a line bearing in all 89 degrees 17 minutes 30 seconds 1,864 feet 6½ inches and 89 degrees 34 minutes 34 seconds 3,173 feet 4½ inches to the left bank of Ropes Creek, thence by that bank of that Creek upwards to a western side of the road 2 chains wide along the eastern boundaries of Portions 112 and 110, Parish of Rooty Hill, thence by western sides of that road bearing—

181 degrees 40 minutes 20 seconds	378 feet 7½ inches
179 " 48 " 0 "	1,603 " 9½ "
180 " 29 " 0 "	522 " 1½ "
179 " 54 " 0 "	1,166 " 0½ "
178 " 50 " 0 "	893 " 10½ "
177 " 41 " 40 "	1,720 " 5 "
177 " 34 " 20 "	1,609 " 9 "
and 178 " 10 " 30 "	221 " 1½ "

thence by part of a northern boundary of the Great Western railway bearing 271 degrees 29 minutes 50 seconds 2,940 feet to the right bank of South Creek, thence by that bank of that Creek downwards to a point on the eastern prolongation of the northern boundary of Lot 1, Deposited Plan 1942, thence by that prolongation westerly to the north-eastern corner of Lot 1, Deposited Plan 1942 aforesaid, thence by the northern boundary of that Lot the northern side of Parkes-avenue and part of the northern boundary of Lot 4, Deposited Plan 1942 bearing in all 269 degrees 9 minutes 30 seconds 1,218 feet to the left bank of South Creek aforesaid, thence by that bank of that Creek again downwards to a point which bears 135 degrees 33 minutes 15 seconds 2,519 feet 10½ inches from the south-eastern corner of Portion 105, Parish of Londonderry, thence by lines bearing 359 degrees 28 minutes 1,231 feet and 294 degrees 58 minutes 1,358 feet 1 inch, thence by northern boundaries and part of a western boundary of Portion 116, Parish of Londonderry bearing—

269 degrees 25 minutes 40 seconds	521 feet 10½ inches
269 " 48 " 0 "	621 " 10½ "
269 " 33 " 0 "	329 " 11 "
268 " 36 " 40 "	832 " 0 "
267 " 53 " 40 "	654 " 0½ "
and 179 " 21 " 40 "	6 " 9½ "

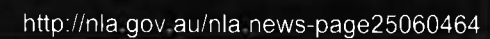
thence by the northern boundaries of Portion 113, Parish of Londonderry, bearing—

269 degrees 17 minutes 35 seconds	818 feet 2½ inches
269 " 46 " 15 "	933 " 7½ "
and 269 " 37 " 10 "	603 " 9 "

thence by the eastern and southern boundaries of Portion 112, Parish of Londonderry aforesaid bearing—

179 degrees 52 minutes 20 seconds	84 inches
273 " 13 " 30 "	2,154 " 8½ "
268 " 23 " 0 "	1,073 " 1½ "
and 269 " 13 " 0 "	1,139 " 1½ "

to the point of commencement.



NOTIFICATION OF RESUMPTION OF LAND UNDER THE PUBLIC WORKS ACT 1912, AS AMENDED

IT is hereby notified and declared by His Excellency the Governor, acting with the advice of the Executive Council, that so much of the land described in the Schedule hereto as is Crown land is hereby appropriated, and so much of the said land as is private property is hereby resumed, under the Public Works Act 1912, as amended, for the following public purpose, namely a Primary School at Tintenbar, and that the said land is vested in the Minister for Education as Constructing Authority on behalf of Her Majesty the Queen.

Dated this fifth day of November, one thousand nine hundred and eighty-six.

J. A. ROWLAND, Governor.

By His Excellency's Command,

R. M. CAVALIER, Minister for Education.

THE SCHEDULE

All that piece or parcel of land situate in the Shire of Ballina, Parish of Teven and County of Rous, being part of lot 13, Deposited Plan 582506: Commencing on the northwestern side of a road 20.115 metres wide at the westernmost southwestern corner of the said lot 13; and bounded thence on the southwest by part of the southwestern boundary of that lot bearing 335 degrees 12 minutes 40 seconds 181.93 metres; on the northwest and southwest by lines bearing respectively 65 degrees 44 minutes 30 metres and 335 degrees 12 minutes 40 seconds 30 metres to the westernmost northwestern boundary of the said lot 13, Deposited Plan 582506; on the northwest by part of that boundary bearing 65 degrees 44 minutes 161 metres; on the east by a line bearing 174 degrees 20 minutes 50 seconds 257.45 metres to an angle in the northeastern side of the said road 20.115 metres wide; and on the south and southeast by that side and the said northwestern side of that road bearing respectively 277 degrees 21 minutes 52.9 metres and 249 degrees 44 minutes 62 metres to the point of commencement, having an area of 3.294 hectares or thereabouts, and said to be in the possession of Norlyn Investments Pty Limited. Part Certificate of Title, volume 13029, folio 189. (4651)

NOTIFICATION OF APPROPRIATION AND RESUMPTION OF LAND FOR RAILWAY PURPOSES UNDER THE TRANSPORT AUTHORITIES ACT 1980 AND THE PUBLIC WORKS ACT 1912

WHEREAS the State Rail Authority of New South Wales as Constructing Authority is desirous of acquiring the land referred to in the Schedule hereto for the purpose of constructing an electric train service and maintenance centre and whereas the said land is in my opinion required for carrying out the said work: Now, therefore, I, the Governor, with the advice of the Executive Council, in pursuance of the provisions of The Transport Authorities Act 1980 and The Public Works Act 1912, do hereby direct that the said work shall be carried out by the State Rail Authority of New South Wales as the Constructing Authority, and I do declare by this notification to be published in the Government Gazette and in one or more newspapers published in the Police District wherein the said land is situated, that the land referred to in the Schedule hereto is hereby appropriated and resumed for the purpose hereinbefore referred to.

SCHEDULE

All that piece or parcel of land situate at St Marys in the City of Penrith, Parish of Rooty Hill, County of Cumberland and State of New South Wales, being the whole of the land comprised within Certificates of Title, volume 9043, folio 111; volume 9043, folio 112; volume 9043, folio 113 and volume 9043, folio 115 shown as lot 119, lot 120, lot 121 and lot 123 respectively in Deposited Plan 31912, having a total area of 20.15 hectares or thereabouts and said to be in the possession of Colmlee (Lands) Pty Limited.

Also all that piece or parcel of land situate as aforesaid, being the whole of the land comprised within Certificate of Title, volume 9043, folio 132, shown as lot 203 in Deposited Plan 31912, having an area of 24.15 hectares or thereabouts and said to be in the possession of The Council of the City of Penrith.

No. 179, 21st November, 1986—6

Also all that piece or parcel of land situate as aforesaid, being part of the land comprised within Certificate of Title, volume 9043, folio 116, shown as lot 1 in Deposited Plan 734445, having an area of 1.081 hectares or thereabouts and said to be in the possession of Jayworth Industries Limited (SRA Reference 241940).

This resumption is exclusive of the interests of the Commonwealth of Australia in the sites of the easements for P.M.G. cable 40 feet wide, 10 feet wide and 6 feet wide delineated on Deposited Plan 31912 and the site of the easement for railway line 66 feet wide delineated on that deposited plan and marked thereon with the letter "G" traversing the above described lands and created by Transfers L686302 and K780528.

Signed at Sydney, this 12th day of November, 1986.

J.A. ROWLAND, Governor.

By His Excellency's Command,

R. J. MULOCK, Minister for Transport.

GOD SAVE THE QUEEN! (4541)

MENTAL HEALTH ACT 1958**NOTIFICATION OF REVOCATION OF APPOINTMENT OF BLOOMFIELD HOSPITAL AS A MENTAL HOSPITAL**

IN pursuance of the provisions of section 10 of the Mental Health Act 1958, I, Air Marshal Sir JAMES ANTHONY ROWLAND, Governor of the State of New South Wales, with the advice of the Executive Council, do hereby revoke all appointments of Bloomfield Hospital or part thereof as a mental hospital.

Dated this fifth day of November, 1986.

J. A. ROWLAND, Governor.

By His Excellency's Command,

(4504) PETER ANDERSON, Minister for Health.

MENTAL HEALTH ACT 1958**NOTIFICATION OF REVOCATION OF APPOINTMENT OF BLOOMFIELD HOSPITAL AS A PLACE FOR THE ADMISSION AND TEMPORARY TREATMENT OF MENTALLY ILL PERSONS**

IN pursuance of the provisions of section 9 of the Mental Health Act 1958, I, Air Marshal Sir JAMES ANTHONY ROWLAND, Governor of the State of New South Wales, with the advice of the Executive Council, do hereby revoke all appointments of Bloomfield Hospital or part thereof as a place for the admission and temporary treatment of mentally ill persons.

Dated this fifth day of November, 1986.

J. A. ROWLAND, Governor.

By His Excellency's Command,

(4505) PETER ANDERSON, Minister for Health.

MENTAL HEALTH ACT 1958**NOTIFICATION APPOINTING WARDS 1, 3, 9, 11, 12, 13, 15, 16, 17, 23 AND AUDLEY CLINIC OF BLOOMFIELD HOSPITAL AS A MENTAL HOSPITAL**

IN pursuance of the provisions of section 10 of the Mental Health Act 1958, I, Air Marshal Sir JAMES ANTHONY ROWLAND, Governor of the State of New South Wales, with the advice of the Executive Council, do hereby appoint Wards 1, 3, 9, 11, 12, 13, 15, 16, 17, 23 and Audley Clinic of Bloomfield Hospital to be a mental hospital.

Dated this fifth day of November, 1986.

J. A. ROWLAND, Governor.

By His Excellency's Command,

(4506) PETER ANDERSON, Minister for Health.

NEW SOUTH WALES
(For Grant and title reference
prior to first edition see
Deposited Plan.)

CERTIFICATE OF TITLE
PROPERTY ACT, 1900, as amended.



09043130

Vol. 9043 Fol. 130
1st Edition issued 30-10-1961.



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

J. J. J.

SEE AUTO-FOLIO



ESTATE AND LAND REFERRED TO

(For location and dimensions of land see plan filed in the Land Titles Office)

Estate in Fee Simple in Lot 196 in Deposited Plan 31912 in the City of Penrith Parish of Rooty Hill and County of Cumberland.

J. J. J.
Registrar General.

FIRST SCHEDULE (continued overleaf)

THE COMMONWEALTH OF AUSTRALIA.

J. J. J.
Registrar General.

SECOND SCHEDULE (continued overleaf)

1. Easement for Transmission Line No. D384881 affecting the part of the land above described shown in Deposited Plan 31912 as "Site of Easement for Railway Transmission Line 66 feet wide"
2. Easement No. D431274 appurtenant to the land above described affecting the "Site of Proposed Easement for Drainage 33 feet Wide" shown in the plan in Acquisition No. D431274.
3. Easement for Transmission Line No. H83909 affecting the part of the land above described shown in Deposited Plan 31912 as "Site of Easement for Transmission Line 100 feet Wide."

J. J. J.
Registrar General.

FIRST SCHEDULE (continued)

REGISTERED PROPRIETOR	INSTRUMENT			ENTERED	Signature of Registrar-General
	NATURE	NUMBER	DATE		

SECOND SCHEDULE (continued)

NATURE	INSTRUMENT		PARTICULARS	ENTERED	Signature of Registrar-General	CANCELLATION	
	NUMBER	DATE					
Transfer	K 403219	27.3.1966	Easement for Railway Transmission Line (as more fully set out in the said instrument) affecting that part of the land within described shown as "Site of Proposed Easement for Railway Transmission Line Variable width in D.P. 31912."	7.12.1966.	John Kinn		

CANCELLED

SEE AUTO FOLIO



LAND
REGISTRY
SERVICES

Historical Title



NEW SOUTH WALES LAND REGISTRY SERVICES - HISTORICAL SEARCH

SEARCH DATE

28/11/2018 3:29PM

FOLIO: 196/31912

First Title(s): SEE PRIOR TITLE(S)

Prior Title(s): VOL 9043 FOL 130

Recorded	Number	Type of Instrument	C.T. Issue
21/8/1988		TITLE AUTOMATION PROJECT	LOT RECORDED FOLIO NOT CREATED
20/10/1988		CONVERTED TO COMPUTER FOLIO	FOLIO CREATED CT NOT ISSUED
5/9/1989	Y454207	TRANSFER	EDITION 1
7/2/1994	DP648753	DEPOSITED PLAN	
6/5/1994	U237938	CHANGE OF NAME	
6/5/1994	I641710	TRANSFER GRANTING EASEMENT	EDITION 2
16/11/1999	6347176	TRANSFER	EDITION 3
15/2/2001	DP1022441	DEPOSITED PLAN	
15/4/2005	DP1080932	DEPOSITED PLAN	
18/4/2005	AB377449	LEASE	
18/4/2005	AB377450	LEASE	
18/4/2005	AB377452	LEASE	
18/4/2005	AB377451	LEASE	EDITION 4

*** END OF SEARCH ***

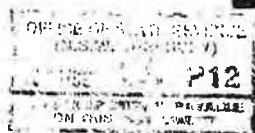
st marys

PRINTED ON 28/11/2018

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Received: 28/11/2018 15:29:41



Y454207

TRANSFER
REAL PROPERTY ACT, 1900

3	2 of 2	X	R 1/2
\$	42		

DESCRIPTION
OF LAND
Note (a)

TRANSFEROR
Note (b)

ESTATE
Note (c)

TRANSFeree
Note (d)

TENANCY
Note (e)

PRIOR
ENCUMBRANCES
Note (f)

EXECUTION
Note (g)

Torrens Title Reference	If Part Only, Delete Whole and Give Details	Location
	WHOLE SEE ANNEXURE "A"	

THE COMMONWEALTH OF AUSTRALIA

(the abovenamed TRANSFEROR) hereby acknowledges receipt of the consideration of \$ 75,900,000.00
and transfers an estate in fee simple
in the land above described to the TRANSFeree

AUSTRALIAN DEFENCE INDUSTRIES PTY LTD a company incorporated under the laws
of the Australian Capital Territory and having its registered office at
10-12 Brisbane Avenue, Barton in the said Territory

as joint tenants/tenants in common

subject to the following PRIOR ENCUMBRANCES 1.
2. 3.

DATE 23 JUNE 1989

We hereby certify this dealing to be correct for the purposes of the Real Property Act, 1900.

Signed in my presence by the transferor who is personally known to me

Signature of Witness

Name of Witness (BLOCK LETTERS)

Address and occupation of Witness

SIGNED for and on behalf of THE COMMONWEALTH OF AUSTRALIA by a person holding office as
Legal Officer (No. 1054), New South Wales, in
the presence of:
7694
An Officer of the Attorney-General's Department.

Signature of Transferor

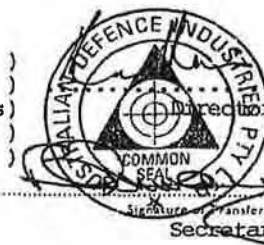
Signed in my presence by the transferee who is personally known to me

Signature of Witness

Name of Witness (BLOCK LETTERS)

Address and occupation of Witness

THE COMMON SEAL of AUSTRALIAN DEFENCE INDUSTRIES PTY LTD was hereunto
affixed in accordance with the Articles
of Association of the Company and in
the presence of :



TO BE COMPLETED
BY LODGING PARTY
Notes (h)
and (i)

OFFICE USE ONLY

LODGED BY		SLY AND WEIGALL SOLICITORS 60 MARGARET STREET Tel: 20535 SYDNEY DELIVERY BOX 795D DX 368 SYDNEY		LOCATION OF DOCUMENTS	
Ref				CT	OTHER
Delivery Box Number					
Checked	Passed	REGISTERED	-19	Secondary Directions	
Signed	Extra Fee		5 SEP 1989	Delivery Directions	CT 795D

"A"

THIS IS THE ANNEXURE MARKED "A" TO TRANSFER FROM THE COMMONWEALTH OF AUSTRALIA (AS TRANSFEROR)
AND AUSTRALIAN DEFENCE INDUSTRIES PTY LTD (AS TRANSFEREE) DATED THE _____ DAY OF _____ 1989

Torrens Title Reference	If Part Only, Delete Whole and Give Details	Location
Folio Identifier 1/789196	WHOLE	ST MARYS .
Vol 11118 Fol 13 - 2/223888	WHOLE	ST MARYS .
Vol 11118 Fol 14 - 3/123888	WHOLE	ST MARYS .
Vol 9032 Fol 53 - 5/31710.	WHOLE	ST MARYS .
Vol 9031 Fol 238 - 7/31708	WHOLE	ST MARYS .
Vol 9043 Fol 130 - 196/31912	WHOLE	ST MARYS .
Vol 9043 Fol 101 - 98/31909	WHOLE	ST MARYS .
Vol 9031 Fol 232 - 1/31708.	WHOLE	ST MARYS .

[Signature]

[Signature]

[Signature]

SIGNED for and on behalf of THE COMMONWEALTH
OF AUSTRALIA by a person holding, occupying
the duties of the office of Principal
Legal C. 7495
the presence of
An Officer of the Attorney-General's Department.

97-01T

LTO Licence No.
238N/0081/95

TRANSFER

Real Property Act, 1900

6347176W



Office

NEW SOUTH WALES DUTY

05-11-1999

0000141524-001

SECTION 18(2)

DUTY

\$ *****2.00

(A) **LAND TRANSFERRED**

Show no more than 20 References to Title.
If appropriate, specify the share transferred.

Folio Identifier 2/803832
Folio Identifier 2&3/223 888
Folio Identifier 3/789 196
Folio Identifier 3/598 653
Folio Identifier 196/31912

Folio Identifier 1/31908
Folio Identifier 7/31908
Folio Identifier 98/31909

(B) **LODGED BY**

L.T.O. Box

Name, Address or DX and Telephone

238N

Blake Dawson Waldron
Level 11
12 Moore Street
CANBERRA ACT 2601

REFERENCE (max. 15 characters): WCC:SAL:596836

(C) **TRANSFEROR**

Q ADI LIMITED (ACN 008 642 751)

(D) acknowledges receipt of the consideration of

The amount described in clause 4.1 of the Land and Joint Venture Interest Sale Agreement dated 1 OCTOBER 1999 between the Transferor and the Transferee.

and as regards the land specified above transfers to the Transferee an estate in fee simple

(E) subject to the following **ENCUMBRANCES**

1. 2. 3. Nil

(F) **TRANSFeree**

T

ST MARYS LAND LIMITED (ACN 088 278 602)

(G)

TENANCY:

(H) We certify this dealing correct for the purposes of the Real Property Act, 1900.

DATED 1 OCTOBER 1999

In accordance with a Rule 61A Direction dated 1 July 1999
THE COMMON SEAL of ADI Limited, the
fixing of which was witnessed by:

Signature of director

KENNETH ARTHUR HARRIS
Name of director

THE COMMON SEAL of St Marys Land
Limited, the fixing of which was witnessed by:

Signature of director

PAUL BOWEN
Name of director



Signature of director/secretary

SUZANNE MEDWAY
Name of director/secretary

Signature of director/secretary

IAN BRUCE MORISON
Name of director/secretary



INSTRUCTIONS FOR FILLING OUT THIS FORM ARE AVAILABLE FROM THE LAND TITLES OFFICE

CHECKED BY (office use)

Evidence sighted



FOLIO: 196/31912

SEARCH DATE	TIME	EDITION NO	DATE
29/11/2018	12:17 PM	4	18/4/2005

LAND

LOT 196 IN DEPOSITED PLAN 31912
LOCAL GOVERNMENT AREA PENRITH
PARISH OF ROOTY HILL COUNTY OF CUMBERLAND
TITLE DIAGRAM DP31912

FIRST SCHEDULE

ST MARYS LAND LIMITED

(T 6347176)

SECOND SCHEDULE (9 NOTIFICATIONS)

- 1 D384881 EASEMENT FOR TRANSMISSION LINE AFFECTING THE PART OF THE LAND ABOVE DESCRIBED SHOWN AS SITE OF EASEMENT FOR RAILWAY TRANSMISSION LINE 66 FEET WIDE IN DP31912
- 2 D431274 EASEMENT APPURTENANT TO THE LAND ABOVE DESCRIBED AFFECTING THE SITE OF PROPOSED EASEMENT FOR DRAINAGE 33 FEET WIDE SHOWN IN PLAN IN D431274 DP431900
- 3 H83909 EASEMENT FOR TRANSMISSION LINE AFFECTING THE PART OF THE LAND ABOVE DESCRIBED SHOWN AS SITE OF EASEMENT FOR TRANSMISSION LINE 100 FEET WIDE IN DP31912
- 4 K403219 EASEMENT FOR RAILWAY TRANSMISSION LINE AFFECTING THAT PART OF THE LAND WITHIN DESCRIBED SHOWN AS SITE OF PROPOSED EASEMENT FOR RAILWAY TRANSMISSION LINE VARIABLE WIDTH IN DP31912
- 5 I641710 RIGHT OF CARRIAGEWAY AFFECTING THE PART OF THE LAND ABOVE DESCRIBED SHOWN VARIABLE WIDTH IN DP648753
- 6 AB377449 LEASE TO PACIFIC NATIONAL (NSW) PTY LIMITED OF LOT 1 IN DP1080932. EXPIRES: 14/2/2008.
- 7 AB377450 LEASE TO PACIFIC NATIONAL (NSW) PTY LIMITED OF LOT 1 IN DP1080932. COMMENCES 15/2/2008. EXPIRES: 14/2/2013.
- 8 AB377452 LEASE TO PACIFIC NATIONAL (NSW) PTY LIMITED OF LOT 1 IN DP1080932. COMMENCES 15/2/2013. EXPIRES: 14/2/2018.
- 9 AB377451 LEASE TO PACIFIC NATIONAL (NSW) PTY LIMITED OF LOT 1 IN DP1080932. COMMENCES 15/2/2018. EXPIRES: 14/2/2023.

NOTATIONS

DP1022441 NOTE: PLAN OF PROPOSED EASEMENTS.

UNREGISTERED DEALINGS: NIL

*** END OF SEARCH ***

st marys

PRINTED ON 29/11/2018

NEW SOUTH WALES

(For Grant and title reference prior to first edition see Deposited Plan.)

CERTIFICATE OF TITLE
CITY ACT, 1900, as amended.



Vol. **9043** Fol. **116**

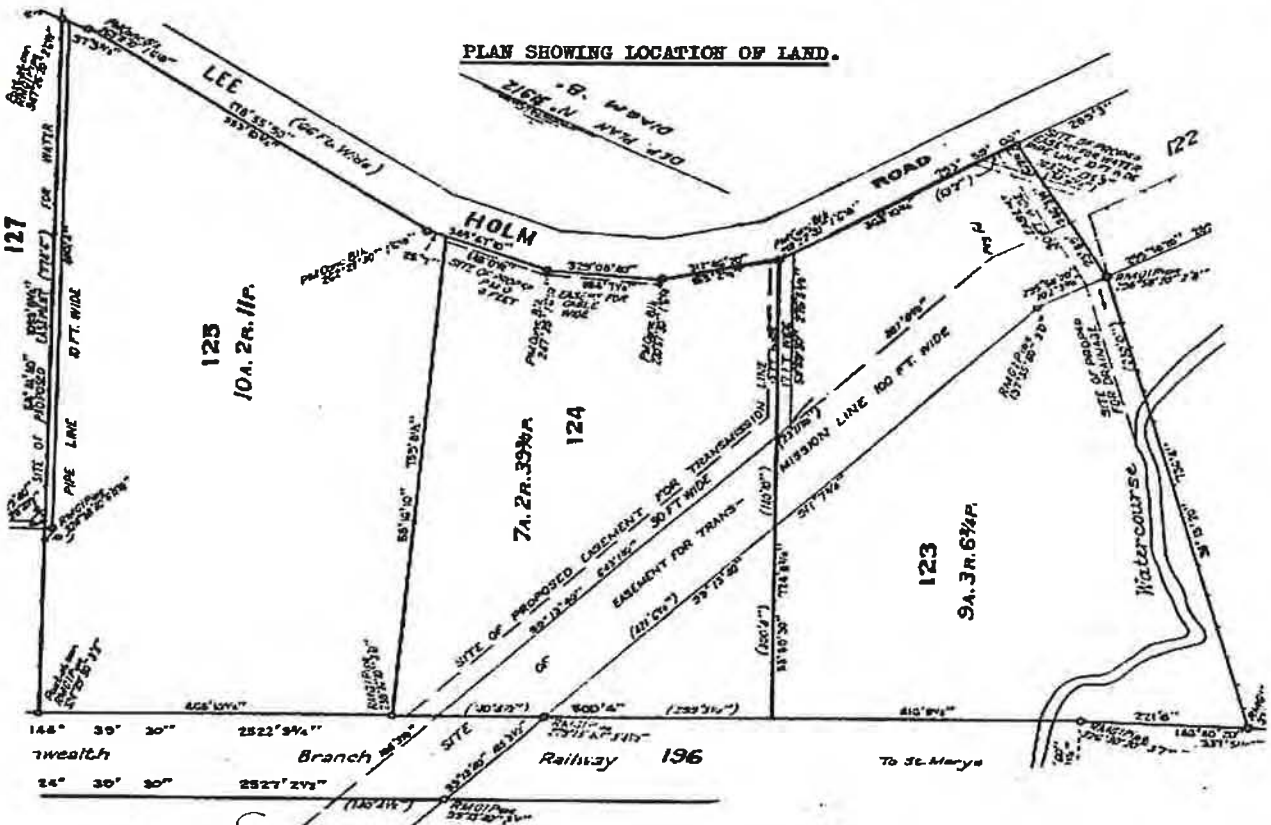
1st Edition issued 30-10-1961.

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

Witness

J. J. Jones

Jawatson
SEE AUTO FILE
Registrar General.



ESTATE AND LAND REFERRED TO.

Estate in Fee Simple in Lot 124 in Deposited Plan 31912 in the City of Penrith Parish of Rooty Hill and County of Cumberland.

FIRST SCHEDULE (Continued overleaf)

Jawatson
Registrar General.

SECOND SCHEDULE (Continued overleaf)

1. Easement No. D431274 appurtenant to the land above described affecting the "Site of Proposed Drainage Easement 33 feet Wide" shown in the plan in Acquisition No. D431274.
2. Easement for Transmission Line No. H83909 affecting the part of the land above described shown in Deposited Plan 31912 as "Site of Easement for Transmission Line 100 feet Wide".

Jawatson
Registrar General.

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

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

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

Fol. 116

Vol. 9043

(Page 1)

GRN

EA

ET

FIRST SCHEDULE (continued)

REGISTERED PROPRIETOR	INSTRUMENT			ENTERED	Signature of Registrar-General
	NATURE	NUMBER	DATE		
Jaypoth Industries Limited	Transfer	L380778	11-3-1969	2-10-1969	<i>Johnston</i>

476
 L380778
 21-11-1980
 LOT 1.1
 D.P. 73-44
 RESUMED RAILWAY PURPOSE
 VIDE GAZ.
 21-11-1980
 FOL: 5707

SECOND SCHEDULE (continued)

	NATURE	INSTRUMENT		PARTICULARS	ENTERED	Signature of Registrar-General	CANCELLATION	
		NUMBER	DATE					
ET	Carpet	H716189			24-11-1961	<i>Johnston</i>	Withdrawn	L280035
	Transfer	J340280P	30-5-1963	Easement for Transmission line affecting the site of proposed easement for Transmission line 13 feet wide and 30 feet wide shown on plan hereon (with consent of caveator)	10-7-1963	<i>Johnston</i>		
CV	Caveat	L380778P		Created by Transfer No. L380778	2-10-1963	<i>Johnston</i>		
EA	Transfer	L380778P	11-3-1969	Easement for P.M.G. Cable as more fully set out in the said instrument, appurtenant to the land comprised in Certificate of Title Volume 7563 Folio 220 and Volume 10030 Folio 155, affecting that part of the land within described shown as "Site of proposed easement for P.M.G. cable 6 feet wide" in the plan hereon	2-10-1969	<i>Johnston</i>		

CANCELLED

SEE AUTO FOLD



LAND REGISTRY Title Search SERVICES



NEW SOUTH WALES LAND REGISTRY SERVICES - TITLE SEARCH

WARNING: ***** FOLIO CANCELLED *****

FOLIO: 124/31912

SEARCH DATE	TIME	EDITION NO	DATE
30/11/2018	10:27 AM	2	28/7/1992

LAND

LOT 124 IN DEPOSITED PLAN 31912
LOCAL GOVERNMENT AREA PENRITH
PARISH OF ROOTY HILL COUNTY OF CUMBERLAND
TITLE DIAGRAM DP31912

FIRST SCHEDULE

STATE RAIL AUTHORITY OF NEW SOUTH WALES
AS TO LOT 1 IN DP734445 &
SPANCRETE OF AUSTRALIA PTY LIMITED
AS TO LOT 2 IN DP734445.

(DD E724107)

SECOND SCHEDULE (6 NOTIFICATIONS)

- * 1 D431274 EASEMENT FOR DRAINAGE APPURTENANT TO THE LAND ABOVE DESCRIBED SHOWN SO BURDENED IN DP431900.
- * 2 H83909 EASEMENT FOR TRANSMISSION LINE 30.48 WIDE AFFECTING THE PART OF THE LAND ABOVE DESCRIBED SHOWN SO BURDENED IN DP31912.
- * 3 J340280 EASEMENT FOR TRANSMISSION LINE 9.145 & 3.96 WIDE AFFECTING THE PART OF THE LAND ABOVE DESCRIBED SHOWN SO BURDENED IN DP31912.
- * 4 L380778 COVENANT
- * 5 L380778 EASEMENT FOR P.M.G. CABLE AFFECTING THE PART OF THE LAND ABOVE DESCRIBED SHOWN SO BURDENED IN DP31912.
- * 6 E510393 ***** FOLIO CANCELLED ***** NEW FOLIOS HAVE BEEN CREATED FOR LOTS 1 & 2 IN DP734445.

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 ***

st marys

PRINTED ON 30/11/2018

* 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.



LAND
REGISTRY
SERVICES

Historical Title



NEW SOUTH WALES LAND REGISTRY SERVICES - HISTORICAL SEARCH

SEARCH DATE

28/11/2018 3:32PM

FOLIO: 124/31912

First Title(s): SEE PRIOR TITLE(S)

Prior Title(s): VOL 9043 FOL 116

Recorded	Number	Type of Instrument	C.T. Issue
21/8/1988		TITLE AUTOMATION PROJECT	LOT RECORDED FOLIO NOT CREATED
20/10/1988		CONVERTED TO COMPUTER FOLIO	FOLIO CREATED CT NOT ISSUED
7/6/1990	Z22541	TRANSFER (Residue after Lt 1 DP 734445)	EDITION 1
28/7/1992	E510393	RESUMPTION APPLICATION	EDITION 2
4/8/1992		AMENDMENT: CT DELIVEREE	
31/8/1992	E724107	DEPARTMENTAL DEALING	FOLIO CANCELLED
6/12/1999	6398215	DEPARTMENTAL DEALING	

*** END OF SEARCH ***

st marys

PRINTED ON 28/11/2018

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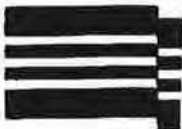
Received: 28/11/2018 15:32:23

Ref:st marys /Src:M

TAMP DUTY

OFFICE USE ONLY

1985



R

7
022541

TRANSFER

REAL PROPERTY ACT, 1900

CB	1 of 1	X
\$	44	R1

DESCRIPTION
OF LAND
Note (a)

Torrens Title Reference

If Part Only, Delete Whole and Give Details

Location

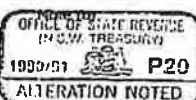
Volume 9043
Folios 116 and 117

WHOLE

St Marys

b 124/31912
x 125/31912

TRANSFEROR



JAYWORTH INDUSTRIES PTY. LIMITED (formerly Jayworth Industries Limited) ✓

ESTATE

Note (c)

(the abovenamed TRANSFEROR) hereby acknowledges receipt of the consideration of \$ 1.00

and transfers an estate in fee simple

in the land above described to the TRANSFEE

TRANSFEE

Note (d)

SPANCRETE OF AUSTRALIA PTY. LIMITED of 19th Floor, Norwich House,
6-10 O'Connell Street, Sydney ✓

OFFICE USE ONLY

S

TENANCY

Note (e)

as joint tenants/tenants in common

PRIOR

ENCUMBRANCES

Note (f)

subject to the following PRIOR ENCUMBRANCES 1.

2.

3.

DATE 12 April 1990

We hereby certify this dealing to be correct for the purposes of the Real Property Act, 1900.

Signed in my presence by the transferor who is personally known to me

EXECUTION

Note (g)

Signature of Witness

Name of Witness (BLOCK LETTERS)

Address and occupation of Witness

The Common Seal of Jayworth Industries Pty. Limited was hereunto affixed by the authority of the Directors and in the presence of:-

Director

Secretary



Signature of Transferor

Note (g)

Signed in my presence by the transferee who is personally known to me

Signature of Witness

Name of Witness (BLOCK LETTERS)

Address and occupation of Witness

The Common Seal of Spancrete of Australia Pty. Limited was hereunto affixed by the authority of the Directors and in the presence of:-

Director

Secretary



Signature of Transferee

253

TO BE COMPLETED
BY LODGING PARTYNotes (h)
and (i)

LODGED BY

MURPHY & MOLONEY

SOLICITORS

9 CASTLEREAGH STREET

SYDNEY, N.S.W. 2000

DX 515

L.T.O. BCX 623K.

TEL. 221-1433

Delivery Box Number

CT

OTHER

LOCATION OF DOCUMENTS

1

Herewith.

In L.T.O. with

Produced by

OFFICE USE ONLY

Checked

Passed

REGISTERED

-19

Signed

Extra Fee



7 JUN 1990

Secondary

Directions

Delivery

Directions

CT 623K

S\$44



E
510393 F

RESUMPTION APPLICATION

SECTION 31A (3), REAL PROPERTY ACT, 1900
 (See Instructions for Completion on back of form)

RA

of

\$

D

DESCRIPTION
OF LAND
Note (a)

Torrens Title Reference	If part only, delete Whole and give details	Location
Volume 9042 Folio 111 111/31912	WHOLE	DUNHEVED
112 112/31912		
113 113/31912		
115 115/31912		
132 132/31912		
116 116/31912		
STATE RAIL AUTHORITY OF NEW SOUTH WALES		OFFICE USE ONLY OVER

APPLICANT
Note (b)

Note (c)

Note (d)

Note (e)

(the abovenamed Applicant) in consequence of the resumption notified in Government Gazette dated 21 November, 1986, folio a true copy whereof appears hereunder, hereby applies to the Land Titles Office

(i) to make all such recordings in the Register as may be necessary to give effect to the resumption so far as it relates to the land above described and

(ii) to issue a new Certificate of Title for the resumed land.

COPY OF GAZETTE NOTIFICATION

(SEE ANNEXURE A)

The Common Seal of the STATE RAIL AUTHORITY
OF NEW SOUTH WALES was hereunto affixed in
the presence of:-

[Signature]

DATE

EXECUTION
Note (f)

I hereby certify this application to be correct for the purposes of the Real Property Act, 1900.
Signed in my presence by the authorised officer of the applicant.

[Signature]

[Signature]

[Signature]

TO BE COMPLETED
BY LODGING PARTY
Notes (g)
and (h)

LODGED BY		LOCATION OF DOCUMENTS	
State Rail Authority of N.S.W. G.P.O. Box 29 SYDNEY NSW 2001		CT	OTHER
			Herewith
			In L.T.C. with
			Produced by
Delivery Box Number 705A		Secondary Directions	
Checked <i>[Signature]</i>	Passed	Registered	-19
Signed	Extra Fee	Delivery Directions	10/201073 E.91642

OFFICE USE ONLY

3642:665 (41)

E724107

4/6.

1. W. DP 73445

ANNEXURE A

21 NOVEMBER, 1986] NEW SOUTH WALES GOVERNMENT GAZETTE No. 179

NOTIFICATION OF RESUMPTION OF LAND UNDER THE PUBLIC WORKS ACT 1912, AS AMENDED

IT is hereby notified and declared by His Excellency the Governor, acting with the advice of the Executive Council, that so much of the land described in the Schedule hereto as is Crown land is hereby appropriated, and so much of the said land as is private property is hereby resumed, under the Public Works Act 1912, as amended, for the following public purpose, namely a Primary School at Tintenbar, and that the said land is vested in the Minister for Education as Constructing Authority on behalf of Her Majesty the Queen.

Dated this fifth day of November, one thousand nine hundred and eighty-six.

J. A. ROWLAND, Governor.

By His Excellency's Command.

R. M. CAVALIER, Minister for Education.

THE SCHEDULE

All that piece or parcel of land situate in the Shire of Ballina, Parish of Teven and County of Ross, being part of lot 13, Deposited Plan 582506: Commencing on the northwestern side of a road 20.115 metres wide at the westernmost southwestern corner of the said lot 13; and bounded thence on the southwest by part of the southwestern boundary of that lot bearing 335 degrees 12 minutes 40 seconds 181.93 metres; on the northwest and southwest by lines bearing respectively 63 degrees 44 minutes 30 metres and 335 degrees 12 minutes 40 seconds 30 metres to the westernmost northwestern boundary of the said lot 13, Deposited Plan 582506; on the northwest by part of that boundary bearing 63 degrees 44 minutes 161 metres; on the east by a line bearing 174 degrees 20 minutes 30 seconds 257.45 metres to an angle in the northeastern side of the said road 20.115 metres wide; and on the south and southeast by that side and the said northwestern side of that road bearing respectively 277 degrees 21 minutes 52.9 metres and 249 degrees 44 minutes 62 metres to the point of commencement, having an area of 3.294 hectares or thereabouts, and said to be in the possession of Nortyn Investments Pty Limited. Part Certificate of Title, volume 13029, folio 189. (4651)

NOTIFICATION OF APPROPRIATION AND RESUMPTION OF LAND FOR RAILWAY PURPOSES UNDER THE TRANSPORT AUTHORITIES ACT 1980 AND THE PUBLIC WORKS ACT 1912

WHEREAS the State Rail Authority of New South Wales as Constructing Authority is desirous of acquiring the land referred to in the Schedule hereto for the purpose of constructing an electric train service and maintenance centre and whereas the said land is in my opinion required for carrying out the said work: Now, therefore, I, the Governor, with the advice of the Executive Council, in pursuance of the provisions of The Transport Authorities Act 1980 and The Public Works Act 1912, do hereby direct that the said work shall be carried out by the State Rail Authority of New South Wales as the Constructing Authority, and I do declare by this notification to be published in the Government Gazette and in one or more newspapers published in the Police District wherein the said land is situated, that the land referred to in the Schedule hereto is hereby appropriated and resumed for the purpose hereinbefore referred to.

SCHEDULE

All that piece or parcel of land situate at St Marys in the City of Penrith, Parish of Rosy Hill, County of Cumberland and State of New South Wales, being the whole of the land comprised within Certificates of Title, volume 9043, folio 111; volume 9043, folio 112; volume 9043, folio 113 and volume 9043, folio 115 shown as lot 119, lot 120, lot 121 and lot 123 respectively in Deposited Plan 31912, having a total area of 20.15 hectares or thereabouts and said to be in the possession of Colmlee (Lands) Pty Limited.

Also all that piece or parcel of land situate as aforesaid, being the whole of the land comprised within Certificate of Title, volume 9043, folio 132, shown as lot 203 in Deposited Plan 31912, having an area of 24.15 hectares or thereabouts and said to be in the possession of The Council of the City of Penrith.

No. 179, 21st November, 1986—6

Also all that piece or parcel of land situate as aforesaid, being part of the land comprised within Certificate of Title, volume 9043, folio 116, shown as lot 1 in Deposited Plan 734443, having an area of 1.081 hectares or thereabouts and said to be in the possession of Jayworth Industries Limited (SRA Reference 241940).

This resumption is exclusive of the interests of the Commonwealth of Australia in the sites of the easements for P.M.O. cable 40 feet wide, 10 feet wide and 6 feet wide delineated on Deposited Plan 31912 and the site of the easement for railway line 66 feet wide delineated on that deposited plan and marked thereon with the letter "G" traversing the above described lands and created by Transfers L686302 and K780528.

Signed at Sydney, this 12th day of November, 1986.

J. A. ROWLAND, Governor.

By His Excellency's Command.

R. J. MULLOCK, Minister for Transport.

GOD SAVE THE QUEEN! (4541)

MENTAL HEALTH ACT 1958

NOTIFICATION OF REVOCATION OF APPOINTMENT OF BLOOMFIELD HOSPITAL AS A MENTAL HOSPITAL

IN pursuance of the provisions of section 10 of the Mental Health Act 1958, I, Air Marshal Sir JAMES ANTHONY ROWLAND, Governor of the State of New South Wales, with the advice of the Executive Council, do hereby revoke all appointments of Bloomfield Hospital or part thereof as a mental hospital.

Dated this fifth day of November, 1986.

J. A. ROWLAND, Governor.

By His Excellency's Command.

(4504) PETER ANDERSON, Minister for Health.

MENTAL HEALTH ACT 1958

NOTIFICATION OF REVOCATION OF APPOINTMENT OF BLOOMFIELD HOSPITAL AS A PLACE FOR THE ADMISSION AND TEMPORARY TREATMENT OF MENTALLY ILL PERSONS

IN pursuance of the provisions of section 9 of the Mental Health Act 1958, I, Air Marshal Sir JAMES ANTHONY ROWLAND, Governor of the State of New South Wales, with the advice of the Executive Council, do hereby revoke all appointments of Bloomfield Hospital or part thereof as a place for the admission and temporary treatment of mentally ill persons.

Dated this fifth day of November, 1986.

J. A. ROWLAND, Governor.

By His Excellency's Command.

(4505) PETER ANDERSON, Minister for Health.

MENTAL HEALTH ACT 1958

NOTIFICATION APPOINTING WARDS 1, 3, 9, 11, 12, 13, 15, 16, 17, 23 AND AUDLEY CLINIC OF BLOOMFIELD HOSPITAL AS A MENTAL HOSPITAL

IN pursuance of the provisions of section 10 of the Mental Health Act 1958, I, Air Marshal Sir JAMES ANTHONY ROWLAND, Governor of the State of New South Wales, with the advice of the Executive Council, do hereby appoint Wards 1, 3, 9, 11, 12, 13, 15, 16, 17, 23 and Audley Clinic of Bloomfield Hospital to be a mental hospital.

Dated this fifth day of November, 1986.

J. A. ROWLAND, Governor.

By His Excellency's Command.

(4506) PETER ANDERSON, Minister for Health.

INSTRUCTIONS FOR COMPLETION

This dealing should be lodged by hand at the Land Titles Office.

Use this form where the land resumed is under the provisions of the Real Property Act, 1900.

Typewriting and handwriting should be clear, legible and in permanent dense black or dark blue non-copying ink.

Alterations are not to be made by erasure; the words rejected are to be ruled through and initialed by the applicant in the left hand margin.

If the space provided is insufficient, additional sheets of the same size and quality of paper and having the same margins as this form should be used. Each additional sheet must be identified as an annexure and signed by the applicant and the attesting witness.

The following instructions relate to the side notes on the form.

(a) Description of land.

(i) **TORRENS TITLE REFERENCE.**—For a manual folio insert the Volume and Folio (e.g., Vol. 8514 Fol. 128). For a computer folio insert the folio identifier (e.g., 12/781924). Title references should be listed in numerical sequence.

(ii) **PART/WHOLE.**—If part only of the land in the folio of the Register is the subject of the application, delete the word "Whole" and insert the lot and plan number, portion, &c.

(iii) **LOCATION.**—Insert the locality shown on the Certificate of Title/Crown Grant, e.g., at Caversham. If the locality is not shown, insert the Parish and County, e.g., Pt. Limerick Co. Ross.

(b) State the name of Authority in which the land is vested.

(c) Show date and folio number of the Gazette notification.

(d) Delete this clause if the issue of a new certificate of title is not required.

(e) Insert a copy of the Gazette Notification. If the space provided is insufficient for this purpose, use an annexure sheet (identified as such) of the same size and quality of paper as this form.

(f) Execution.

The certificate of correctness under the Real Property Act, 1900 must be signed by an authorised officer of the applicant who should execute the dealing in the presence of an adult witness to whom he is personally known.

Any person falsely or negligently certifying is liable to the penalties provided by section 117 of the Real Property Act, 1900.

(g) Insert the name, postal address, Document Exchange reference, telephone number and delivery box number of the lodging party.

(h) If any document is lodged with this application, record in DOCUMENTS LODGED panel.

OFFICE USE ONLY

L.O. 704

FIRST SCHEDULE DIRECTIONS

(A) FOLIO IDENTIFIER	(B) DIRECTION	(C) NAME
	S	State Rail Authority of New South Wales

SECOND SCHEDULE AND OTHER DIRECTIONS

(A) FOLIO IDENTIFIER	(B) DIRECTION	(F) NOTH TYPE	(G) DEALING NUMBER	(H) DETAILS
119/13/1912	OFF	EA	D384881	
	OFF	EB	D431274	
	OFF	EC	H83909	
	OFF	ED	J340280	
	OFF	EE	K403219	
120/13/1912	OFF	EA	D431274	
121/13/1912	OFF	EB	H83909	
123/13/1912	OFF	EA	D431274	
	OFF	EB	H83909	
	OFF	EC	DP31911	
	OFF	ED	J340279	
	OFF	EE	J340280	
203/13/1912	OFF	EA	D384881	
	OFF	EB	D431274	
	OFF	EC	H83909	
	OFF	ED	K403219	
	OFF	EE	K403221	
	OFF	RX	K200000001	
	OFF	EG	P423777	
	OFF	EH	Q324580	
124/13/1912	OFF	EA	D431274	
	OFF	EB	H83909	
	OFF	EC	J340280	
	OFF	CV	L380778	
	OFF	ED	L380778	
	OFF	UB		
119, 120, 121, 123, 124/13/1912	ALL	20		DP 815293

c/s



LAND
REGISTRY
SERVICES

Historical Title



NEW SOUTH WALES LAND REGISTRY SERVICES - HISTORICAL SEARCH

SEARCH DATE

28/11/2018 3:31PM

FOLIO: 1/734445

First Title(s): OLD SYSTEM

Prior Title(s): 124/31912

Recorded	Number	Type of Instrument	C.T. Issue
14/7/1986	DP734445	DEPOSITED PLAN	LOT RECORDED FOLIO NOT CREATED
1/9/1992	E510393	RESUMPTION APPLICATION	FOLIO CREATED EDITION 1
5/5/1998	DP876781	DEPOSITED PLAN	FOLIO CANCELLED

*** END OF SEARCH ***

st marys

PRINTED ON 28/11/2018

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Received: 28/11/2018 15:31:38



E
510393 F

RESUMPTION APPLICATION

SECTION 31A (3), REAL PROPERTY ACT, 1900

(See Instructions for Completion on back of form)

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of

\$

D

DESCRIPTION
OF LAND
Note (a)

Torrens Title Reference	If part only, delete Whole and give details	Location
Volume 9042 ⁹⁰⁴³ Folio 111 ¹¹⁹ 31912	WHOLE	DUNHEVED
112 31912		
113 31912		
115 31912		
132 203/31912		
9043	116 24/31912	
STATE RAIL AUTHORITY OF NEW SOUTH WALES		OFFICE USE ONLY OVER

APPLICANT
Note (b)

Note (c)

(the abovenamed Applicant) in consequence of the resumption notified in Government Gazette dated 21 November, 1986, folio a true copy whereof appears hereunder, hereby applies to the Land Titles Office

Note (d)

(i) to make all such recordings in the Register as may be necessary to give effect to the resumption so far as it relates to the land above described and
(ii) to issue a new Certificate of Title for the resumed land.

Note (e)

COPY OF GAZETTE NOTIFICATION

(SEE ANNEXURE A)

The Common Seal of the STATE RAIL AUTHORITY
OF NEW SOUTH WALES was hereunto affixed in
the presence of:-

DATE

EXECUTION
Note (f)

I hereby certify this application to be correct for the purposes of the Real Property Act, 1900.
Signed in my presence by the authorized officer of the applicant.

4/6.

TO BE COMPLETED
BY LODGING PARTY
Notes (g)
and (h)

LODGED BY		LOCATION OF DOCUMENTS	
State Rail Authority of N.S.W. G.P.O. Box 29 SYDNEY NSW 2001		CT	OTHER
			Herewith
			In L.T.O. with
			Produced by
Delivery Box Number 705H			
Checked LK	Passed	Secondary Directions	
Signed	Extra Fee	Delivery Directions	10/201073 E91642

OFFICE USE ONLY

3642:665 (49)

E724107

ANNEXURE A

21 NOVEMBER, 1986] NEW SOUTH WALES GOVERNMENT GAZETTE No. 179

NOTIFICATION OF RESUMPTION OF LAND UNDER THE PUBLIC WORKS ACT 1912, AS AMENDED

IT is hereby notified and declared by His Excellency the Governor, acting with the advice of the Executive Council, that so much of the land described in the Schedule hereto as is Crown land is hereby appropriated, and so much of the said land as is private property is hereby resumed, under the Public Works Act 1912, as amended, for the following public purpose, namely a Primary School at Timenbar, and that the said land is vested in the Minister for Education as Constructing Authority on behalf of Her Majesty the Queen.

Dated this fifth day of November, one thousand nine hundred and eighty-six.

J. A. ROWLAND, Governor.

By His Excellency's Command,

R. M. CAVALIER, Minister for Education.

THE SCHEDULE

All that piece or parcel of land situate in the Shire of Ballina, Parish of Teven and County of Rous, being part of lot 13, Deposited Plan 582506: Commencing on the northwestern side of a road 20.115 metres wide, at the westernmost southwestern corner of the said lot 13; and bounded thence on the southwest by part of the southwestern boundary of that lot bearing 335 degrees 12 minutes 40 seconds 181.93 metres; on the northwest and southwest by lines bearing respectively 65 degrees 44 minutes 30 metres and 335 degrees 12 minutes 40 seconds 30 metres to the westernmost northwestern boundary of the said lot 13, Deposited Plan 582506; on the northwest by part of that boundary bearing 65 degrees 44 minutes 161 metres; on the east by a line bearing 174 degrees 20 minutes 30 seconds 257.45 metres to an angle in the northeastern side of the said road 20.115 metres wide; and on the south and southeast by that side and the said northwestern side of that road bearing respectively 277 degrees 21 minutes 52.9 metres and 249 degrees 44 minutes 62 metres to the point of commencement, having an area of 3.294 hectares or thereabouts, and said to be in the possession of Nortyn Investments Pty Limited. Part Certificate of Title, volume 13029, folio 189. (4651)

NOTIFICATION OF APPROPRIATION AND RESUMPTION OF LAND FOR RAILWAY PURPOSES UNDER THE TRANSPORT AUTHORITIES ACT 1980 AND THE PUBLIC WORKS ACT 1912

WHEREAS the State Rail Authority of New South Wales as Constructing Authority is desirous of acquiring the land referred to in the Schedule hereto for the purpose of constructing an electric train service and maintenance centre and whereas the said land is in my opinion required for carrying out the said work: Now, therefore, I, the Governor, with the advice of the Executive Council, in pursuance of the provisions of The Transport Authorities Act 1980 and The Public Works Act 1912, do hereby direct that the said work shall be carried out by the State Rail Authority of New South Wales as the Constructing Authority, and I do declare by this notification to be published in the Government Gazette and in one or more newspapers published in the Police District wherein the said land is situated, that the land referred to in the Schedule hereto is hereby appropriated and resumed for the purpose hereinbefore referred to.

SCHEDULE

All that piece or parcel of land situate at St Marys in the City of Penrith, Parish of Roosy Hill, County of Cumberland and State of New South Wales, being the whole of the land comprised within Certificates of Title, volume 9043, folio 111; volume 9043, folio 112; volume 9043, folio 113 and volume 9043, folio 115 shown as lot 119, lot 120, lot 121 and lot 123 respectively in Deposited Plan 31912, having a total area of 20.15 hectares or thereabouts and said to be in the possession of Colmlee (Lands) Pty Limited.

Also all that piece or parcel of land situate as aforesaid, being the whole of the land comprised within Certificate of Title, volume 9043, folio 132, shown as lot 203 in Deposited Plan 31912, having an area of 24.15 hectares or thereabouts and said to be in the possession of The Council of the City of Penrith.

No. 179, 21st November, 1986—6

Also all that piece or parcel of land situate as aforesaid, being part of the land comprised within Certificate of Title, volume 9043, folio 116, shown as lot 1 in Deposited Plan 734443, having an area of 1.081 hectares or thereabouts and said to be in the possession of Jayworth Industries Limited (SRA Reference 241940).

This resumption is exclusive of the interests of the Commonwealth of Australia in the sites of the easements for P.M.O. cable 40 feet wide, 10 feet wide and 6 feet wide delineated on Deposited Plan 31912 and the site of the easement for railway line 66 feet wide delineated on that deposited plan and marked thereon with the letter "G" traversing the above described lands and created by Transfers L686302 and K780528.

Signed at Sydney, this 12th day of November, 1986.

J.A. ROWLAND, Governor.

By His Excellency's Command,

R. J. MULOCK, Minister for Transport.

GOD SAVE THE QUEEN! (4541)

MENTAL HEALTH ACT 1958

NOTIFICATION OF REVOCATION OF APPOINTMENT OF BLOOMFIELD HOSPITAL AS A MENTAL HOSPITAL

IN pursuance of the provisions of section 10 of the Mental Health Act 1958, I, Air Marshal Sir JAMES ANTHONY ROWLAND, Governor of the State of New South Wales, with the advice of the Executive Council, do hereby revoke all appointments of Bloomfield Hospital or part thereof as a mental hospital.

Dated this fifth day of November, 1986.

J. A. ROWLAND, Governor.

By His Excellency's Command,

(4504)

PETER ANDERSON, Minister for Health.

MENTAL HEALTH ACT 1958

NOTIFICATION OF REVOCATION OF APPOINTMENT OF BLOOMFIELD HOSPITAL AS A PLACE FOR THE ADMISSION AND TEMPORARY TREATMENT OF MENTALLY ILL PERSONS

IN pursuance of the provisions of section 9 of the Mental Health Act 1958, I, Air Marshal Sir JAMES ANTHONY ROWLAND, Governor of the State of New South Wales, with the advice of the Executive Council, do hereby revoke all appointments of Bloomfield Hospital or part thereof as a place for the admission and temporary treatment of mentally ill persons.

Dated this fifth day of November, 1986.

J. A. ROWLAND, Governor.

By His Excellency's Command,

(4505)

PETER ANDERSON, Minister for Health.

MENTAL HEALTH ACT 1958

NOTIFICATION APPOINTING WARDS 1, 3, 9, 11, 12, 13, 15, 16, 17, 23 AND AUDLEY CLINIC OF BLOOMFIELD HOSPITAL AS A MENTAL HOSPITAL

IN pursuance of the provisions of section 10 of the Mental Health Act 1958, I, Air Marshal Sir JAMES ANTHONY ROWLAND, Governor of the State of New South Wales, with the advice of the Executive Council, do hereby appoint Wards 1, 3, 9, 11, 12, 13, 15, 16, 17, 23 and Audley Clinic of Bloomfield Hospital to be a mental hospital.

Dated this fifth day of November, 1986.

J. A. ROWLAND, Governor.

By His Excellency's Command,

(4506)

PETER ANDERSON, Minister for Health.

INSTRUCTIONS FOR COMPLETION

This dealing should be lodged by hand at the Land Titles Office.

Use this form where the land resumed is under the provisions of the Real Property Act, 1900.

Typewriting and handwriting should be clear, legible and in permanent dense black or dark blue non-copying ink.

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The following instructions relate to the side notes on the form.

(a) Description of land.

(i) **TORRENS TITLE REFERENCE.**—For a manual folio insert the Volume and Folio (e.g., Vol. 8314 Fol. 126). For a computer folio insert the folio identifier (e.g., 12/781924). Title references should be based in numerical sequence.

(ii) **PART/WHOLE.**—If part only of the land in the folio of the Register is the subject of the application, delete the word "Whole" and insert the lot and plan number, portion, &c.

(iii) **LOCATION.**—Insert the locality shown on the Certificate of Title/Crown Grant, e.g., at Chollers. If the locality is not shown, insert the Parish and County, e.g., Pt. Limerick Co. Ross.

(b) State the name of Authority in which the land is vested.

(c) Show date and folio number of the Gazette notification.

(d) Delete this clause if the issue of a new certificate of title is not required.

(e) Insert a copy of the Gazette Notification. If the space provided is insufficient for this purpose, use an annexure sheet (identified as such) of the same size and quality of paper as this form.

(f) Execution.

The certificate of correctness under the Real Property Act, 1900 must be signed by an authorised officer or the applicant who should execute the dealing in the presence of an adult witness to whom he is personally known.
 Any person falsely or negligently certifying is liable to the penalties provided by section 117 of the Real Property Act, 1900.

(g) Insert the name, postal address, Document Exchange reference, telephone number and delivery box number of the lodging party.

(h) If any document is lodged with this application, record in DOCUMENTS LODGED panel.

OFFICE USE ONLY

L.O. 784

FIRST SCHEDULE DIRECTIONS

(A) FOLIO IDENTIFIER	(B) DIRECTION	(C) NAME
	S	State Rail Authority of New South Wales

SECOND SCHEDULE AND OTHER DIRECTIONS

(A) FOLIO IDENTIFIER	(B) DIRECTION	(F) NOTN TYPE	(G) DEALING NUMBER	(H) DETAILS
119/31912	OFF	EA	D384881	
	OFF	EB	D431274	
	OFF	EC	H83909	
	OFF	ED	J340280	
	OFF	EE	K403219	
120/31912	OFF	EA	D431274	
121/31912	OFF	EB	H83909	
123/31912	OFF	EA	D431274	
	OFF	EB	H83909	
	OFF	EC	DP31911	
	OFF	ED	J340279	
	OFF	EE	J340280	
203/31912	OFF	EA	D384881	
	OFF	EB	D431274	
	OFF	EC	H83909	
	OFF	ED	K403219	
	OFF	EE	K403221	
	OFF	RX	K200000000	
	OFF	EG	P423797	
	OFF	EH	Q324580	
124/31912	OFF	EA	D431274	
	OFF	EB	H83909	
	OFF	EC	J340280	
	OFF	CV	L380778	
	OFF	ED	L380778	
	OFF	UB		
119, 120, 121, 123, 124/31912	ALL	2U	DP 815293	

c/s

Ref:st marys /Src:M

G. 1

NEW SOUTH WALES

(For Grant and title reference prior to first edition see Deposited Plan.)

CERTIFICATE OF TITLE
REALTY ACT, 1900, as amended.



09043115

Vol. **9043** Fol. **115**

1st Edition issued 30-10-1961.

Fol. 115

9043 (Page 1) Vol.

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

ED(S)

EA

ET

GRN

1

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.

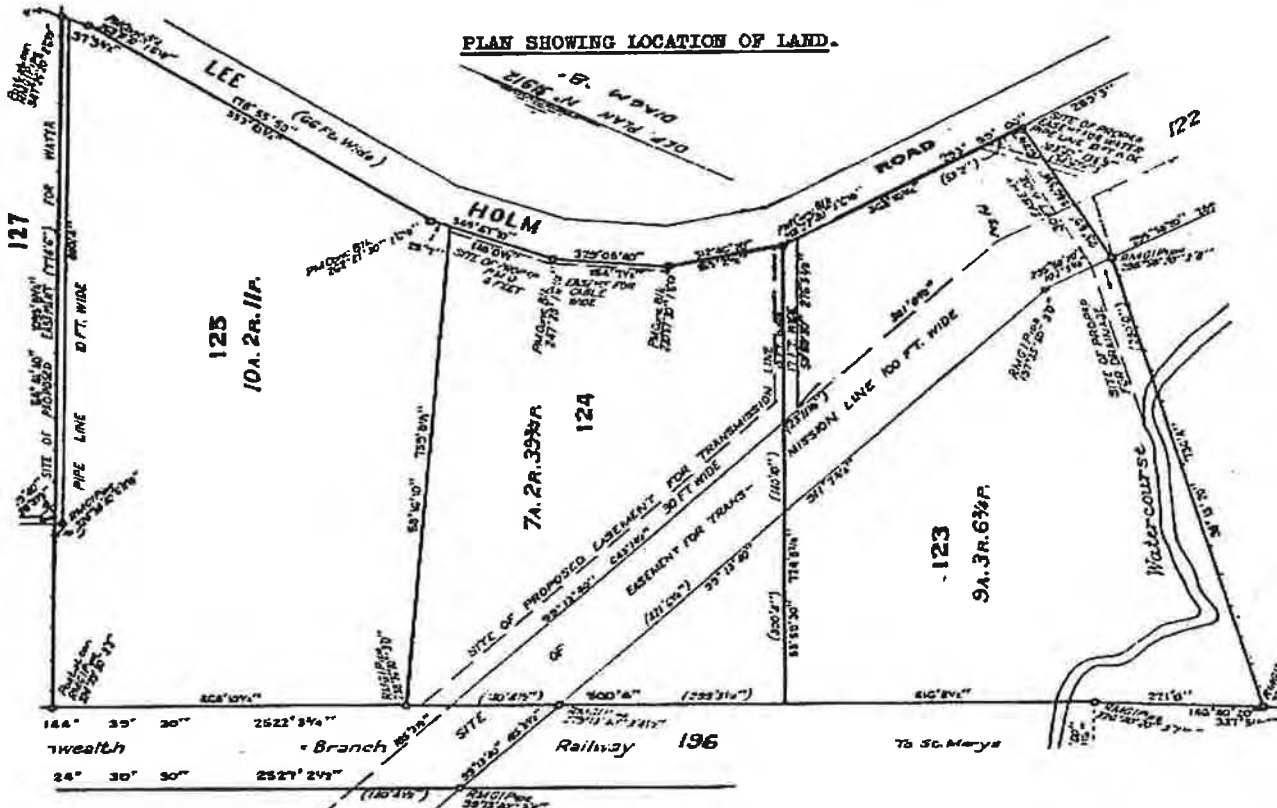
Witness

J. J. Jones

CANCELLED
Registration
SEE AUTO FOLIO



PLAN SHOWING LOCATION OF LAND.



ESTATE AND LAND REFERRED TO.

Estate in Fee Simple in Lot 123 in Deposited Plan 31912 in the City of Penrith Parish of Rooty Hill and County of Cumberland.

FIRST SCHEDULE (Continued overleaf)

THE COMMONWEALTH OF AUSTRALIA
THE COMMONWEALTH OF AUSTRALIA

J. J. Jones
Registrar General.

SECOND SCHEDULE (Continued overleaf)

1. Easement No. D431274 appurtenant to the land above described affecting the "Site of Proposed Drainage Easement 33 feet Wide" shown in the plan in Acquisition No. D431274.
2. Easement for Transmission Line No. H83909 affecting the part of the land above described shown in Deposited Plan 31912 as "Site of Easement for Transmission Line 100 feet Wide".

J. J. Jones
Registrar General.

3. Easement for Drainage affecting the part of the land above described shown in Deposited Plan 31912 as "Site of Proposed Easement for Drainage 30 feet Wide" created by the registration of Deposited Plan 31911.

J. J. Jones
Registrar General.

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

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

FIRST SCHEDULE (continued)

REGISTERED PROPRIETOR		INSTRUMENT			ENTERED	Signature of Registrar-General
		NATURE	NUMBER	DATE		
<i>James Hardie & Co. Pty. Limited</i> Colmlee (Lands) Pty. Limited by Transfer V462778. Registered 3.12.1984.		<i>Transfer</i>	<i>V462778</i>	<i>1.12.1984</i>	<i>9.3.1970</i>	<i>[Signature]</i>
CANCELLED SEE AUTO FOLD						

SECOND SCHEDULE (continued)

SECOND SCHEDULE (continued)								
	INSTRUMENT			PARTICULARS	ENTERED	Signature of Registrar-General	CANCELLATION	
	NATURE	NUMBER	DATE					
EA	Transfer	J340279 P	14-11-1963	Easement for drainage and stormwater affecting the site of proposed easement for drainage 30 feet wide as shown on plan hereon	10-7-1963	<i>Jonathan</i>		
EA	Transfer	J340280 P	30-5-1962	Easement for Transmission Line affecting the site of proposed easement for transmission line 17 feet wide shown on plan hereon	10-7-1963	<i>Jonathan</i>		
ET	Covenant	J340281			10-7-1963	<i>Jonathan</i>		
	Covenant	L686300		Created by Transfer No L686302	7-3-1970	<i>Jonathan</i>	Withdrawn	L686301 <i>Jonathan</i>
	Transfer	L686306	1-12-1969	Easement for Water Pipe as shown fully set out in the said instrument affecting that part of the land within the said easement side of proposed easement for water pipe as shown on plan hereon	7-3-1970	<i>Jonathan</i>		
	Covenant	L686302 P		Created by Transfer No L686302	7-3-1970	<i>Jonathan</i>	Released	V996463

Vol. 9043 Fol. 115

(Page 2 of 2 pages)



LAND
REGISTRY
SERVICES

Historical Title



NEW SOUTH WALES LAND REGISTRY SERVICES - HISTORICAL SEARCH

SEARCH DATE

28/11/2018 3:31PM

FOLIO: 123/31912

First Title(s): SEE PRIOR TITLE(S)

Prior Title(s): VOL 9043 FOL 115

Recorded -----	Number -----	Type of Instrument -----	C.T. Issue -----
21/8/1988		TITLE AUTOMATION PROJECT	LOT RECORDED FOLIO NOT CREATED
20/10/1988		CONVERTED TO COMPUTER FOLIO	FOLIO CREATED CT NOT ISSUED
28/7/1992	E510393	RESUMPTION APPLICATION	EDITION 1
4/8/1992		AMENDMENT: CT DELIVEREE	
5/5/1998	DP876781	DEPOSITED PLAN	FOLIO CANCELLED

*** END OF SEARCH ***

st marys

PRINTED ON 28/11/2018

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Received: 28/11/2018 15:31:37



E
510393 F

RESUMPTION APPLICATION

SECTION 31A (3), REAL PROPERTY ACT, 1900
 (See instructions for Completion on back of form)

RA	of	D
\$		

DESCRIPTION
OF LAND
Note (a)

Torrens Title Reference	If part only, delete Whole and give details	Location
Volume 9042 ⁹⁰⁴³ Folio 111/31912 ^{111/31912}	WHOLE	DUNHEVED
112/31912	120/31912	
113/31912	121/31912	
115/31912	123/31912	
9043	132 203/31912	
116/24/31912	116/24/31912	
STATE RAIL AUTHORITY OF NEW SOUTH WALES		OFFICE USE ONLY OVER

APPLICANT
Note (b)

Note (c)

Note (d)

Note (e)

(the abovesigned Applicant) in consequence of the resumption notified in Government Gazette dated 21 November, 1986, folio a true copy whereof appears hereunder, hereby applies to the Land Titles Office
 (i) to make all such recordings in the Register as may be necessary to give effect to the resumption so far as it relates to the land above described and
 (ii) to issue a new Certificate of Title for the resumed land.

COPY OF GAZETTE NOTIFICATION

(SEE ANNEXURE A)

The Common Seal of the STATE RAIL AUTHORITY
 OF NEW SOUTH WALES was hereunto affixed in
 the presence of:-

[Signature]

DATE

EXECUTION
Note (f)

I hereby certify this application to be correct for the purposes of the Real Property Act, 1900.
 Signed in my presence by the authorised officer of the applicant.

TO BE COMPLETED
BY LODGING PARTY
Notes (g)
and (h)

LODGED BY		LOCATION OF DOCUMENTS	
State Rail Authority of N.S.W. G.P.O. Box 29 SYDNEY NSW 2001		CT	OTHER
Delivery Box Number 7050			Herewith
			In L.T.O. with
			Produced by
Checked <i>[Signature]</i>	Passed	REGISTERED	- -19
Signed	Extra Fee	Secondary Directions	
		Delivery Directions	10/201073 E91642

OFFICE USE ONLY

3642:665 (49)

E724107

4/6.

ANNEXURE A

21 NOVEMBER, 1986] NEW SOUTH WALES GOVERNMENT GAZETTE No. 179

NOTIFICATION OF RESUMPTION OF LAND UNDER THE PUBLIC WORKS ACT 1912, AS AMENDED

IT is hereby notified and declared by His Excellency the Governor, acting with the advice of the Executive Council, that so much of the land described in the Schedule hereto as is Crown land is hereby appropriated, and so much of the said land as is private property is hereby resumed, under the Public Works Act 1912, as amended, for the following public purpose, namely a Primary School at Tintenbar, and that the said land is vested in the Minister for Education as Constructing Authority on behalf of Her Majesty the Queen.

Dated this fifth day of November, one thousand nine hundred and eighty-six.

J. A. ROWLAND, Governor.

By His Excellency's Command,

R. M. CAVALIER, Minister for Education.

THE SCHEDULE

All that piece or parcel of land situate in the Shire of Ballina, Parish of Teven and County of Rous, being part of lot 13, Deposited Plan 582506; Commencing on the northwestern side of a road 20.115 metres wide, at the westernmost southwestern corner of the said lot 13; and bounded thence on the southwest by part of the southwestern boundary of that lot bearing 335 degrees 12 minutes 40 seconds 181.93 metres; on the northwest and southwest by lines bearing respectively 65 degrees 44 minutes 30 metres and 335 degrees 12 minutes 40 seconds 30 metres to the westernmost northwestern boundary of the said lot 13, Deposited Plan 582506; on the northwest by part of that boundary bearing 65 degrees 44 minutes 161 metres; on the east by a line bearing 174 degrees 20 minutes 50 seconds 257.45 metres to an angle in the northeastern side of the said road 20.115 metres wide; and on the south and southeast by that side and the said northwestern side of that road bearing respectively 277 degrees 21 minutes 52.9 metres and 249 degrees 44 minutes 62 metres to the point of commencement, having an area of 3.294 hectares or thereabouts, and said to be in the possession of Norlyn Investments Pty Limited. Part Certificate of Title, volume 13029, folio 189. (4651)

NOTIFICATION OF APPROPRIATION AND RESUMPTION OF LAND FOR RAILWAY PURPOSES UNDER THE TRANSPORT AUTHORITIES ACT 1980 AND THE PUBLIC WORKS ACT 1912

WHEREAS the State Rail Authority of New South Wales as Constructing Authority is desirous of acquiring the land referred to in the Schedule hereto for the purpose of constructing an electric train service and maintenance centre and whereas the said land is in my opinion required for carrying out the said work: Now, therefore, I, the Governor, with the advice of the Executive Council, in pursuance of the provisions of The Transport Authorities Act 1980 and The Public Works Act 1912, do hereby direct that the said work shall be carried out by the State Rail Authority of New South Wales as the Constructing Authority, and I do declare by this notification to be published in the Government Gazette and in one or more newspapers published in the Police District wherein the said land is situated, that the land referred to in the Schedule hereto is hereby appropriated and resumed for the purpose hereinbefore referred to.

SCHEDULE

All that piece or parcel of land situate at St Marys in the City of Penrith, Parish of Rosy Hill, County of Cumberland and State of New South Wales, being the whole of the land comprised within Certificates of Title, volume 9043, folio 111; volume 9043, folio 112; volume 9043, folio 113 and volume 9043, folio 115 shown as lot 119, lot 120, lot 121 and lot 123 respectively in Deposited Plan 31912, having a total area of 20.15 hectares or thereabouts and said to be in the possession of Colimtee (Lands) Pty Limited.

Also all that piece or parcel of land situate as aforesaid, being the whole of the land comprised within Certificate of Title, volume 9043, folio 132, shown as lot 203 in Deposited Plan 31912, having an area of 24.15 hectares or thereabouts and said to be in the possession of The Council of the City of Penrith.

No. 179, 21st November, 1986—6

Also all that piece or parcel of land situate as aforesaid, being part of the land comprised within Certificate of Title, volume 9043, folio 116, shown as lot 1 in Deposited Plan 734443, having an area of 1.081 hectares or thereabouts and said to be in the possession of Jayworth Industries Limited (SRA Reference 241940).

This resumption is exclusive of the interests of the Commonwealth of Australia in the sites of the easements for P.M.O. cable 40 feet wide, 10 feet wide and 6 feet wide delineated on Deposited Plan 31912 and the site of the easement for railway line 66 feet wide delineated on that deposited plan and marked thereon with the letter "C" traversing the above described lands and created by Transfers L686302 and K780528.

Signed at Sydney, this 12th day of November, 1986.

J.A. ROWLAND, Governor.

By His Excellency's Command,

R. J. MULOCK, Minister for Transport.

GOD SAVE THE QUEEN! (4541)

MENTAL HEALTH ACT 1958

NOTIFICATION OF REVOCATION OF APPOINTMENT OF BLOOMFIELD HOSPITAL AS A MENTAL HOSPITAL

IN pursuance of the provisions of section 10 of the Mental Health Act 1958, I, Air Marshal Sir JAMES ANTHONY ROWLAND, Governor of the State of New South Wales, with the advice of the Executive Council, do hereby revoke all appointments of Bloomfield Hospital or part thereof as a mental hospital.

Dated this fifth day of November, 1986

J. A. ROWLAND, Governor.

By His Excellency's Command,

(4504) PETER ANDERSON, Minister for Health.

MENTAL HEALTH ACT 1958

NOTIFICATION OF REVOCATION OF APPOINTMENT OF BLOOMFIELD HOSPITAL AS A PLACE FOR THE ADMISSION AND TEMPORARY TREATMENT OF MENTALLY ILL PERSONS

IN pursuance of the provisions of section 9 of the Mental Health Act 1958, I, Air Marshal Sir JAMES ANTHONY ROWLAND, Governor of the State of New South Wales, with the advice of the Executive Council, do hereby revoke all appointments of Bloomfield Hospital or part thereof as a place for the admission and temporary treatment of mentally ill persons.

Dated this fifth day of November, 1986.

J. A. ROWLAND, Governor.

By His Excellency's Command,

(4505) PETER ANDERSON, Minister for Health.

MENTAL HEALTH ACT 1958

NOTIFICATION APPOINTING WARDS 1, 3, 9, 11, 12, 13, 15, 16, 17, 23 AND AUDLEY CLINIC OF BLOOMFIELD HOSPITAL AS A MENTAL HOSPITAL

IN pursuance of the provisions of section 10 of the Mental Health Act 1958, I, Air Marshal Sir JAMES ANTHONY ROWLAND, Governor of the State of New South Wales, with the advice of the Executive Council, do hereby appoint Wards 1, 3, 9, 11, 12, 13, 15, 16, 17, 23 and Audley Clinic of Bloomfield Hospital to be a mental hospital.

Dated this fifth day of November, 1986.

J. A. ROWLAND, Governor.

By His Excellency's Command,

(4506) PETER ANDERSON, Minister for Health.

INSTRUCTIONS FOR COMPLETION

This dealing should be lodged by hand at the Land Titles Office.

Use this form where the land resumed is under the provisions of the Real Property Act, 1900.

Typewriting and handwriting should be clear, legible and in permanent dense black or dark blue non-copying ink.

Alterations are not to be made by erasure; the words rejected are to be ruled through and initialed by the applicant in the left hand margin.

If the space provided is insufficient, additional sheets of the same size and quality of paper and having the same margins as this form should be used. Each additional sheet must be identified as an annexure and signed by the applicant and the attesting witness.

The following instructions relate to the side notes on the form.

(a) Description of land.

(i) **TORRENS TITLE REFERENCE.**—For a manual folio insert the Volume and Folio (e.g., Vol. 2514 Fol. 126). For a computer folio insert the folio identifier (e.g., 12/701924). Title references should be based in numerical sequence.

(ii) **PART/WHOLE.**—If part only of the land in the folio of the Register is the subject of the application, delete the word "Whole" and insert the lot and plan number, portion, &c.

(iii) **LOCATION.**—Insert the locality shown on the Certificate of Title/Crown Grant, e.g., at Camford. If the locality is not shown, insert the Parish and County, e.g., Pt. Limerick Co. Ross.

(b) State the name of Authority in which the land is vested.

(c) Show date and folio number of the Gazette notification.

(d) Delete this clause if the issue of a new certificate of title is not required.

(e) Insert a copy of the Gazette Notification. If the space provided is insufficient for this purpose, use an annexure sheet (identified as such) of the same size and quality of paper as this form.

(f) Execution.

The certificate of correctness under the Real Property Act, 1900 must be signed by an authorised officer of the applicant who should execute the dealing in the presence of an adult witness to whom he is personally known.

Any person falsely or negligently certifying is liable to the penalties provided by section 117 of the Real Property Act, 1900.

(g) Insert the name, postal address, Document Exchange reference, telephone number and delivery box number of the lodging party.

(h) If any document is lodged with this application, record in DOCUMENTS LODGED panel.

OFFICE USE ONLY

L.O. 704

FIRST SCHEDULE DIRECTIONS

(A) FOLIO IDENTIFIER	(B) DIRECTION	(C) NAME
	S	State Rail Authority of New South Wales

SECOND SCHEDULE AND OTHER DIRECTIONS

(A) FOLIO IDENTIFIER	(B) DIRECTION	(F) NOTED TYTP	(G) DEALING NUMBER	(H) DETAILS
119/31912	OFF	EA	D384881	
	OFF	EB	D431274	
	OFF	EC	H83909	
	OFF	ED	J340280	
	OFF	EE	K403219	
120/31912	OFF	EA	D431274	
121/31912	OFF	EB	H83909	
123/31912	OFF	EA	D431274	
	OFF	EB	H83909	
	OFF	EC	DP31911	
	OFF	ED	J340279	
	OFF	EE	J340280	
203/31912	OFF	EA	D384881	
	OFF	EB	D431274	
	OFF	EC	H83909	
	OFF	ED	K403219	
	OFF	EE	K403221	
	OFF	RX	K20000000	
	OFF	EG	P423797	
	OFF	EH	Q324580	
124/31912	OFF	EA	D431274	
	OFF	EB	H83909	
	OFF	EC	J340280	
	OFF	CV	L380778	
	OFF	ED	L380778	
	OFF	NB		
ALL	2U			DP 815293

c/s

N.1
NEW SOUTH WALES
(For Grant and title reference
prior to first edition see
Deposited Plan.)

CERTIFICATE OF TITLE
PROPERTY ACT, 1900, as amended.



Vol. 9043 Fol. 111
1st Edition issued 30-10-1961.



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

J. Jara

CANCELLED

Jawatson
Registrar-General.



SEE AUTO FOLIO
ESTATE AND LAND REFERRED TO

(For location and dimensions of land see plan filed in the Land Titles Office)

Estate in Fee Simple in Lot 119 in Deposited Plan 31912 in the City of Penrith Parish of Rooty Hill and County of Cumberland.

Jawatson
Registrar General.

FIRST SCHEDULE (continued overleaf)

~~THE COMMONWEALTH OF AUSTRALIA.~~

Jawatson
Registrar General.

SECOND SCHEDULE (continued overleaf)

- ET
EA
ET
1. Easement for Transmission Line No. D384881 affecting the part of the land above described shown in Deposited Plan 31912 as "Site of Easement for Railway Transmission Line 66 feet Wide".
 2. Easement No. D431274 appurtenant to the land above described, affecting the "Site of Proposed Easement for Drainage 33 feet Wide" shown in the plan in Acquisition No. D431274.
 3. Easement for Transmission Line No. H83909 affecting the part of the land above described shown in Deposited Plan 31912 as "Site of Easement for Transmission Line 100 feet Wide".

Jawatson
Registrar General.

FIRST SCHEDULE (continued)

REGISTERED PROPRIETOR	INSTRUMENT			ENTERED	Signature of Registrar-General
	NATURE	NUMBER	DATE		
James Hordie Pty. Limited Colmlee (Lands) Pty. Limited by Transfer V462774. Registered 3.12.1984.	Transfer	L686302	1-12-1964	9-5-1970	<i>James Hordie</i>
CANCELLED					
SEE AUTO FOLIO					

SECOND SCHEDULE (continued)

NATURE	INSTRUMENT		PARTICULARS	ENTERED	Signature of Registrar-General	CANCELLATION	
	NUMBER	DATE					
Transfer	J340280	30-5-1962	Easement for transmission line affecting the site of proposed easement for transmission line 60 feet wide and 30 feet wide shown on plan annexed. Deposited Plans 31912	10-7-1963	<i>James Hordie</i>		
Caveat	J340281	27-3-1961		10-7-1962	<i>James Hordie</i>	Withdrawn	L686301
Transfer	K4403219	27-3-1961	Easement for Railway Transmission Line (as more fully set out in the said instrument) affecting that part of the land within described shown as 'Site of Proposed Easement for Railway Transmission Line 66 feet wide in D.P. 31912'. (with consent of Caveator)	7-12-1966	<i>James Hordie</i>		
Transfer	L648866	1-10-1969	Easement for Water Pipeline as more fully set out in the said instrument affecting that part of the land within described shown as 'Site of Proposed easement for water pipeline 10 feet wide in D.P. 31912'	4-3-1970	<i>James Hordie</i>	Released	V996463
Transfer	L686302	1-12-1969	Easement for Railway Line as more fully set out in the said instrument affecting that part of the land within described in title Vol. 1047 for 1969 and Vol. 1048 for 1970 affecting that part of the land within described shown as 'Site of Proposed easement for Railway line 60 feet wide designated 'G' in D.P. 31912'	4-3-1970	<i>James Hordie</i>		
Transfer	L686302	1-12-1969	Easement for this cable as more fully set out in the said instrument affecting that part of the land within described in title Vol. 1047 for 1969 and Vol. 1048 for 1970 affecting that part of the land within described shown as 'Site of Proposed easement for Cable 10 feet wide designated 'G' in D.P. 31912'	4-3-1970	<i>James Hordie</i>		
Caveat	L686302		Created by Transfer No L686302	9-3-1970	<i>James Hordie</i>		

FORM No. 184

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

RESERVED
FOR
PURPOSES
VIDE CAP.
21-11-1988
PCL 570

SECOND SCHEDULE (continued)

NATURE	INSTRUMENT		PARTICULARS	ENTERED	Signature of Registrar General	CANCELLATION		
	NUMBER	DATE						
Transfer U(EG)	M 418316	10-5-1971	The loanment for railway line created by Transfer N° 4686302 P is hereby released in so far as it is appurtenant to the land comprised in Certificate of Title Vol 9027 Fol 129	5-10-1971	<i>Lawrence</i>			

CANCELLED

SEE AUTO FOLIO

SECOND SCHEDULE (continued)

INSTRUMENT			PARTICULARS	ENTERED	Signature of Registrar General	CANCELLATION		
NATURE	NUMBER	DATE						
			<p>CANCELLED</p> <p>SEE AUTO FOLIO</p>					



LAND
REGISTRY
SERVICES

Historical Title



NEW SOUTH WALES LAND REGISTRY SERVICES - HISTORICAL SEARCH

SEARCH DATE

28/11/2018 3:31PM

FOLIO: 119/31912

First Title(s): SEE PRIOR TITLE(S)

Prior Title(s): VOL 9043 FOL 111

Recorded	Number	Type of Instrument	C.T. Issue
21/8/1988		TITLE AUTOMATION PROJECT	LOT RECORDED FOLIO NOT CREATED
20/10/1988		CONVERTED TO COMPUTER FOLIO	FOLIO CREATED CT NOT ISSUED
28/7/1992	E510393	RESUMPTION APPLICATION	EDITION 1
4/8/1992		AMENDMENT: CT DELIVEREE	
5/5/1998	DP876781	DEPOSITED PLAN	FOLIO CANCELLED

*** END OF SEARCH ***

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**LAND
REGISTRY
SERVICES**

Historical Title



NEW SOUTH WALES LAND REGISTRY SERVICES - HISTORICAL SEARCH

SEARCH DATE

28/11/2018 3:27PM

FOLIO: 3/876781

First Title(s): OLD SYSTEM

Prior Title(s): 123/31912

1/734445

119/31912

Recorded	Number	Type of Instrument	C.T. Issue
5/5/1998	DP876781	DEPOSITED PLAN	FOLIO CREATED EDITION 1
14/7/1998	5102977	TRANSFER	
14/7/1998	5102978	MORTGAGE	EDITION 2
14/12/1998	5462972	LEASE	EDITION 3
12/6/2002	8661181	TRANSFER INCLUDING EASEMENT	
18/6/2004	AA727165	REQUEST	
26/6/2004	AA752775	CAVEAT	
3/8/2004	AA786497	CAVEAT	
21/10/2004	DP1070668	DEPOSITED PLAN	EDITION 4
24/12/2004	AB183640	CAVEAT	
24/3/2005	AB370924	WITHDRAWAL OF CAVEAT	
20/4/2005	AB422632	WITHDRAWAL OF CAVEAT	
20/4/2005	AB422633	WITHDRAWAL OF CAVEAT	
20/4/2005	AB422634	DISCHARGE OF MORTGAGE	
20/4/2005	AB422635	MORTGAGE	EDITION 5
5/5/2005	AB457623	CAVEAT	
14/9/2005	AB762981	DISCHARGE OF MORTGAGE	
14/9/2005	AB762983	TRANSFER	EDITION 6
28/9/2007	AD450005	TRANSFER	EDITION 7

*** END OF SEARCH ***

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Ref:st marys /Src:M
form: 71-011E
Licence: MID/0735/97

TRANSFER
including easement
New South Wales
Real Property Act 1900

5102977 D



Office of State Revenue use only

00.2\$

N.S.W. STAMP DUTY

10/514294102 04 5226 869042

(A) **LAND TRANSFERRED**
If appropriate, specify the share or part transferred

Folio Identifier 3/876781

(B) **TENEMENTS**

Servient (land burdened)

Folio Identifier 3/876781

Dominant (land benefited)

Integral Energy Australia
Penrith City Council
Sydney Water Corporation Limited

(C) **LODGED BY**

LTO Box

377

Name, Address or DX and Telephone

Reference (15 character max): 912 36906 - SW - NS

(D) **TRANSFEROR**

STATE RAIL AUTHORITY OF NEW SOUTH WALES

(E) acknowledges receipt of the consideration of \$1,410,000.00 transfers to the transferee an estate in fee simple and the

(F) transferor reserves an easement as set out in Schedule One hereto.

(H) Encumbrances (if applicable): 1. 2. 3.

(I) **TRANSFEEEE**

T

TRANTERET PTY LIMITED (ACN 002 261 752)

(K) We certify this dealing correct for the purposes of the Real Property Act 1900. **DATE**

Signed in my presence by the Transferor who is personally known to me.

The Common Seal of STATE RAIL AUTHORITY
OF NEW SOUTH WALES was hereunto affixed

In the presence of: Signature of Witness

Name of Witness (BLOCK LETTERS)

Address of Witness

Signature of Transferor

Signed in my presence by the Transferee who is personally known to me.

Signature of Witness

Name of Witness (BLOCK LETTERS)

Address of Witness

MICHAEL DONOVAN, Solicitor for Transferee

ACCEPT FOR LODGMENT
AND REFER TO CSB3

John LTO
CSB3 24.6.98

reservation of easement

The transferor reserves:

- (a) in favour of Integral Energy Australia its successors and assigns an easement in gross for an electrical transmission line and all associated infrastructure over the part of the servient tenement shown as "Proposed Easement for Transmission Line 30.48 wide" in Deposited Plan 876781, in terms set out in Memorandum of Transfer H83909, which terms are deemed to be incorporated in this instrument as if they were set out herein in full (references to "the Transferee" in such terms being read and construed as references to Integral Energy Australia and its successors and assigns);
- (b) in favour of Integral Energy Australia its successors and assigns an easement for an electrical transmission line and all associated infrastructure over the part of the servient tenement shown as "Proposed Easement for Transmission Line 9.145 wide and 5.18 wide" in Deposited Plan 876781 in the terms set out in Memorandum of Transfer J340280, which terms are deemed to be incorporated in this instrument as if they were set out herein in full (references to "the Council" in such terms being read and construed as references to Integral Energy Australia and its successors and assigns);
- (c) in favour of Penrith City Council its successors and assigns an easement for drainage over the part of the servient tenement shown as "Proposed Easement for Drainage 9.145 Wide" in Deposited Plan 876781 in the terms contained in Memorandum of Transfer J340279, which terms are deemed to be incorporated in this instrument as if they were set out herein in full (references to "the Transferee" in such terms being read and construed as references to Penrith City Council and its successors and assigns);
- (d) in favour of Sydney Water Corporation Limited its successors and assigns an easement for water pipeline over the part of servient tenement shown as "Proposed Easement for Water Pipeline 3.05 Wide" in Deposited Plan 876781, in the terms set out in Memorandum of Transfer K780528 reserving an easement for water pipe line 10 feet wide, which terms are deemed to be incorporated in this instrument as if they were set out herein in full (references to "the Board" in such terms being read and construed as references to Sydney Water Corporation Limited and its successors and assigns).

reservation of easement

Complete the Tenements panel on the front

G:\GC\5712.SC.1-2

Michael S. Sison

REGISTRATION DIRECTION ANNEXURE

Use this side only for Second Schedule directions

DO NOT USE BOTH SIDES OF THE FORM

SECOND SCHEDULE AND OTHER DIRECTIONS

[illegible]

Form: 97-01TE

Licence: 026CN/0617/96

TRANSFER
including easement
New South Wales
Real Property Act 1900



8661181B

Office of State Revenue
NEW SOUTH WALES DUTY
03-07-2001

0000668268-001

SECTION DTHR LEGN-TRANSFER
NO DUTY PAYABLE

(A) **LAND TRANSFERRED**
If appropriate, specify the share transferred.

Folio Identifier 2031/815293
Folio Identifier 2/876781

(B) **TENEMENTS**

Servient (land burdened)
Folio Identifier 2031/815293
Folio Identifier 2/876781

Dominant (land benefited)
See Schedules attached

see para 140.300
82.002

(C) **LODGED BY**

LTO Box

118Y

Name, Address or DX and Telephone

Andersen Legal

DX 1085 Sydney

Telephone: 9993 6600

REFERENCE (max. 15 characters): JCM:REC:FRE155/209

(D) **TRANSFEROR STATE RAIL AUTHORITY OF NEW SOUTH WALES**

(E) acknowledges receipt of the consideration of purchase price transfers to the transferee

(F) an estate in fee simple and the transferor grants an easement as set out in Schedule One hereto

(G) and reserves an easement as set out in Schedule Two hereto.

(H) Encumbrances (if applicable) 1. 2. 3. 4.

(I) **TRANSFeree**

T

FREIGHT RAIL CORPORATION

(J)

TENANCY:

(K) We certify this dealing correct for the purposes of the Real Property Act 1900.

DATE **3 JULY 2001**

Signed in my presence by the transferor who is personally known to me. The Common Seal of the STATE RAIL AUTHORITY OF NEW SOUTH WALES was hereunto affixed in the presence of:-

Signature of Witness

Geoffrey Amos

Name of Witness (BLOCK LETTERS)

Address of Witness

3 VANDERBILT PLACE CARINGBAH 2229.

Signed in my presence by the transferee who is personally known to me.

The Common Seal of FREIGHT RAIL CORPORATION was affixed in accordance with its Articles of Association in the presence of:-

Name of Witness (BLOCK LETTERS)

Address of Witness

M. Macarthur
AUTHORISED OFFICER

Signature of Transferor



Signature of Transferor

DIRECTOR / SECRETARY

CHECKED BY (LTO use)

(L)

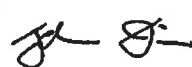
SCHEDULE ONE

grant of easement

Complete the Tenements panel on the front

Nil

S/106232.02



(M)

SCHEDULE TWO

reservation of easement

Complete the Tenements panel on the front

1 Reservation of easement for drainage 4.0 wide (J)

The transferor reserves an easement for Drainage 4.0 wide over that part of the land shown on the Deposited Plan 1022441 as "Proposed Easement For Drainage 4.0" in the terms stated in Part 3 of Schedule 8 of the Conveyancing Act, 1919. The registered proprietor of the lot benefited by the easement has the authority to release, vary or modify this easement.

Benefit of easement

The lot to which the benefit of the easement is appurtenant is Lot 3 in DP 876781.

Burden of easement

The lot subject to the burden of the easement is Lot 2031 in DP 815293.

2 Reservation of easement for drainage 3.0 & variable (L)

The transferor reserves to the transferor, its successors and assigns and Rail Infrastructure Corporation, its successors and assigns (**Rail Entities**) an easement for drainage over that part of the land shown on Deposited Plan 1022441 as "Proposed Easement For Drainage 3.0 & Variable" in the terms stated in Part 3 of Schedule 4A of the Conveyancing Act, 1919. The Rail Entities have the authority to release, vary or modify this easement.

Benefit of easement

The Authorities to which the benefit of the easement is appurtenant are State Rail of New South Wales and Rail Infrastructure Corporation.

Burden of easement

The lots subject to the burden of the easement are Lot 2031 in DP 815293 and Lot 2 in DP 876781.

3 Reservation of easement for transmission line variable width (Q)

- a) The transferor reserves to the transferor, its successors and assigns and Rail Infrastructure Corporation, its successors and assigns (**Rail Entities**) an easement for transmission line variable width over that part of the land shown on Deposited Plan 1022441 as "Proposed Easement For Transmission Line Variable Width" (**Easement Site**) reserving to the Rail Entities, their officers, servants, agents, workmen and contractors an easement in the following terms:

- i) free right, leave, liberty and licence to use and maintain the existing transmission line; and

- ii) to erect, construct, place, repair, renew, maintain, use and remove transmission lines, mains, wires, towers, poles and ancillary works through over and along the Easement Site; and
 - iii) to cause or permit electricity to flow or be transmitted through and along the said transmission lines and wires; and
 - iv) with or without horses, vehicles, plant and machinery to enter in and upon the Easement Site for purposes of exercising any rights hereby reserved to them.
- b) The transferor for itself, its successors and assigns covenants with the transferee, its successors and assigns that it will at all times and at its own expense keep the said transmission lines and wires in a satisfactory state of repair and that in the exercise of their rights, liberties and authorities hereby reserved the transferor will do as little damage as possible to the Easement Site.
- c) The transferee for itself its successors and assigns covenants with the Rail Entities that it will not do or knowingly suffer to be done any act or thing which may interfere with injure damage or destroy the said transmission lines and wires or interfere with the free flow of electricity through and along the said transmission lines and wires and that it will not erect or permit or suffer to be erected over any part or parts of the Easement Site any building or other erection of any kind without the prior consent in writing of the transferor and then only in strict conformity with such consent.
- d) The transferor, its successors and assigns have the authority to release, vary or modify this easement.

Benefit of easement

The Authorities to which the benefit of the easement is appurtenant are the State Rail of New South Wales and Rail Infrastructure Corporation.

Burden of easement

The lot subject to the burden of the easement is Lot 2 in DP 876781.

4 Reservation of easement for transmission line 20.115 wide

(R)

- a) The transferor reserves to the transferor, its successors and assigns and Rail Infrastructure Corporation, its successors and assigns (**Rail Entities**) an easement for transmission line 20.115 wide over that part of the land shown on DP 1022441 as "Proposed Easement for Transmission Line 20.115 Wide (Vide DP 31912)" (**Easement Site**) reserving to the Rail Entities, their officers, servants, agents, workmen and contractors an easement in the following terms:

- i) free right, leave, liberty and licence to use and maintain the existing transmission line; and
- ii) to erect, construct, place, repair, renew, maintain, use and remove transmission lines mains wires towers poles and ancillary works through over and along the Easement Site; and
- iii) to cause or permit electricity to flow or be transmitted through and along the said transmission lines and wires; and

- iv) with or without horses, vehicles, plant and machinery to enter in and upon the Easement Site for purposes of exercising any rights hereby reserved to them.
- b) The transferor for itself, its successors and assigns covenants with the transferee, its successors and assigns that it will at all times and at its own expense keep the said transmission lines and wires in a satisfactory state of repair and that in the exercise of their rights, liberties and authorities hereby reserved the transferor will do as little damage as possible to the Easement Site.
- c) The transferee for itself, its successors and assigns covenants with the Rail Entities that it will not do or knowingly suffer to be done any act or thing which may interfere with, injure, damage or destroy the said transmission lines and wires or interfere with the free flow of electricity through and along the said transmission lines and wires and that it will not erect or permit or suffer to be erected over any part or parts of the Easement Site any building or other erection of any kind without the prior consent in writing of the transferor and then only in strict conformity with such consent.
- d) The transferor, its successors and assigns have the authority to release, vary or modify this easement.

Benefit of easement

The Authority to which the benefit of the easement is appurtenant are the State Rail of New South Wales and Rail Infrastructure Corporation.

Burden of easement

The lot subject to the burden of the easement is Lot 2031 in DP 815293.

5 Reservation of easement for transmission line variable width (vide DP 31912) (S)

- a) The transferor reserves to the transferor, its successors and assigns and Rail Infrastructure Corporation, its successors and assigns (**Rail Entities**) an easement for transmission line variable width over that part of the land shown in Deposited Plan 1022441 as "Proposed Easement For Transmission Line Variable Width (Vide DP 31912)" (**Easement Site**) reserving unto the Rail Entities, their officers, servants, agents, workmen and contractors an easement in the following terms:
 - i) free right, leave, liberty and licence to use and maintain the existing transmission line; and
 - ii) to erect, construct, place, repair, renew, maintain, use and remove transmission lines mains, wires, towers, poles and ancillary works through over and along the Easement Site; and
 - iii) to cause or permit electricity to flow or be transmitted through and along the said transmission lines and wires; and
 - iv) with or without horses, vehicles, plant and machinery to enter in and upon the Easement Site for purposes of exercising any rights hereby reserved to them.
- b) The transferor for itself, its successors and assigns covenants with the transferee, its successors and assigns that it will at all times and at its own expense keep the said transmission lines and wires in a satisfactory state of repair and that in the exercise of their rights, liberties and authorities hereby reserved the transferor will do as little damage as possible to the Easement Site.

- c) The transferee for itself, its successors and assigns covenants with the Rail Entities that it will not do or knowingly suffer to be done any act or thing which may interfere with, injure, damage or destroy the said transmission lines and wires or interfere with the free flow of electricity through and along the said transmission lines and wires and that it will not erect or permit or suffer to be erected over any part or parts of the Easement Site any building or other erection of any kind without the prior consent in writing of the transferor and then only in strict conformity with such consent.
- d) The transferor, its successors and assigns have the authority to release, vary or modify this easement.

Benefit of easement

The Authorities to which the benefit of the easement is appurtenant are the State Rail of New South Wales and Rail Infrastructure Corporation.

Burden of easement

The lot subject to the burden of the easement is Lot 2031 in DP 815293.

6 Reservation of easement for railway transmission line 20.115 wide

- a) The transferor reserves to the transferor, its successors and assigns and Rail Infrastructure Corporation, its successors and assigns (**Rail Entities**) an easement for railway transmission line 20.115 wide over that part of the land shown on Deposited Plan 1022441 as "Proposed Easement For Railway Transmission Line 20.115 Wide (Vide DP31912)" (**Easement Site**) reserving unto the Rail Entities, their officers, servants, agents, workmen and contractors an easement on the following terms:
 - i) full and free right, leave, liberty and licence to use and maintain the existing railway transmission line; and
 - ii) to install, erect, construct, place, repair, renew, maintain, use and remove railway transmission lines, mains, wires, towers, poles, cables, equipment and ancillary works through over along and under the Easement Site; and
 - iii) to cause or permit electricity to flow or be transmitted through and along the said railway transmission lines, mains, wires and cables together with the right to come and go with or without horses, vehicles, plant and machinery to enter in and upon the Easement Site or any part thereof at all reasonable times, and in the case of emergency at any time and to remain there for any reasonable time with surveyors, workmen, vehicles, things or persons; and
 - iv) to bring and place and leave thereon or remove therefrom all necessary materials, machinery, implements and things.
- b) The transferee, its successors and assigns covenants with the transferor that it will not plant or grow any trees or shrubs upon the Easement Site or erect or cause or permit to be erected any building or structure thereon or bring or place thereon any structure or thing of a flammable nature or which will or might damage or endanger the said railway transmission line or prevent access thereto for any of the purposes aforesaid or interfere with the free flow of electricity through and along the said railway transmission lines, mains, wires and cables.
- c) The transferor, its successors and assigns have authority to release, vary of modify this easement.

Benefit of easement

The Authority to which the benefit of the easement is appurtenant are the State Rail of New South Wales and Rail Infrastructure Corporation.

Burden of easement

The lot subject to the burden of the easement is Lot 2 in DP 876781.

7 Reservation of easement for noise and vibration

- a) The transferor reserves for itself, its successors and assigns and all persons authorised by it or them the right to cause such noise and vibration as may arise from its Operations to be transmitted into and across the lot burdened.
- b) For the benefit of the right reserved the transferee as owner of the lot burdened covenants with the transferor, its successors and assigns as follows:
 - i) to waive all rights and remedies which it might otherwise have had against the Operators arising out of the exercise of rights under this easement;
 - ii) to indemnify the transferor, its successors and assigns and the Operators against any demand, claim, suit, proceeding which might be made against the transferor arising out of exercising its rights under this easement.
- c) For the purpose of clause 7 to Schedule 2 to the Transfer Including Easements the following words mean:
 - i) **Operations** includes all activities, infrastructure and works related to the services and operation of railway passenger services and railway freight services and any such transport service which is additional to or in substitution for any railway service;
 - ii) **Operators** means the transferor, its successors and assigns and Rail Infrastructure Corporation and Rail Services Australia and their successors and assigns.
- d) The transferor, its successors and assigns has the authority to release, vary or modify this easement.

Benefit of easement

The Authorities to which the benefit of the easement is appurtenant are the State Rail of New South Wales and Rail Infrastructure Corporation.

Burden of easement

The lots subject to the burden of the easement are Lot 2 in DP 876781 and Lot 2031 in DP 815293.

8 Reservation of Easement for Electrolysis

- a) The transferor reserves for itself, its successors and assigns and the Operators and all persons authorised by it or them the right to cause stray electrical currents originating from its Operations to pass across, above, through or under the lot burdened.

- b) For the purpose of clause 8 to Schedule 2 to the Transfer Including Easements the following words mean:
- i) **Operations** includes all activities, infrastructure and works related to the operation of railway passenger services and railway freight services and any such transport service which is additional to or in substitution for any railway service;
 - ii) **Operators** means the transferor, its successors and assigns and Rail Infrastructure Corporation ~~and Rail Services Australia~~ and their successors and assigns.
- c) The State Rail Authority, its successors and assigns has the authority to release, vary or modify this easement.

Benefit of easement

The Authorities to which the benefit of the easement is appurtenant are the State Rail of New South Wales and Rail Infrastructure Corporation.

Burden of easement

The lots subject to the burden of the easement are Lot 2 in DP 876781 and Lot 2031 in DP 815293.

9 Restrictions on Drainage including easements and covenant

- a) The transferee for itself, its successors and assigns covenants with the transferee for the benefit of the transferee that the transferor, its successors and assigns and the Rail Infrastructure Corporation that the transferee will not without prior written approval of the transferor and Rail Infrastructure Corporation (all costs and expenses of the transferor in connection with that approval to be met by the transferee):
- i) permit, allow or cause any water to be discharged from the lot burdened onto, in, under or through any land owned by the transferor;
 - ii) erect or allow any drainage works to be erected on the lot burdened unless they are also approved by the Council in the Local Government Area in which the lot burdened is situate and/or by Sydney Water.

Benefit of restrictions

The Authorities to which the benefit of the restriction is appurtenant are the State Rail of New South Wales and Rail Infrastructure Corporation.

Burden of restrictions

The lots subject to the burden of the restrictions are Lot 2 in DP 876781 and Lot 2031 in DP 815293.

(E)

SCHEDULE ONE

grant of easement

Complete the Tenements panel on the front

Reservation

10 Grant of easement for drainage 9.145 wide

reserves

The transferor grants to Penrith City Council, its successors and assigns pursuant to section 88A of the Conveyancing Act 1919 an easement for drainage 9.145 wide over that part of the land shown on Deposited Plan 1022441 as "Proposed Easement For Drainage 9.145 Wide (Vide DP 876781)" in the terms stated in Part 3 Schedule 4A of the Conveyancing Act 1919. The Penrith City Council, its successors and assigns have the authority to release, vary or modify this easement.

Benefit of easement

The Authority to which the benefit of the easement is appurtenant is Penrith City Council, its successors and assigns.

Burden of easement

The lot subject to the burden of the easement is Lot 2 in DP 876781.

Reservation

Grant of easement for transmission line 30.48 wide

reserves to

a) The transferor grants Integral Energy Australia, its successors and assigns, pursuant to Section 88A of the Conveyancing Act, 1919, an easement for transmission line 30.48 wide over that part of the land shown on Deposited Plan 1022441 as "Proposed Easement For Transmission Line 30.48 Wide (Vide DP 31912)" in the following terms:

- i) full and free right, leave and licence for the Authority Benefited to Erect Electricity Equipment on the surface of the Easement Site for the purpose of transmission of electricity and incidental purposes, together with the following rights:
 - A) to enter, pass and repass on the lot burdened (with or without vehicles) at all reasonable times (and at any time in the event of an emergency) and to remain there for any reasonable time with or without workmen, materials or machinery, and
 - B) to cut, trim, remove and lop trees, branches, roots, foliage and other vegetation on the lot burdened which encroach on or may interfere with or prevent reasonable access to the Easement Site of the electricity equipment, and
 - C) to remove any encroachments from the Easement Site, and
 - D) to excavate the Easement Site for the purposes of this easement.

b) In exercising its rights under this easement the Authority Benefited will take reasonable precautions to minimise disturbance to the surface of the lot burdened and will restore that surface as nearly as practicable to its original condition.

c) The Owner of the lot burdened covenants with the Authority Benefited that the Owner:

- i) will not erect or permit to be erected any structure on or over the easement site, and
- ii) will not alter the surface level of the Easement Site or carry out any form of construction affecting its surface, undersurface or subsoil, and
- iii) will not do or permit anything to be done or fail to do anything whereby access to the Easement Site by the Authority Benefited is restricted,

without the written permission of the Authority Benefited and in accordance with such conditions as the Authority Benefited may reasonably impose.

- d) For the purpose of clause 2 to Schedule 1 to the Transfer Including Easements the following words mean:

Authority Benefited means Integral Energy Australia (and its successors) and its employees, agents, contractors and persons authorised by it.

Owner means the registered proprietor from time to time of the lot burdened (including those claiming under or through the registered proprietor).

Electricity Equipment means electricity transmission poles, towers, wires, cables, and ancillary electrical equipment.

Erect includes construct, repair, replace, maintain, modify, use and remove.

Easement Site means that part of the lot burdened subject to the easement.

- e) The terms implied by S.88A(2A) and Schedule 4A Part 8 of the Conveyancing Act 1919 are excluded.
- f) The Authority Benefited has the authority to release, vary or modify this easement.

Benefit of easement

The Authority to which the benefit of the easement is appurtenant is Integral Energy Australia, its successors and assigns.

Burden of easement

The lot subject to the burden of the easement is Lot 2031 in DP 815293.

Reservation

Grant of easement for transmission line 9.145 wide (V)

- a) The transferor ~~grants~~ *reserves to* Integral Energy Australia, its successors and assigns, pursuant to Section 88A of the Conveyancing Act, 1919, an easement for transmission line 9.145 wide over that part of the land shown on Deposited Plan 1022441 as "Proposed Easement for Transmission Line 9.145 Wide (Vide DP 31912)" in the following terms:

- i) full and free right, leave and licence for the Authority Benefited to Erect Electricity Equipment on the surface of the Easement Site for the purpose of transmission of electricity and incidental purposes, together with the following rights:
 - A) to enter, pass and repass on the lot burdened (with or without vehicles) at all reasonable times (and at any time in the event of an emergency) and to remain there for any reasonable time with or without workmen, materials or machinery, and

- B) to cut, trim, remove and lop trees, branches, roots, foliage and other vegetation on the lot burdened which encroach on or may interfere with or prevent reasonable access to the Easement Site of the electricity equipment, and
 - C) to remove any encroachments from the Easement Site, and
 - D) to excavate the Easement Site for the purposes of this easement.
- b) In exercising its rights under this easement the Authority Benefited will take reasonable precautions to minimise disturbance to the surface of the lot burdened and will restore that surface as nearly as practicable to its original condition.
- c) The Owner of the lot burdened covenants with the Authority Benefited that the Owner:
- i) will not erect or permit to be erected any structure on or over the easement site, and
 - ii) will not alter the surface level of the Easement Site or carry out any form of construction affecting its surface, undersurface or subsoil, and
 - iii) will not do or permit anything to be done or fail to do anything whereby access to the Easement Site by the Authority Benefited is restricted,
- without the written permission of the Authority Benefited and in accordance with such conditions as the Authority Benefited may reasonably impose.
- d) For the purpose of clause 2 to Schedule 1 to the Transfer Including Easements the following words mean:
- Authority Benefited** means Integral Energy Australia (and its successors) and its employees, agents, contractors and persons authorised by it.
- Owner** means the registered proprietor from time to time of the lot burdened (including those claiming under or through the registered proprietor).
- Electricity Equipment** means electricity transmission poles, towers, wires, cables, and ancillary electrical equipment.
- Erect** includes construct, repair, replace, maintain, modify, use and remove.
- Easement Site** means that part of the lot burdened subject to the easement.
- e) The terms implied by S.88A(2A) and Schedule 4A Part 8 of the Conveyancing Act 1919 are excluded.
- f) The Authority Benefited has the authority to release, vary or modify this easement.

Benefit of easement

The Authority to which the benefit of the easement is appurtenant is Integral Energy Australia, its successors and assigns.

Burden of easement

The lot subject to the burden of the easement is Lot 2 in DP 876781.



I certify that the person(s) signing
opposite, with whom I am personally
acquainted or as to whose identity I am
otherwise satisfied, signed this
instrument in my presence:


Signature of witness

REBECCA ELIZABETH CHARNOCK
Name of witness

363 GEORGE STREET, SYDNEY
Address of witness

Certified correct for the purposes of
the Real Property Act 1900 by the
authorised officer named below.


Signature of authorised officer

JOHN DICER
Authorised officer's name

SEARIAL COUNSEL
Authority of officer

RAIL INFRASTRUCTURE CORPORATION
Signing on behalf of

for
**SIGNED BY INTEGRAL ENERGY AUSTRALIA
by its Attorney JOHN WALLACE
pursuant to Power of Attorney Registered
Book 4293 No 959 who declares that he has
no notice of revocation of same and countersigned by:**

~~I certify that the person(s) signing
opposite, with whom I am personally
acquainted or as to whose identity I am
otherwise satisfied, signed this
instrument in my presence:~~


TERRY JOYCE


Signature of witness

TERRY JOYCE
Name of witness

MANAGER LEGAL
Address of witness

~~Certified correct for the purposes of
the Real Property Act 1900 by the
authorised officer named below.~~


Signature of authorised officer

JOHN WALLACE
Authorised officer's name

G-M Engineering Partman
Authority of officer

Signing on behalf of

I certify that the person(s) signing
opposite, with whom I am personally
acquainted or as to whose identity I am
otherwise satisfied, signed this
instrument in my presence:

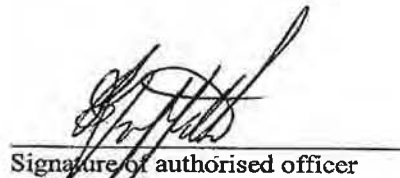


Signature of witness

REBECCA ELIZABETH CHARNOCK
Name of witness

363 GEORGE STREET, SYDNEY
Address of witness

Certified correct for the purposes of
the Real Property Act 1900 by the
authorised officer named below.



Signature of authorised officer

BRIAN GRIFFITHS
Authorised officer's name

PROPERTY DEVELOPMENT MANAGER.
Authority of officer

Signing on behalf of PENRITH CITY
COUNCIL

Certified correct for the purposes of the Real Property Act 1900 by the corporation named
below the common seal of which was affixed pursuant to the authority specified and in the
presence of authorised person(s) whose signature(s) appear(s) below:

Corporation: Tranterest Pty Ltd ACN 002 261 752
Authority:


Signature of authorised person:

PATRICK HALLINAN
Name of authorised person:

Director
Office held:


Signature of authorised person:

Leila Hallinan
Name of authorised person:

Secretary
Office held:



REGISTRATION DIRECTION ANNEXURE

8661181

SECOND SCHEDULE DIRECTIONS

FOLIO IDENTIFIER	DIRECTION	NOTFN TYPE	DEALING NUMBER	DETAILS
2031/815293	ON	EFD		4.0 WIDE AFFECTING SITE DESIGNATED (J) IN DP1022441
3/876781	ON	EFD		4.0 WIDE APPURTENANT TO THE LAND ABOVE DESCRIBED AFFECTING THE SITE DESIGNATED (J) IN DP1022441
2031/815293) 2/876781)	ON	EFD		3.0 WIDE AND VARIABLE AFFECTING THE SITE DESIGNATED (L) IN DP1022441
2/876781	ON	ETL		VARIABLE WIDTH AFFECTING THE SITE DESIGNATED (Q) IN DP1022441
2031/815293	ON	ETL		20.115 WIDE AFFECTING THE SITE DESIGNATED (R) IN DP1022441
2031/815293	ON	ETL		VARIABLE WIDTH AFFECTING THE SITE DESIGNATED (S) IN DP1022441
2/876781	ON	EA		EASEMENT FOR RAILWAY TRANSMISSION LINE 20.115 WIDE AFFECTING THE SITE DESIGNATED (T) IN DP1022441
2/876781) 2031/815293)	ON	EA		EASEMENT FOR NOISE AND VIBRATION AFFECTING THE LAND ABOVE DESCRIBED
2/876781) 2031/815293)	ON	EA		EASEMENT FOR ELECTROLYSIS AFFECTING THE LAND ABOVE DESCRIBED
2/876781) 2031/815293)	ON	RU		
2/876781	ON	EFD		9.145 WIDE AFFECTING THE SITE DESIGNATED (M) IN DP1022441
2031/815293	ON	ETL		30.48 WIDE AFFECTING THE SITE DESIGNATED (U) IN DP1022441
2/876781	ON	ETL		9.145 WIDE AFFECTING THE SITE DESIGNATED (V) IN DP1022444



Form: .01T
Release: 3.0
www.lands.nsw.gov.au

TRANSFER
New South Wales
Real Property Act 1900

AB762983Y

PRIVACY NOTE: Section 31B of the Real Property Act 1900 (RP Act) authorises the Registrar General to collect the information required by this form for the establishment and maintenance of the Real Property Act Register. Section 96B RP Act requires that the Register is made available to any person for search upon payment of a fee, if any.

STAMP DUTY

Office of State Revenue Client No: 1405240 1086 VENDOR DUTY ENDORSED Trans No: 2934540	NEW SOUTH WALES DUTY 03-08-2005 0002854555-001 SECTION 18(2) DUTY \$ *****2.00
--	---

(A) TORRENS TITLE

Folio Identifiers 3/876781 & 2/734445

(B) LODGED BY

Document Collection Box 323X	Name, Address or DX and Telephone ARNOLD BLOCH LEIBLER RESEARCH PTY LTD. Reference: GMT-021364351 ABL MAR	LLPN: 123211 X CODES T TW (Sheriff)
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(C) TRANSFEROR

TRANTERET PTY LIMITED ABN 27 002 261 752

(D) CONSIDERATION

The transferor acknowledges receipt of the consideration of \$ 9,050,000.00 and as regards

(E) ESTATE

the land specified above transfers to the transferee an estate in fee simple

(F) SHARE TRANSFERRED

(G) Encumbrances (if applicable):

(H) TRANSFEREE

MAREMMA PTY LIMITED ACN 008 648 815

(I) TENANCY:

DATE 5 September 2005

OFF X AB 457623

- (J) Certified correct for the purposes of the Real Property Act 1900 by the corporation named below the common seal of which was affixed pursuant to the authority specified and in the presence of the authorised person(s) whose signature(s) appear(s) below.**

Corporation: Authority: section 127 of the Corporations Act 2001

Signature of authorised person:

P. Hallinan
PATRICK HALLINAN
DIRECTOR

Signature of authorised person:

L. Hallinan
LEILA HALLINAN
SECRETARY

Name of authorised person:

Office held:

Certified correct for the purposes of the Real Property Act 1900 by the person whose signature appears below.

Signature:

Healy

Signatory's name:

Signatory's capacity:

KATHRYN ALEXANDRA HEALY
transferee's solicitor

*Cancel AB 457623
will lapse*

17



LAND REGISTRY SERVICES Title Search



NEW SOUTH WALES LAND REGISTRY SERVICES - TITLE SEARCH

FOLIO: 3/876781

SEARCH DATE	TIME	EDITION NO	DATE
29/11/2018	12:17 PM	7	28/9/2007

LAND

LOT 3 IN DEPOSITED PLAN 876781
AT ST MARYS
LOCAL GOVERNMENT AREA PENRITH
PARISH OF ROOTY HILL COUNTY OF CUMBERLAND
TITLE DIAGRAM DP876781

FIRST SCHEDULE

ASCIANO PROPERTIES OPERATIONS PTY LTD (T AD450005)

SECOND SCHEDULE (7 NOTIFICATIONS)

- 1 L686302 COVENANT AFFECTING THE PART SHOWN SO BURDENED IN THE TITLE DIAGRAM.
- 2 5102977 EASEMENT FOR ELECTRICAL TRANSMISSION LINE AFFECTING THE PART SHOWN AS PROPOSES EASEMENT FOR TRANSMISSION LINE 30.48 WIDE IN DP876781
- 3 5102977 EASEMENT FOR ELECTRICAL TRANSMISSION LINE AFFECTING THE PART SHOWN AS PROPOSED EASEMENT FOR TRANSMISSION LINE 9.145 WIDE AND 5.18 WIDE IN DP876781
- 4 5102977 EASEMENT FOR DRAINAGE 9.145 WIDE AFFECTING THE PART SHOWN SO BURDENED IN DP876781
- 5 5102977 EASEMENT FOR WATER PIPELINE 3.05 WIDE AFFECTING THE PART SHOWN SO BURDENED IN DP876781
- 6 8661181 EASEMENT FOR DRAINAGE 4.0 WIDE APPURTENANT TO THE LAND ABOVE DESCRIBED AFFECTING THE SITE DESIGNATED (J) IN DP1022441
- 7 DP1070668 EASEMENT FOR DRAINAGE OF WATER 6 METRE(S) WIDE AFFECTING THE PART(S) SHOWN SO BURDENED IN DP1070668

NOTATIONS

UNREGISTERED DEALINGS: NIL

*** END OF SEARCH ***

st marys

PRINTED ON 29/11/2018

* 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.



LAND
REGISTRY
SERVICES

Historical Title



NEW SOUTH WALES LAND REGISTRY SERVICES - HISTORICAL SEARCH

SEARCH DATE

28/11/2018 3:27PM

FOLIO: 2/876781

First Title(s): OLD SYSTEM

Prior Title(s): 119/31912 123/31912

Recorded	Number	Type of Instrument	C.T. Issue
5/5/1998	DP876781	DEPOSITED PLAN	FOLIO CREATED EDITION 1
6/4/2000	DP1010601	DEPOSITED PLAN	
15/2/2001	DP1022441	DEPOSITED PLAN	
4/9/2001	DP1033086	DEPOSITED PLAN	
27/9/2001	7953248	CAVEAT	
26/2/2002	7798703	REJECTED - TRANSFER	
12/6/2002	8661181	TRANSFER INCLUDING EASEMENT	EDITION 2
12/6/2002	8663978	WITHDRAWAL OF CAVEAT	
12/6/2002	8674348	DEPARTMENTAL DEALING	EDITION 3
2/8/2002	8709311	CAVEAT	
2/8/2002	8834084	DEPARTMENTAL DEALING	
27/3/2003	9450774	WITHDRAWAL OF CAVEAT	
27/3/2003	9187899	APPLICATION	EDITION 4

*** END OF SEARCH ***

st marys

PRINTED ON 28/11/2018

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Received: 28/11/2018 15:27:57

Form: 97-01TE

Licence: 026CN/0617/96

TRANSFER
including easement
New South Wales
Real Property Act 1900



8661181B

Office of State Revenue use only
03-07-2001

0000668268-001

SECTION OTHR LEGN-TRANSFER
NO DUTY PAYABLE

(A) **LAND TRANSFERRED**

If appropriate, specify the share transferred.

Folio Identifier 2031/815293

Folio Identifier 2/876781

(B) **TENEMENTS**

Servient (land burdened)

Folio Identifier 2031/815293

Folio Identifier 2/876781

Dominant (land benefited)

See Schedules attached

see para 140.300
82.002

(C) **LODGED BY**

LTO Box

118Y

Name, Address or DX and Telephone

Andersen Legal

DX 1085 Sydney

Telephone: 9993 6600

REFERENCE (max. 15 characters): JCM:REC:FRE155/209

(D) **TRANSFEROR STATE RAIL AUTHORITY OF NEW SOUTH WALES**

(E) acknowledges receipt of the consideration of purchase price transfers to the transferee

(F) an estate in fee simple and the transferor grants an easement as set out in Schedule One hereto

(G) and reserves an easement as set out in Schedule Two hereto.

(H) Encumbrances (if applicable) 1. 2. 3. 4.

(I) **TRANSFeree**

T

FREIGHT RAIL CORPORATION

(J)

TENANCY:

(K) We certify this dealing correct for the purposes of the Real Property Act 1900.

DATE **3 JULY 2001**

Signed in my presence by the transferor who is personally known to me. The Common Seal of the STATE RAIL AUTHORITY OF NEW SOUTH WALES was hereunto affixed in the presence of:-

Signature of Witness

Geoffrey Amos

Name of Witness (BLOCK LETTERS)

Address of Witness

3 Vandana Place CARINGBAH 2229.

Signed in my presence by the transferee who is personally known to me.

The Common Seal of FREIGHT RAIL CORPORATION was affixed in accordance with its Articles of Association in the presence of:-

Signature of Witness

Name of Witness (BLOCK LETTERS)

Address of Witness

Authorised Officer

Signature of Transferor



Signature of Transferor

Director / Secretary
CHECKED BY (LTO use)

(L)


SCHEDULE ONE

grant of easement

Complete the Tenements panel on the front

Nil

S/106232.02

(M)

SCHEDULE TWO

reservation of easement

Complete the Tenements panel on the front

1 **Reservation of easement for drainage 4.0 wide** (J)

The transferor reserves an easement for Drainage 4.0 wide over that part of the land shown on the Deposited Plan 1022441 as "Proposed Easement For Drainage 4.0" in the terms stated in Part 3 of Schedule 8 of the Conveyancing Act, 1919. The registered proprietor of the lot benefited by the easement has the authority to release, vary or modify this easement.

Benefit of easement

The lot to which the benefit of the easement is appurtenant is Lot 3 in DP 876781.

Burden of easement

The lot subject to the burden of the easement is Lot 2031 in DP 815293.

2 **Reservation of easement for drainage 3.0 & variable** (L)

The transferor reserves to the transferor, its successors and assigns and Rail Infrastructure Corporation, its successors and assigns (**Rail Entities**) an easement for drainage over that part of the land shown on Deposited Plan 1022441 as "Proposed Easement For Drainage 3.0 & Variable" in the terms stated in Part 3 of Schedule 4A of the Conveyancing Act, 1919. The Rail Entities have the authority to release, vary or modify this easement.

Benefit of easement

The Authorities to which the benefit of the easement is appurtenant are State Rail of New South Wales and Rail Infrastructure Corporation.

Burden of easement

The lots subject to the burden of the easement are Lot 2031 in DP 815293 and Lot 2 in DP 876781.

3 **Reservation of easement for transmission line variable width** (Q)

- a) The transferor reserves to the transferor, its successors and assigns and Rail Infrastructure Corporation, its successors and assigns (**Rail Entities**) an easement for transmission line variable width over that part of the land shown on Deposited Plan 1022441 as "Proposed Easement For Transmission Line Variable Width" (**Easement Site**) reserving to the Rail Entities, their officers, servants, agents, workmen and contractors an easement in the following terms:

- i) free right, leave, liberty and licence to use and maintain the existing transmission line; and

- ii) to erect, construct, place, repair, renew, maintain, use and remove transmission lines, mains, wires, towers, poles and ancillary works through over and along the Easement Site; and
 - iii) to cause or permit electricity to flow or be transmitted through and along the said transmission lines and wires; and
 - iv) with or without horses, vehicles, plant and machinery to enter in and upon the Easement Site for purposes of exercising any rights hereby reserved to them.
- b) The transferor for itself, its successors and assigns covenants with the transferee, its successors and assigns that it will at all times and at its own expense keep the said transmission lines and wires in a satisfactory state of repair and that in the exercise of their rights, liberties and authorities hereby reserved the transferor will do as little damage as possible to the Easement Site.
- c) The transferee for itself its successors and assigns covenants with the Rail Entities that it will not do or knowingly suffer to be done any act or thing which may interfere with injure damage or destroy the said transmission lines and wires or interfere with the free flow of electricity through and along the said transmission lines and wires and that it will not erect or permit or suffer to be erected over any part or parts of the Easement Site any building or other erection of any kind without the prior consent in writing of the transferor and then only in strict conformity with such consent.
- d) The transferor, its successors and assigns have the authority to release, vary or modify this easement.

Benefit of easement

The Authorities to which the benefit of the easement is appurtenant are the State Rail of New South Wales and Rail Infrastructure Corporation.

Burden of easement

The lot subject to the burden of the easement is Lot 2 in DP 876781.

4 Reservation of easement for transmission line 20.115 wide (R)

- a) The transferor reserves to the transferor, its successors and assigns and Rail Infrastructure Corporation, its successors and assigns (**Rail Entities**) an easement for transmission line 20.115 wide over that part of the land shown on DP 1022441 as "Proposed Easement for Transmission Line 20.115 Wide (Vide DP 31912)" (**Easement Site**) reserving to the Rail Entities, their officers, servants, agents, workmen and contractors an easement in the following terms:
- i) free right, leave, liberty and licence to use and maintain the existing transmission line; and
 - ii) to erect, construct, place, repair, renew, maintain, use and remove transmission lines mains wires towers poles and ancillary works through over and along the Easement Site; and
 - iii) to cause or permit electricity to flow or be transmitted through and along the said transmission lines and wires; and

- iv) with or without horses, vehicles, plant and machinery to enter in and upon the Easement Site for purposes of exercising any rights hereby reserved to them.
- b) The transferor for itself, its successors and assigns covenants with the transferee, its successors and assigns that it will at all times and at its own expense keep the said transmission lines and wires in a satisfactory state of repair and that in the exercise of their rights, liberties and authorities hereby reserved the transferor will do as little damage as possible to the Easement Site.
- c) The transferee for itself, its successors and assigns covenants with the Rail Entities that it will not do or knowingly suffer to be done any act or thing which may interfere with, injure, damage or destroy the said transmission lines and wires or interfere with the free flow of electricity through and along the said transmission lines and wires and that it will not erect or permit or suffer to be erected over any part or parts of the Easement Site any building or other erection of any kind without the prior consent in writing of the transferor and then only in strict conformity with such consent.
- d) The transferor, its successors and assigns have the authority to release, vary or modify this easement.

Benefit of easement

The Authority to which the benefit of the easement is appurtenant are the State Rail of New South Wales and Rail Infrastructure Corporation.

Burden of easement

The lot subject to the burden of the easement is Lot 2031 in DP 815293.

5 Reservation of easement for transmission line variable width (vide DP 31912) (S)

- a) The transferor reserves to the transferor, its successors and assigns and Rail Infrastructure Corporation, its successors and assigns (**Rail Entities**) an easement for transmission line variable width over that part of the land shown in Deposited Plan 1022441 as "Proposed Easement For Transmission Line Variable Width (Vide DP 31912)" (**Easement Site**) reserving unto the Rail Entities, their officers, servants, agents, workmen and contractors an easement in the following terms:
 - i) free right, leave, liberty and licence to use and maintain the existing transmission line; and
 - ii) to erect, construct, place, repair, renew, maintain, use and remove transmission lines mains, wires, towers, poles and ancillary works through over and along the Easement Site; and
 - iii) to cause or permit electricity to flow or be transmitted through and along the said transmission lines and wires; and
 - iv) with or without horses, vehicles, plant and machinery to enter in and upon the Easement Site for purposes of exercising any rights hereby reserved to them.
- b) The transferor for itself, its successors and assigns covenants with the transferee, its successors and assigns that it will at all times and at its own expense keep the said transmission lines and wires in a satisfactory state of repair and that in the exercise of their rights, liberties and authorities hereby reserved the transferor will do as little damage as possible to the Easement Site.

- c) The transferee for itself, its successors and assigns covenants with the Rail Entities that it will not do or knowingly suffer to be done any act or thing which may interfere with, injure, damage or destroy the said transmission lines and wires or interfere with the free flow of electricity through and along the said transmission lines and wires and that it will not erect or permit or suffer to be erected over any part or parts of the Easement Site any building or other erection of any kind without the prior consent in writing of the transferor and then only in strict conformity with such consent.
- d) The transferor, its successors and assigns have the authority to release, vary or modify this easement.

Benefit of easement

The Authorities to which the benefit of the easement is appurtenant are the State Rail of New South Wales and Rail Infrastructure Corporation.

Burden of easement

The lot subject to the burden of the easement is Lot 2031 in DP 815293.

6 Reservation of easement for railway transmission line 20.115 wide

- a) The transferor reserves to the transferor, its successors and assigns and Rail Infrastructure Corporation, its successors and assigns (**Rail Entities**) an easement for railway transmission line 20.115 wide over that part of the land shown on Deposited Plan 1022441 as "Proposed Easement For Railway Transmission Line 20.115 Wide (Vide DP31912)" (**Easement Site**) reserving unto the Rail Entities, their officers, servants, agents, workmen and contractors an easement on the following terms:
 - i) full and free right, leave, liberty and licence to use and maintain the existing railway transmission line; and
 - ii) to install, erect, construct, place, repair, renew, maintain, use and remove railway transmission lines, mains, wires, towers, poles, cables, equipment and ancillary works through over along and under the Easement Site; and
 - iii) to cause or permit electricity to flow or be transmitted through and along the said railway transmission lines, mains, wires and cables together with the right to come and go with or without horses, vehicles, plant and machinery to enter in and upon the Easement Site or any part thereof at all reasonable times, and in the case of emergency at any time and to remain there for any reasonable time with surveyors, workmen, vehicles, things or persons; and
 - iv) to bring and place and leave thereon or remove therefrom all necessary materials, machinery, implements and things.
- b) The transferee, its successors and assigns covenants with the transferor that it will not plant or grow any trees or shrubs upon the Easement Site or erect or cause or permit to be erected any building or structure thereon or bring or place thereon any structure or thing of a flammable nature or which will or might damage or endanger the said railway transmission line or prevent access thereto for any of the purposes aforesaid or interfere with the free flow of electricity through and along the said railway transmission lines, mains, wires and cables.
- c) The transferor, its successors and assigns have authority to release, vary of modify this easement.

Benefit of easement

The Authority to which the benefit of the easement is appurtenant are the State Rail of New South Wales and Rail Infrastructure Corporation.

Burden of easement

The lot subject to the burden of the easement is Lot 2 in DP 876781.

7 Reservation of easement for noise and vibration

- a) The transferor reserves for itself, its successors and assigns and all persons authorised by it or them the right to cause such noise and vibration as may arise from its Operations to be transmitted into and across the lot burdened.
- b) For the benefit of the right reserved the transferee as owner of the lot burdened covenants with the transferor, its successors and assigns as follows:
 - i) to waive all rights and remedies which it might otherwise have had against the Operators arising out of the exercise of rights under this easement;
 - ii) to indemnify the transferor, its successors and assigns and the Operators against any demand, claim, suit, proceeding which might be made against the transferor arising out of exercising its rights under this easement.
- c) For the purpose of clause 7 to Schedule 2 to the Transfer Including Easements the following words mean:
 - i) **Operations** includes all activities, infrastructure and works related to the services and operation of railway passenger services and railway freight services and any such transport service which is additional to or in substitution for any railway service;
 - ii) **Operators** means the transferor, its successors and assigns and Rail Infrastructure Corporation and Rail Services Australia and their successors and assigns.
- d) The transferor, its successors and assigns has the authority to release, vary or modify this easement.

Benefit of easement

The Authorities to which the benefit of the easement is appurtenant are the State Rail of New South Wales and Rail Infrastructure Corporation.

Burden of easement

The lots subject to the burden of the easement are Lot 2 in DP 876781 and Lot 2031 in DP 815293.

8 Reservation of Easement for Electrolysis

- a) The transferor reserves for itself, its successors and assigns and the Operators and all persons authorised by it or them the right to cause stray electrical currents originating from its Operations to pass across, above, through or under the lot burdened.

- b) For the purpose of clause 8 to Schedule 2 to the Transfer Including Easements the following words mean:
- i) **Operations** includes all activities, infrastructure and works related to the operation of railway passenger services and railway freight services and any such transport service which is additional to or in substitution for any railway service;
 - ii) **Operators** means the transferor, its successors and assigns and Rail Infrastructure Corporation ~~and Rail Services Australia~~ and their successors and assigns.
- c) The State Rail Authority, its successors and assigns has the authority to release, vary or modify this easement.

Benefit of easement

The Authorities to which the benefit of the easement is appurtenant are the State Rail of New South Wales and Rail Infrastructure Corporation.

Burden of easement

The lots subject to the burden of the easement are Lot 2 in DP 876781 and Lot 2031 in DP 815293.

9 Restrictions on Drainage including easements and covenant

- a) The transferee for itself, its successors and assigns covenants with the transferee for the benefit of the transferee that the transferor, its successors and assigns and the Rail Infrastructure Corporation that the transferee will not without prior written approval of the transferor and Rail Infrastructure Corporation (all costs and expenses of the transferor in connection with that approval to be met by the transferee):
- i) permit, allow or cause any water to be discharged from the lot burdened onto, in, under or through any land owned by the transferor;
 - ii) erect or allow any drainage works to be erected on the lot burdened unless they are also approved by the Council in the Local Government Area in which the lot burdened is situate and/or by Sydney Water.

Benefit of restrictions

The Authorities to which the benefit of the restriction is appurtenant are the State Rail of New South Wales and Rail Infrastructure Corporation.

Burden of restrictions

The lots subject to the burden of the restrictions are Lot 2 in DP 876781 and Lot 2031 in DP 815293.

~~(E)~~
SCHEDULE ONE

grant of easement

Complete the Tenements panel on the front

Reservation

10 Grant of easement for drainage 9.145 wide

reserves

The transferor grants to Penrith City Council, its successors and assigns pursuant to section 88A of the Conveyancing Act 1919 an easement for drainage 9.145 wide over that part of the land shown on Deposited Plan 1022441 as "Proposed Easement For Drainage 9.145 Wide (Vide DP 876781)" in the terms stated in Part 3 Schedule 4A of the Conveyancing Act 1919. The Penrith City Council, its successors and assigns have the authority to release, vary or modify this easement.

Benefit of easement

The Authority to which the benefit of the easement is appurtenant is Penrith City Council, its successors and assigns.

Burden of easement

The lot subject to the burden of the easement is Lot 2 in DP 876781.

Reservation

Grant of easement for transmission line 30.48 wide

reserves to

a) The transferor grants Integral Energy Australia, its successors and assigns, pursuant to Section 88A of the Conveyancing Act, 1919, an easement for transmission line 30.48 wide over that part of the land shown on Deposited Plan 1022441 as "Proposed Easement For Transmission Line 30.48 Wide (Vide DP 31912)" in the following terms:

- i) full and free right, leave and licence for the Authority Benefited to Erect Electricity Equipment on the surface of the Easement Site for the purpose of transmission of electricity and incidental purposes, together with the following rights:
- A) to enter, pass and repass on the lot burdened (with or without vehicles) at all reasonable times (and at any time in the event of an emergency) and to remain there for any reasonable time with or without workmen, materials or machinery, and
 - B) to cut, trim, remove and lop trees, branches, roots, foliage and other vegetation on the lot burdened which encroach on or may interfere with or prevent reasonable access to the Easement Site of the electricity equipment, and
 - C) to remove any encroachments from the Easement Site, and
 - D) to excavate the Easement Site for the purposes of this easement.

b) In exercising its rights under this easement the Authority Benefited will take reasonable precautions to minimise disturbance to the surface of the lot burdened and will restore that surface as nearly as practicable to its original condition.

c) The Owner of the lot burdened covenants with the Authority Benefited that the Owner:

- i) will not erect or permit to be erected any structure on or over the easement site, and
- ii) will not alter the surface level of the Easement Site or carry out any form of construction affecting its surface, undersurface or subsoil, and
- iii) will not do or permit anything to be done or fail to do anything whereby access to the Easement Site by the Authority Benefited is restricted,

without the written permission of the Authority Benefited and in accordance with such conditions as the Authority Benefited may reasonably impose.

- d) For the purpose of clause 2 to Schedule 1 to the Transfer Including Easements the following words mean:

Authority Benefited means Integral Energy Australia (and its successors) and its employees, agents, contractors and persons authorised by it.

Owner means the registered proprietor from time to time of the lot burdened (including those claiming under or through the registered proprietor).

Electricity Equipment means electricity transmission poles, towers, wires, cables, and ancillary electrical equipment.

Erect includes construct, repair, replace, maintain, modify, use and remove.

Easement Site means that part of the lot burdened subject to the easement.

- e) The terms implied by S.88A(2A) and Schedule 4A Part 8 of the Conveyancing Act 1919 are excluded.
- f) The Authority Benefited has the authority to release, vary or modify this easement.

Benefit of easement

The Authority to which the benefit of the easement is appurtenant is Integral Energy Australia, its successors and assigns.

Burden of easement

The lot subject to the burden of the easement is Lot 2031 in DP 815293.

Reservation

Grant of easement for transmission line 9.145 wide

(V)

- a) The transferor ~~grants~~ *reserves to* Integral Energy Australia, its successors and assigns, pursuant to Section 88A of the Conveyancing Act, 1919, an easement for transmission line 9.145 wide over that part of the land shown on Deposited Plan 1022441 as "Proposed Easement for Transmission Line 9.145 Wide (Vide DP 31912)" in the following terms:

- i) full and free right, leave and licence for the Authority Benefited to Erect Electricity Equipment on the surface of the Easement Site for the purpose of transmission of electricity and incidental purposes, together with the following rights:
 - A) to enter, pass and repass on the lot burdened (with or without vehicles) at all reasonable times (and at any time in the event of an emergency) and to remain there for any reasonable time with or without workmen, materials or machinery, and

- B) to cut, trim, remove and lop trees, branches, roots, foliage and other vegetation on the lot burdened which encroach on or may interfere with or prevent reasonable access to the Easement Site of the electricity equipment, and
 - C) to remove any encroachments from the Easement Site, and
 - D) to excavate the Easement Site for the purposes of this easement.
- b) In exercising its rights under this easement the Authority Benefited will take reasonable precautions to minimise disturbance to the surface of the lot burdened and will restore that surface as nearly as practicable to its original condition.
- c) The Owner of the lot burdened covenants with the Authority Benefited that the Owner:
- i) will not erect or permit to be erected any structure on or over the easement site, and
 - ii) will not alter the surface level of the Easement Site or carry out any form of construction affecting its surface, undersurface or subsoil, and
 - iii) will not do or permit anything to be done or fail to do anything whereby access to the Easement Site by the Authority Benefited is restricted,
- without the written permission of the Authority Benefited and in accordance with such conditions as the Authority Benefited may reasonably impose.
- d) For the purpose of clause 2 to Schedule 1 to the Transfer Including Easements the following words mean:

Authority Benefited means Integral Energy Australia (and its successors) and its employees, agents, contractors and persons authorised by it.

Owner means the registered proprietor from time to time of the lot burdened (including those claiming under or through the registered proprietor).

Electricity Equipment means electricity transmission poles, towers, wires, cables, and ancillary electrical equipment.

Erect includes construct, repair, replace, maintain, modify, use and remove.

Easement Site means that part of the lot burdened subject to the easement.

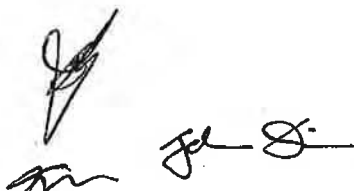
- e) The terms implied by S.88A(2A) and Schedule 4A Part 8 of the Conveyancing Act 1919 are excluded.
- f) The Authority Benefited has the authority to release, vary or modify this easement.

Benefit of easement

The Authority to which the benefit of the easement is appurtenant is Integral Energy Australia, its successors and assigns.

Burden of easement

The lot subject to the burden of the easement is Lot 2 in DP 876781.



I certify that the person(s) signing
opposite, with whom I am personally
acquainted or as to whose identity I am
otherwise satisfied, signed this
instrument in my presence:


Signature of witness

REBECCA ELIZABETH CHARNOCK
Name of witness

363 GEORGE STREET, SYDNEY
Address of witness

Certified correct for the purposes of
the Real Property Act 1900 by the
authorised officer named below.


Signature of authorised officer

JOHN DICER
Authorised officer's name

SENIOR COUNSEL
Authority of officer

RAIL INFRASTRUCTURE CORPORATION
Signing on behalf of

for
SIGNED BY INTEGRAL ENERGY AUSTRALIA
by its Attorney JOHN WALLACE
pursuant to Power of Attorney Registered
Book 4293 No 959 who declares that he has
no notice of revocation of same and countersigned by:

~~I certify that the person(s) signing
opposite, with whom I am personally
acquainted or as to whose identity I am
otherwise satisfied, signed this
instrument in my presence:~~


TERRY JOYCE


Signature of witness

TERRY JOYCE
Name of witness

MANAGER LEGAL
Address of witness

~~Certified correct for the purposes of
the Real Property Act 1900 by the
authorised officer named below.~~

 31/05/02
Signature of authorised officer

JOHN WALLACE
Authorised officer's name

G-M Engineering Partman
Authority of officer

Signing on behalf of

I certify that the person(s) signing
opposite, with whom I am personally
acquainted or as to whose identity I am
otherwise satisfied, signed this
instrument in my presence:

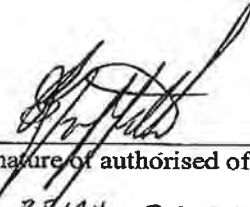


Signature of witness

REBECCA ELIZABETH CURNOCK
Name of witness

363 GEORGE STREET, SYDNEY
Address of witness

Certified correct for the purposes of
the Real Property Act 1900 by the
authorised officer named below.



Signature of authorised officer

BRIAN GRIFFITHS
Authorised officer's name

PROPERTY DEVELOPMENT MANAGER.
Authority of officer

Signing on behalf of PENRITH CITY
COUNCIL

Certified correct for the purposes of the Real Property Act 1900 by the corporation named
below the common seal of which was affixed pursuant to the authority specified and in the
presence of authorised person(s) whose signature(s) appear(s) below:

Corporation: Tranterest Pty Ltd ACN 002 261 752
Authority:



Signature of authorised person:

PATRICK HALLINAN
Name of authorised person:

Director
Office held:



Signature of authorised person:

Leila Hallinan
Name of authorised person:

Secretary
Office held:



8661181

SECOND SCHEDULE DIRECTIONS

FOLIO IDENTIFIER	DIRECTION	NOTFN TYPE	DEALING NUMBER	DETAILS
2031/815293	ON	EFD		4.0 WIDE AFFECTING SITE DESIGNATED (J) IN DP1022441
3/876781	ON	EFD		4.0 WIDE APPURTENANT TO THE LAND ABOVE DESCRIBED AFFECTING THE SITE DESIGNATED (J) IN DP1022441
2031/815293) 2/876781)	ON	EFD		3.0 WIDE AND VARIABLE AFFECTING THE SITE DESIGNATED (L) IN DP1022441
2/876781	ON	ETL		VARIABLE WIDTH AFFECTING THE SITE DESIGNATED (Q) IN DP1022441
2031/815293	ON	ETL		20.115 WIDE AFFECTING THE SITE DESIGNATED (R) IN DP1022441
2031/815293	ON	ETL		VARIABLE WIDTH AFFECTING THE SITE DESIGNATED (S) IN DP1022441
2/876781	ON	EA		EASEMENT FOR RAILWAY TRANSMISSION LINE 20.115 WIDE AFFECTING THE SITE DESIGNATED (T) IN DP1022441
2/876781) 2031/815293)	ON	EA		EASEMENT FOR NOISE AND VIBRATION AFFECTING THE LAND ABOVE DESCRIBED
2/876781) 2031/815293)	ON	EA		EASEMENT FOR ELECTROLYSIS AFFECTING THE LAND ABOVE DESCRIBED
2/876781) 2031/815293)	ON	RU		
2/876781	ON	EFD		9.145 WIDE AFFECTING THE SITE DESIGNATED (M) IN DP1022441
2031/815293	ON	ETL		30.48 WIDE AFFECTING THE SITE DESIGNATED (U) IN DP1022441
2/876781	ON	ETL		9.145 WIDE AFFECTING THE SITE DESIGNATED (V) IN DP1022444



FOLIO: 2/876781

SEARCH DATE	TIME	EDITION NO	DATE
29/11/2018	12:17 PM	4	27/3/2003

LAND

LOT 2 IN DEPOSITED PLAN 876781
AT ST MARYS
LOCAL GOVERNMENT AREA PENRITH
PARISH OF ROOTY HILL COUNTY OF CUMBERLAND
TITLE DIAGRAM DP876781

FIRST SCHEDULE

PACIFIC NATIONAL (NSW) PTY LTD

(AP 9187899)

SECOND SCHEDULE (11 NOTIFICATIONS)

- 1 L686302 EASEMENT FOR RAILWAY LINE 20.115 WIDE AFFECTING THE PART SHOWN SO BURDENED IN THE TITLE DIAGRAM M418516 RELEASED IN SO FAR AS IT IS APPURTENANT TO THE LAND COMPRISED IN VOL 9027 FOL 139
- 2 L686302 COVENANT
- 3 DP1033086 EASEMENT FOR CARRIAGEWAY 2 WIDE APPURTENANT TO THE LAND ABOVE DESCRIBED
- 4 8661181 EASEMENT FOR DRAINAGE 3.0 WIDE AND VARIABLE AFFECTING THE SITE DESIGNATED (L) IN DP1022441
- 5 8661181 EASEMENT FOR TRANSMISSION LINE VARIABLE WIDTH AFFECTING THE SITE DESIGNATED (Q) IN DP1022441
- 6 8661181 EASEMENT FOR RAILWAY TRANSMISSION LINE 20.115 WIDE AFFECTING THE SITE DESIGNATED (T) IN DP1022441
- 7 8661181 EASEMENT FOR NOISE AND VIBRATION AFFECTING THE LAND ABOVE DESCRIBED
- 8 8661181 EASEMENT FOR ELECTROLYSIS AFFECTING THE LAND ABOVE DESCRIBED
- 9 8661181 RESTRICTION(S) ON THE USE OF LAND
- 10 8661181 EASEMENT FOR DRAINAGE 9.145 WIDE AFFECTING THE SITE DESIGNATED (M) IN DP1022441
- 11 8661181 EASEMENT FOR TRANSMISSION LINE 9.145 WIDE AFFECTING THE SITE DESIGNATED (V) IN DP1022441

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

END OF PAGE 1 - CONTINUED OVER

FOLIO: 2/876781

PAGE 2

NOTATIONS (CONTINUED)

IDENTITY OF THE PERSON(S) CLAIMING A RIGHT TO DEAL WITH THE LAND
COMPRISED IN THIS FOLIO.

UNREGISTERED DEALINGS: NIL

*** END OF SEARCH ***

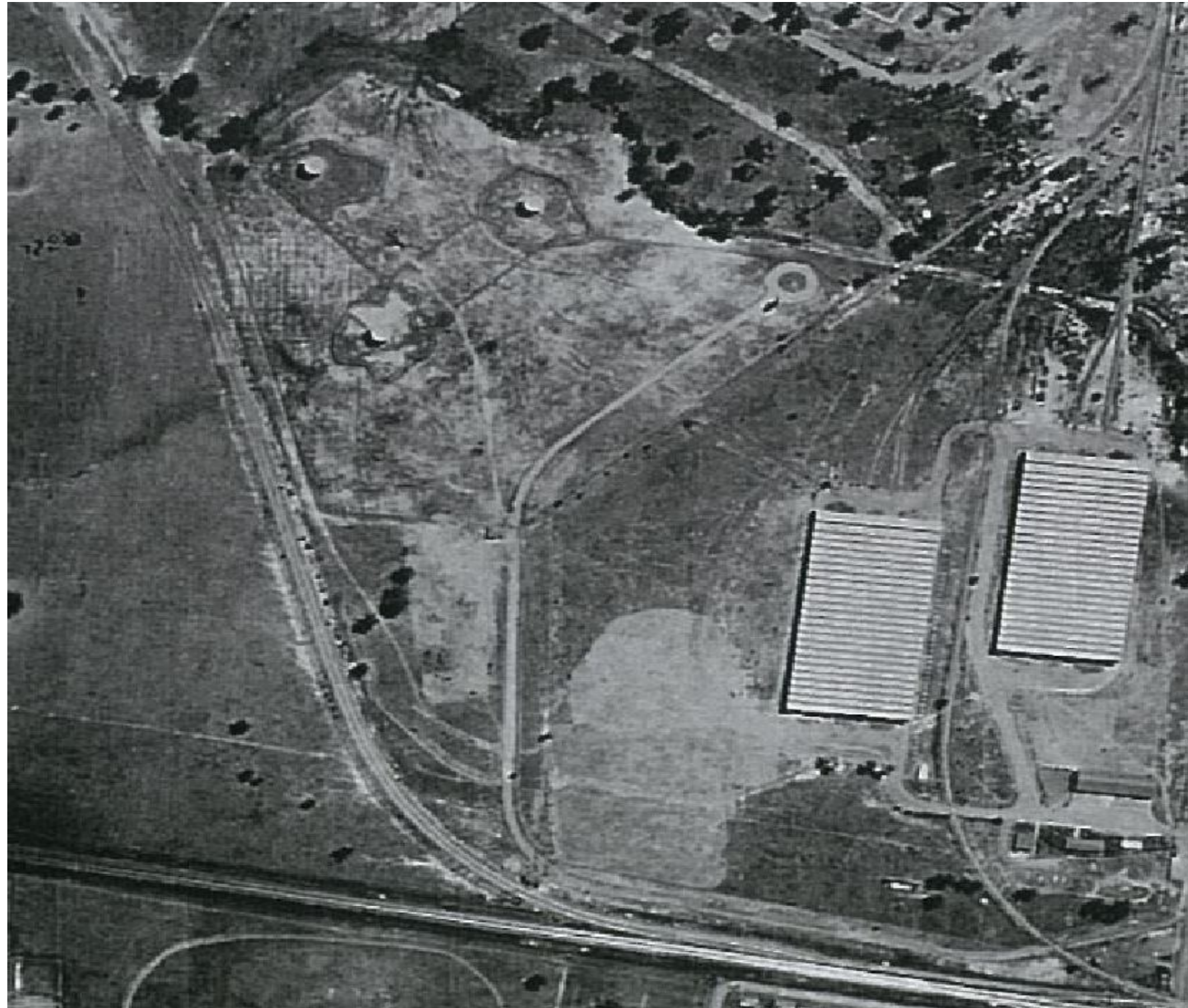
st marys

PRINTED ON 29/11/2018

* 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.

Appendix F

Historical Aerial Photographs







94525.00

Historical Aerial - 1965
Preliminary Site Contamination Investigation
Proposed St Marys Freight Hub- Stage 1, St Marys, NSW

Jan-19

Plate 6









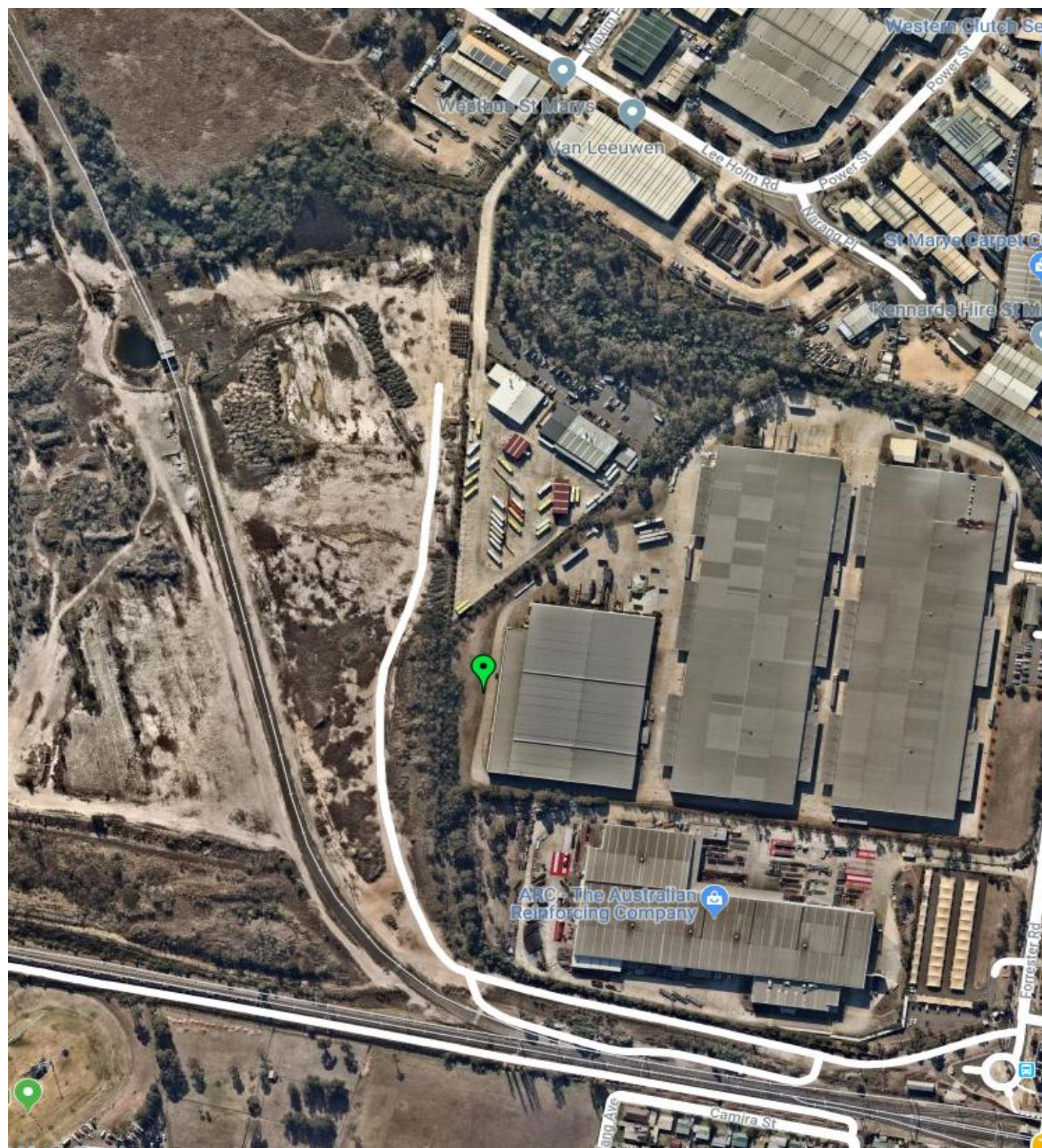


94525.00

Historical Aerial - 2011
Preliminary Site Contamination Investigation
Proposed St Marys Freight Hub- Stage 1, St Marys, NSW

Jan-19

Plate 16



94525.00

Historical Aerial - 2018
Preliminary Site Contamination Investigation
Proposed St Marys Freight Hub- Stage 1, St Marys, NSW

Jan-19

Plate 18

Appendix G

Section 10.7 (2 & 5) Certificates

PLANNING CERTIFICATE UNDER SECTION 10.7
Environmental Planning and Assessment Act, 1979

Property No: 740737
Your Reference: PO 134538
Contact No:

Issue Date: 29 November 2018
Certificate No: 18/06200

Issued to: Douglas Partners Pty Ltd
18 Waler Crescent
SMEATON GRANGE NSW 2167

PRECINCT 2010

DESCRIPTION OF LAND

County: CUMBERLAND

Parish: ROOTY HILL

Location: Lot 2 Forrester Road ST MARYS NSW 2760

Land Description: Lot 2 DP 876781

- PART 1 PRESCRIBED MATTERS -

In accordance with the provisions of Section 10.7(2) of the Act the following information is furnished in respect of the abovementioned land:

1 NAMES OF RELEVANT PLANNING INSTRUMENTS AND DCPs

1(1) The name of each environmental planning instrument that applies to the carrying out of development on the land:

Penrith Local Environmental Plan 2010, published 22nd September 2010, as amended, applies to the land.

Sydney Regional Environmental Plan No.9 - Extractive Industry (No.2), gazetted 15 September 1995, as amended, applies to the local government area of Penrith.

Sydney Regional Environmental Plan No. 20 - Hawkesbury-Nepean River (No. 2 - 1997), gazetted 7 November 1997, as amended, applies to the local government area of Penrith (except land to which State Environmental Planning Policy (Penrith Lakes Scheme) 1989 applies).

The following State environmental planning policies apply to the land (subject to the exclusions noted below):

State Environmental Planning Policy No.1 - Development Standards. (Note: This policy does not apply to the land to which Penrith Local Environmental Plan 2010 or State Environmental Planning Policy (Western Sydney Employment Area) 2009 apply.)

State Environmental Planning Policy No.19 - Bushland in Urban Areas. (Note: This policy does not apply to certain land referred to in the National Parks and Wildlife Act 1974 and the Forestry Act 1916.)

State Environmental Planning Policy No.21 - Caravan Parks.

State Environmental Planning Policy No.30 - Intensive Agriculture.

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

PLANNING CERTIFICATE UNDER SECTION 10.7
Environmental Planning and Assessment Act, 1979

State Environmental Planning Policy No.50 - Canal Estate Development. (Note: This policy does not apply to the land to which State Environmental Planning Policy (Penrith Lakes Scheme) 1989 applies.

State Environmental Planning Policy No.55 - Remediation of Land.

State Environmental Planning Policy No.62 - Sustainable Aquaculture.

State Environmental Planning Policy No.64 - Advertising and Signage.

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

State Environmental Planning Policy No.70 - Affordable Housing (Revised Schemes).

State Environmental Planning Policy (Housing for Seniors or People with a Disability) 2004 (Note: This policy applies to land within New South Wales that is land zoned primarily for urban purposes or land that adjoins land zoned primarily for urban purposes, but only as detailed in clause 4 of the policy.)

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

State Environmental Planning Policy (State Significant Precincts) 2005.

State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2013.

State Environmental Planning Policy (Miscellaneous Consent Provisions) 2007.

State Environmental Planning Policy (Infrastructure) 2007.

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

State Environmental Planning Policy (Affordable Rental Housing) 2009.

State Environmental Planning Policy (State and Regional Development) 2011.

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

State Environmental Planning Policy (Education Establishments and Child Care Centre Facilities) 2017.

1(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:

(Information is provided in this section only if a proposed environmental planning instrument that is or has been the subject of community consultation or on public exhibition under the Act will apply to the carrying out of development on the land.)

Draft amendments to Penrith Development Control Plan 2014 for Multi-Dwelling Housing and Boarding Houses applies to the land. (See www.penrithcity.nsw.gov.au for details).

Draft State Environmental Planning Policy (Western Sydney Corridors) may apply to the land. Further information is available here: <https://www.transport.nsw.gov.au/corridors>.

On 22 June 2018, the NSW Government announced changes to the recommended alignments for the Western Sydney corridors, including continuing with the previously gazetted 1951 corridor for the Bells Line of Road Castlereagh Connection.

Draft State Environmental Planning Policy (Primary Production & Rural Development) applies to the land.

Draft State Environmental Planning Policy (Environment) applies to the land.

Draft State Environmental Planning Policy (Remediation of Land) applies to the land.

Draft Standard Instrument (Local Environmental Plans) Order 2006 applies to the land.

PLANNING CERTIFICATE UNDER SECTION 10.7

Environmental Planning and Assessment Act, 1979

Draft State Environmental Planning Policy (Exempt and Complying Development Codes) 2008 applies to the land.

1(3) The name of each development control plan that applies to the carrying out of development on the land:

Penrith Development Control Plan 2014 applies to the land.

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):

2(a)-(d) the identity of the zone; the purposes that may be carried out without development consent; the purposes that may not be carried out except with development consent; and the purposes that are prohibited within the zone. Any zone(s) applying to the land is/are listed below and/or in annexures.

(Note: If no zoning appears in this section see section 1(1) for zoning and land use details (under the Sydney Regional Environmental Plan or State Environmental Planning Policy that zones this property).)

Zone IN1 General Industrial

(Penrith Local Environmental Plan 2010)

1 Objectives of zone

- To provide a wide range of industrial and warehouse land uses.
- To encourage employment opportunities.
- To minimise any adverse effect of industry on other land uses.
- To support and protect industrial land for industrial uses.
- To promote development that makes efficient use of industrial land.
- To permit facilities that serve the daily recreation and convenience needs of the people who work in the surrounding industrial area.

2 Permitted without consent

Nil

3 Permitted with consent

Animal boarding or training establishments; Boat building and repair facilities; Car parks; Depots; Environmental facilities; Environmental protection works; Flood mitigation works; Freight transport facilities; Garden centres; General industries; Hardware and building supplies; Industrial retail outlets; Industrial training facilities; Industries; Kiosks; Landscaping material supplies; Light industries; Neighbourhood shops; Places of public worship; Plant nurseries; Recreation areas; Roads; Rural industries; Self-storage units; Signage; Storage premises; Take away food and drink premises; Timber yards; Transport depots; Truck depots; Vehicle body repair workshops; Vehicle repair stations; Warehouse or distribution centres

4 Prohibited

Hazardous industries; Offensive industries; Any other development not specified in item 2 or 3

PLANNING CERTIFICATE UNDER SECTION 10.7
Environmental Planning and Assessment Act, 1979

Flood planning

All or part of the subject land is identified in Penrith Local Environmental Plan 2010 (PLEP 2010) Clause 7.2 Flood Planning. Development consent is required for any development on land to which Clause 7.2 of PLEP 2010 applies.

Additional information relating to Penrith Local Environmental Plan 2010

Note 1: Under the terms of Clause 2.4 of Penrith Local Environmental Plan 2010 development may be carried out on unzoned land only with development consent.

Note 2: Under the terms of Clause 2.6 of Penrith Local Environmental Plan 2010 land may be subdivided but only with development consent, except for the exclusions detailed in the clause.

Note 3: Under the terms of Clause 2.7 of Penrith Local Environmental Plan 2010 the demolition of a building or work may be carried out only with development consent.

Note 4: A temporary use may be permitted with development consent subject to the requirements of Clause 2.8 of Penrith Local Environmental Plan 2010.

Note 5: Under the terms of Clause 4.1A of Penrith Local Environmental Plan 2010, despite any other provision of this plan, development consent must not be granted for dual occupancy on an internal lot in Zone R2 Low Density Residential.

Note 6: Under the terms of Clause 5.1 of Penrith Local Environmental Plan 2010 development on land acquired by an authority of the State under the owner-initiated acquisition provisions may, before it is used for the purpose for which it is reserved, be carried out, with development consent, for any purpose.

Note 7: Under the terms of Clause 5.3 of Penrith Local Environmental Plan 2010 development consent may be granted to development of certain land for any purpose that may be carried out in an adjoining zone.

Note 8: Clause 5.10 of Penrith Local Environmental Plan 2010 details when development consent is required/not required in relation to heritage conservation.

Note 9: Under the terms of Clause 5.11 of Penrith Local Environmental Plan 2010 bush fire hazard reduction work authorised by the *Rural Fires Act 1997* may be carried out on any land without development consent.

Note 10: Under the terms of Clause 7.1 of Penrith Local Environmental Plan 2010 (PLEP 2010) development consent is required for earthworks unless the work is exempt development under PLEP 2010 or another applicable environmental planning instrument, or the work is ancillary to other development for which development consent has been given.

Note 11: Sex services premises and restricted premises may only be permitted subject to the requirements of Clause 7.23 of Penrith Local Environmental Plan 2010.

PLANNING CERTIFICATE UNDER SECTION 10.7

Environmental Planning and Assessment Act, 1979

2(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:

(Information is provided in this section only if 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.)

2(f) whether the land includes or comprises critical habitat:

(Information is provided in this section only if the land includes or comprises critical habitat.)

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

(Information is provided in this section only if the land is in a conservation area (however described).)

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

(Information is provided in this section only if an item of environmental heritage (however described) is situated on the land.)

**2A ZONING AND LAND USE UNDER STATE ENVIRONMENTAL PLANNING POLICY
(SYDNEY REGION GROWTH CENTRES) 2006**

(Information is provided in this section only if the land is within any zone under State Environmental Planning Policy (Sydney Region Growth Centres) 2006.)

3 COMPLYING DEVELOPMENT

HOUSING CODE

(The Housing Code only applies if the land is within Zones R1, R2, R3, R4 or RU5 under Penrith Local Environmental Plan 2010 or an equivalent zone in a non standard template planning instrument.)

Complying development under the Housing Code **may** be carried out on the land if the land is within one of the abovementioned zones.

RURAL HOUSING CODE

(The Rural Housing Code only applies if the land is within Zones RU1, RU2, RU3, RU4, RU6 or R5 under Penrith Local Environmental Plan 2010 or an equivalent zone in a non standard template planning instrument.)

Complying development under the Rural Housing Code **may** be carried out on the land if the land is within one of the abovementioned zones.

PLANNING CERTIFICATE UNDER SECTION 10.7
Environmental Planning and Assessment Act, 1979

LOW RISE MEDIUM DENSITY HOUSING CODE

(The Low Rise Medium Density Housing Code only applies if the land is within Zones R1, R2, R3 or RU5 under Penrith Local Environmental Plan 2010 or an equivalent zone in a non standard template planning instrument.)

Complying development under the Low Rise Medium Density Housing Code **may** be carried out on the land if the land is within one of the abovementioned zones.

Please note that Council has been deferred from the application of Part 3B of the Low Rise Medium Density Housing Code until 1 July 2019. That Part will not apply to Penrith Local Government Area during this time.

GREENFIELD HOUSING CODE

(The Greenfield Housing Code only applies if the land is within Zones R1, R2, R3, R4 or RU5 under Penrith Local Environmental Plan 2010 or an equivalent zone in a non standard template planning instrument, and if the land is identified as a Greenfield Housing Code Area by the Greenfield Housing Code Area Map.)

Complying development under the Greenfield Housing Code **may** be carried out on the land if the land is within one of the abovementioned zones, and if the land is identified as a Greenfield Housing Code Area by the Greenfield Housing Code Area Map.

HOUSING ALTERATIONS CODE

Complying development under the Housing Alterations Code **may** be carried out on the land.

GENERAL DEVELOPMENT CODE

Complying development under the General Development Code **may** be carried out on the land.

COMMERCIAL AND INDUSTRIAL ALTERATIONS CODE

Complying development under the Commercial and Industrial Alterations Code **may** be carried out on the land.

SUBDIVISIONS CODE

Complying development under the Subdivisions Code **may** be carried out on the land.

DEMOLITION CODE

Complying development under the Demolition Code **may** be carried out on the land.

PLANNING CERTIFICATE UNDER SECTION 10.7
Environmental Planning and Assessment Act, 1979

COMMERCIAL AND INDUSTRIAL (NEW BUILDINGS AND ADDITIONS) CODE

(The Commercial and Industrial (New Buildings and Additions) Code only applies if the land is within Zones B1, B2, B3, B4, B5, B6, B7, B8, IN1, IN2, IN3, IN4 or SP3 under Penrith Local Environmental Plan 2010 or an equivalent zone in a non standard template planning instrument.)

Complying development under the Commercial and Industrial (New Buildings and Alterations) Code **may** be carried out on the land if the land is within one of the abovementioned zones.

FIRE SAFETY CODE

Complying development under the Fire Safety Code **may** be carried out on the land.

(NOTE: (1) Council has relied on Planning and Infrastructure Circulars and Fact Sheets in the preparation of this information. Applicants should seek their own legal advice in relation to this matter with particular reference to State Environmental Planning Policy (Exempt and Complying Development Codes) 2008.

(2) Penrith Local Environmental Plan 2010 (if it applies to the land) contains additional complying development not specified in State Environmental Planning Policy (Exempt and Complying Development Codes) 2008.)

4 COASTAL PROTECTION

The land is not affected by the operation of sections 38 or 39 of the Coastal Protection Act 1979, to the extent that council has been so notified by the Department of Public Works.

5 MINE SUBSIDENCE

The land is not proclaimed to be a mine subsidence district within the meaning of section 15 of the Mine Subsidence Compensation Act 1961.

6 ROAD WIDENING AND ROAD REALIGNMENT

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

- (a) Division 2 of Part 3 of the Roads Act 1993, or
- (b) an environmental planning instrument, or
- (c) a resolution of council.

7 COUNCIL AND OTHER PUBLIC AUTHORITY POLICIES ON HAZARD RISK RESTRICTIONS

(a) Council Policies

The land is affected by the Asbestos Policy adopted by Council.

The land is not affected by any other policy adopted 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).

(b) Other Public Authority Policies

The Bush Fire Co-ordinating Committee has adopted a Bush Fire Risk Management Plan that covers the local government area of Penrith City Council, and includes public, private and Commonwealth lands.

PLANNING CERTIFICATE UNDER SECTION 10.7

Environmental Planning and Assessment Act, 1979

The land is not affected by a policy 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, tidal inundation, subsidence, acid sulphate soils or any other risk (other than flooding).

7A FLOOD RELATED DEVELOPMENT CONTROLS INFORMATION

(1) Development on the 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) (if such uses are permissible on the land) is subject to flood related development controls.

(2) Development on the land or part of the land for industrial or commercial purposes (if such uses are permissible on the land) is subject to flood related development controls.

Development on the land or part of the land for purposes other than industrial or commercial, or for purposes other than those referred to in (1) above, will be considered on a merits based approach and flood related development controls may apply.

Note: The land is subject to Penrith Development Control Plan 2014 Section C3.5 Flood Planning. On application and payment of the prescribed fee Council may be able to provide in writing a range of advice in regard to the extent of flooding affecting the property.

8 LAND RESERVED FOR ACQUISITION

No 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.

9 CONTRIBUTIONS PLANS

The Cultural Facilities Development Contributions Plan applies anywhere residential development is permitted within the City of Penrith.

The Penrith City Local Open Space Development Contributions Plan applies anywhere residential development is permitted within the City of Penrith, excluding industrial areas and the release areas identified in Appendix B of the Plan (Penrith Lakes, Cranebrook, Sydney Regional Environmental Plan No. 30 - St Marys, Waterside, Thornton, the WELL Precinct, Glenmore Park and Erskine Park).

The Penrith City District Open Space Facilities Development Contributions Plan applies anywhere residential development is permitted within the City of Penrith, with the exclusion of industrial lands and the Penrith Lakes development site.

9A BIODIVERSITY CERTIFIED LAND

(Information is provided in this section only if the land is biodiversity certified land under Part 8 of the *Biodiversity Conservation Act 2016*. (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*.)

PLANNING CERTIFICATE UNDER SECTION 10.7
Environmental Planning and Assessment Act, 1979

10 BIODIVERSITY STEWARDSHIP SITES

(Information is provided in this section only if Council has been notified by the Chief Executive of the Office of Environment and Heritage that the land is land to which a biobanking stewardship agreement under Part 5 of the *Biodiversity Conservation Act 2016* relates. Note. Biodiversity stewardship agreements include biobanking agreements under Part 7A of the *Threatened Species Conservation Act 1995* that are taken to be biodiversity stewardships agreements under Part 5 of the *Biodiversity Conservation Act 2016*)

11 BUSH FIRE PRONE LAND

Some of the land is identified as bush fire prone land according to Council records. Guidance as to restrictions that may be placed on the land as a result of the land being bush fire prone can be obtained by contacting Council. Such advice would be subject to further requirements of the NSW Rural Fire Services.

12 PROPERTY VEGETATION PLANS

(Information is provided in this section only if Council has been notified that the land is land to which a property vegetation plan approved under the *Native Vegetation Act 2003* applies and continues in force.)

13 ORDERS UNDER TREES (DISPUTES BETWEEN NEIGHBOURS) ACT 2006

(Information is provided in this section only if Council has been notified that 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.)

14 DIRECTIONS UNDER PART 3A

(Information is provided in this section only if there is a direction by the Minister in force under section 75P(2)(c1) of the Act (repealed on 1st October 2011) 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.)

15 SITE COMPATIBILITY CERTIFICATES AND CONDITIONS AFFECTING SENIORS HOUSING

(Information is provided in this section only if:

- (a) there is a current site compatibility certificate (seniors housing), of which the council is aware, issued under State Environmental Planning Policy (Housing for Seniors or People with a Disability) 2004 in respect of proposed development on the land; and/or
- (b) any terms of a kind referred to in clause 18(2) of State Environmental Planning Policy (Housing for Seniors or People with a Disability) 2004 have been imposed as a condition of consent to a development application granted after 11 October 2007 in respect of the land.)

PLANNING CERTIFICATE UNDER SECTION 10.7
Environmental Planning and Assessment Act, 1979

16 SITE COMPATIBILITY CERTIFICATES FOR INFRASTRUCTURE

(Information is provided in this section only if there is a valid site compatibility certificate (infrastructure), of which council is aware, in respect of proposed development on the land.)

17 SITE COMPATIBILITY CERTIFICATES AND CONDITIONS FOR AFFORDABLE RENTAL HOUSING

(Information is provided in this section only if:

- (a) 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/or
- (b) any terms of a kind referred to in clause 17(1) or 37(1) of State Environmental Planning Policy (Affordable Rental Housing) 2009 have been imposed as a condition of consent to a development application in respect of the land.)

18 PAPER SUBDIVISION INFORMATION

(Information is provided in this section only if a development plan adopted by a relevant authority applies to the land or is proposed to be subject to a consent ballot, or a subdivision order applies to the land.)

19 SITE VERIFICATION CERTIFICATES

(Information is provided in this section only if there is a current site verification certificate, of which council is aware, in respect of the land.)

NOTE: 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) (Information is provided in this section only if, as at the date of this certificate, the land (or part of the land) is significantly contaminated land within the meaning of the Contaminated Land Management Act 1997.)

(b) (Information is provided in this section only if, as at the date of this certificate, the land is subject to a management order within the meaning of the Contaminated Land Management Act 1997.)

(c) (Information is provided in this section only if, as at the date of this certificate, the land is the subject of an approved voluntary management proposal within the meaning of the Contaminated Land Management Act 1997.)

(d) (Information is provided in this section only if, at the date of this certificate, the land subject to an ongoing maintenance order within the meaning of the Contaminated Land Management Act 1997.)

(e) (Information is provided in this section only if the land is the subject of a site audit statement within the meaning of the Contaminated Land Management Act 1997 - a copy of which has been provided to Council.)

PLANNING CERTIFICATE UNDER SECTION 10.7

Environmental Planning and Assessment Act, 1979

Note: Section 10.7(5) information for this property may contain additional information regarding contamination issues.

20 LOOSE FILL ASBESTOS INSULATION

(Information is provided in this section only if there is a residential premises listed on the register of residential premises that contain or have contained loose-fill asbestos insulation (as required by Division 1A of Part 8 of the Home Building Act 1989))

21 AFFECTED BUILDING NOTICES AND BUILDING PRODUCT RECTIFICATION ORDERS

(Information is provided in this section only if Council is aware of any “affected building notice” and/or a “building product rectification order” in force for the land).

Note: The Environmental Planning and Assessment Amendment Act 2017 commenced operation on the 1 March 2018. As a consequence of this Act the information contained in this certificate needs to be read in conjunction with the provisions of the Environmental Planning and Assessment (Savings, Transitional and Other Provisions) Regulation 2017, and Environmental Planning and Assessment Regulation 2000.

Information is provided only to the extent that Council has been notified by relevant government departments.

10.7(5) Certificate

**This Certificate is directed to the following
relevant matters affecting the land**

When information pursuant to section 10.7(5) is requested the Council is under no obligation to furnish any of the information supplied herein pursuant to that section. 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 sub-section (5). The absence of any reference to any matter affecting the land shall not imply that the land is not affected by any matter not referred to in this certificate.

Note:

- Council’s 10.7(5) information does not include development consent or easement information. Details of development consents may be obtained by making enquiries with Council’s Development Services Department pursuant to section 12 of the Local Government Act 1993 or (for development applications lodged after January 2007) by viewing the Online Services area at www.penrithcity.nsw.gov.au . Details of any easements may be obtained from a Title Search at Land and Property Information New South Wales.
- This certificate does not contain information relating to Complying Development Certificates.
- This certificate may not provide full details of development rights over the land.

*** Threatened Species Conservation Act 1995**

When considering any development application Council must have regard to the Threatened Species Conservation Act 1995. Please note that this legislation may have application to any land throughout the city. Interested persons should make their own enquiries in regard to the impact that this legislation could have on this land.

PLANNING CERTIFICATE UNDER SECTION 10.7

Environmental Planning and Assessment Act, 1979

*** Scenic and Landscape Values**

The land is identified as “Land with Scenic and Landscape Values” on the Penrith Local Environmental Plan 2010 Scenic and Landscape Values Map. See Clause 7.5 of Penrith Local Environmental Plan 2010 and Chapter C1 Site Planning and Design of Penrith Development Control Plan 2014.

*** Preservation of Trees and Vegetation**

See Chapter C2 of Penrith Development Control Plan 2014 for specific controls relating to the preservation of trees and vegetation.

*** Development Control Plan General Information**

Penrith Development Control Plan 2014 which applies to the land, sets out requirements for a range of issues that apply across the Penrith Local Government Area, including:

- Site Planning and Design Principles
- Vegetation Management
- Water Management
- Land Management
- Waste Management
- Landscape Design
- Culture and Heritage
- Public Domain
- Advertising and Signage
- Transport, Access and Parking
- Subdivision
- Noise and Vibration, and
- Infrastructure and Services.

The Development Control Plan also specifies requirements relating to various types of land uses including:

- Rural Land Uses
- Residential Development
- Commercial and Retail Development, and
- Industrial Development

as well as for a number of specific activities, including child care centres; health consulting rooms; educational establishments; parent friendly amenities; places of public worship; vehicle repair stations; cemeteries, crematoria and funeral homes; extractive industries; and telecommunication facilities.

The Development Control Plan also details requirements relating to key precincts within the Penrith Local Government Area, including:

- Caddens
 - Claremont Meadows Stage 2
 - Cranebrook
 - Emu Heights
 - Emu Plains
 - Erskine Business Park
 - Glenmore Park
-

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- Kingswood
- Mulgoa Valley
- Orchard Hills
- Penrith
- Penrith Health and Education Precinct
- Riverlink Precinct
- St Clair,
- St Marys / St Marys North, and
- Sydney Science Park.

Penrith Development Control Plan 2014 may be accessed at
<https://www.penrithcity.nsw.gov.au/Building-and-Development/Planning-and-Zoning/Planning-Controls/Development-Control-Plans/>

Warwick Winn
General Manager

PER



Please note:

Certain amendments to the Environmental Planning and Assessment Act 1979 No 203 (Act) commenced on 1 March 2018.

The Environmental Planning and Assessment (Amendment) Act 2017 No 60 makes structural changes to the Act and, as a consequence, the Act has been renumbered in a decimal format. For example, Section 149 Planning Certificates have become Section 10.7 Certificates. Some of the information in this certificate may refer to the previous version of the Act.

Council is committed to updating all relevant documents in a timely manner. This will include planning instruments, applications, approvals, orders, certificates, forms and other associated documents in both printed and electronic versions. Council is required to implement these changes and regrets any inconvenience caused to the local business, industry and the community.

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Property No: 740746
Your Reference: PO 134538
Contact No:

Issue Date: 29 November 2018
Certificate No: 18/06201

Issued to: Douglas Partners Pty Ltd
18 Waler Crescent
SMEATON GRANGE NSW 2167

PRECINCT 2010

DESCRIPTION OF LAND

County: CUMBERLAND

Parish: ROOTY HILL

Location: 69-81 Lee Holm Road ST MARYS NSW 2760

Land Description: Lot 3 DP 876781

- PART 1 PRESCRIBED MATTERS -

In accordance with the provisions of Section 10.7(2) of the Act the following information is furnished in respect of the abovementioned land:

1 NAMES OF RELEVANT PLANNING INSTRUMENTS AND DCPs

1(1) The name of each environmental planning instrument that applies to the carrying out of development on the land:

Penrith Local Environmental Plan 2010, published 22nd September 2010, as amended, applies to the land.

Sydney Regional Environmental Plan No.9 - Extractive Industry (No.2), gazetted 15 September 1995, as amended, applies to the local government area of Penrith.

Sydney Regional Environmental Plan No. 20 - Hawkesbury-Nepean River (No. 2 - 1997), gazetted 7 November 1997, as amended, applies to the local government area of Penrith (except land to which State Environmental Planning Policy (Penrith Lakes Scheme) 1989 applies).

The following State environmental planning policies apply to the land (subject to the exclusions noted below):

State Environmental Planning Policy No.1 - Development Standards. (Note: This policy does not apply to the land to which Penrith Local Environmental Plan 2010 or State Environmental Planning Policy (Western Sydney Employment Area) 2009 apply.)

State Environmental Planning Policy No.19 - Bushland in Urban Areas. (Note: This policy does not apply to certain land referred to in the National Parks and Wildlife Act 1974 and the Forestry Act 1916.)

State Environmental Planning Policy No.21 - Caravan Parks.

State Environmental Planning Policy No.30 - Intensive Agriculture.

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

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State Environmental Planning Policy No.50 - Canal Estate Development. (Note: This policy does not apply to the land to which State Environmental Planning Policy (Penrith Lakes Scheme) 1989 applies.

State Environmental Planning Policy No.55 - Remediation of Land.

State Environmental Planning Policy No.62 - Sustainable Aquaculture.

State Environmental Planning Policy No.64 - Advertising and Signage.

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

State Environmental Planning Policy No.70 - Affordable Housing (Revised Schemes).

State Environmental Planning Policy (Housing for Seniors or People with a Disability) 2004 (Note: This policy applies to land within New South Wales that is land zoned primarily for urban purposes or land that adjoins land zoned primarily for urban purposes, but only as detailed in clause 4 of the policy.)

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

State Environmental Planning Policy (State Significant Precincts) 2005.

State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2013.

State Environmental Planning Policy (Miscellaneous Consent Provisions) 2007.

State Environmental Planning Policy (Infrastructure) 2007.

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

State Environmental Planning Policy (Affordable Rental Housing) 2009.

State Environmental Planning Policy (State and Regional Development) 2011.

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

State Environmental Planning Policy (Education Establishments and Child Care Centre Facilities) 2017.

1(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:

(Information is provided in this section only if a proposed environmental planning instrument that is or has been the subject of community consultation or on public exhibition under the Act will apply to the carrying out of development on the land.)

Draft amendments to Penrith Development Control Plan 2014 for Multi-Dwelling Housing and Boarding Houses applies to the land. (See www.penrithcity.nsw.gov.au for details).

Draft State Environmental Planning Policy (Western Sydney Corridors) may apply to the land. Further information is available here: <https://www.transport.nsw.gov.au/corridors>.

On 22 June 2018, the NSW Government announced changes to the recommended alignments for the Western Sydney corridors, including continuing with the previously gazetted 1951 corridor for the Bells Line of Road Castlereagh Connection.

Draft State Environmental Planning Policy (Primary Production & Rural Development) applies to the land.

Draft State Environmental Planning Policy (Environment) applies to the land.

Draft State Environmental Planning Policy (Remediation of Land) applies to the land.

Draft Standard Instrument (Local Environmental Plans) Order 2006 applies to the land.

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Draft State Environmental Planning Policy (Exempt and Complying Development Codes) 2008 applies to the land.

1(3) The name of each development control plan that applies to the carrying out of development on the land:

Penrith Development Control Plan 2014 applies to the land.

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):

2(a)-(d) the identity of the zone; the purposes that may be carried out without development consent; the purposes that may not be carried out except with development consent; and the purposes that are prohibited within the zone. Any zone(s) applying to the land is/are listed below and/or in annexures.

(Note: If no zoning appears in this section see section 1(1) for zoning and land use details (under the Sydney Regional Environmental Plan or State Environmental Planning Policy that zones this property).)

Zone IN1 General Industrial

(Penrith Local Environmental Plan 2010)

1 Objectives of zone

- To provide a wide range of industrial and warehouse land uses.
- To encourage employment opportunities.
- To minimise any adverse effect of industry on other land uses.
- To support and protect industrial land for industrial uses.
- To promote development that makes efficient use of industrial land.
- To permit facilities that serve the daily recreation and convenience needs of the people who work in the surrounding industrial area.

2 Permitted without consent

Nil

3 Permitted with consent

Animal boarding or training establishments; Boat building and repair facilities; Car parks; Depots; Environmental facilities; Environmental protection works; Flood mitigation works; Freight transport facilities; Garden centres; General industries; Hardware and building supplies; Industrial retail outlets; Industrial training facilities; Industries; Kiosks; Landscaping material supplies; Light industries; Neighbourhood shops; Places of public worship; Plant nurseries; Recreation areas; Roads; Rural industries; Self-storage units; Signage; Storage premises; Take away food and drink premises; Timber yards; Transport depots; Truck depots; Vehicle body repair workshops; Vehicle repair stations; Warehouse or distribution centres

4 Prohibited

Hazardous industries; Offensive industries; Any other development not specified in item 2 or 3

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Flood planning

All or part of the subject land is identified in Penrith Local Environmental Plan 2010 (PLEP 2010) Clause 7.2 Flood Planning. Development consent is required for any development on land to which Clause 7.2 of PLEP 2010 applies.

Additional information relating to Penrith Local Environmental Plan 2010

Note 1: Under the terms of Clause 2.4 of Penrith Local Environmental Plan 2010 development may be carried out on unzoned land only with development consent.

Note 2: Under the terms of Clause 2.6 of Penrith Local Environmental Plan 2010 land may be subdivided but only with development consent, except for the exclusions detailed in the clause.

Note 3: Under the terms of Clause 2.7 of Penrith Local Environmental Plan 2010 the demolition of a building or work may be carried out only with development consent.

Note 4: A temporary use may be permitted with development consent subject to the requirements of Clause 2.8 of Penrith Local Environmental Plan 2010.

Note 5: Under the terms of Clause 4.1A of Penrith Local Environmental Plan 2010, despite any other provision of this plan, development consent must not be granted for dual occupancy on an internal lot in Zone R2 Low Density Residential.

Note 6: Under the terms of Clause 5.1 of Penrith Local Environmental Plan 2010 development on land acquired by an authority of the State under the owner-initiated acquisition provisions may, before it is used for the purpose for which it is reserved, be carried out, with development consent, for any purpose.

Note 7: Under the terms of Clause 5.3 of Penrith Local Environmental Plan 2010 development consent may be granted to development of certain land for any purpose that may be carried out in an adjoining zone.

Note 8: Clause 5.10 of Penrith Local Environmental Plan 2010 details when development consent is required/not required in relation to heritage conservation.

Note 9: Under the terms of Clause 5.11 of Penrith Local Environmental Plan 2010 bush fire hazard reduction work authorised by the *Rural Fires Act 1997* may be carried out on any land without development consent.

Note 10: Under the terms of Clause 7.1 of Penrith Local Environmental Plan 2010 (PLEP 2010) development consent is required for earthworks unless the work is exempt development under PLEP 2010 or another applicable environmental planning instrument, or the work is ancillary to other development for which development consent has been given.

Note 11: Sex services premises and restricted premises may only be permitted subject to the requirements of Clause 7.23 of Penrith Local Environmental Plan 2010.

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2(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:

(Information is provided in this section only if 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.)

2(f) whether the land includes or comprises critical habitat:

(Information is provided in this section only if the land includes or comprises critical habitat.)

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

(Information is provided in this section only if the land is in a conservation area (however described).)

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

(Information is provided in this section only if an item of environmental heritage (however described) is situated on the land.)

**2A ZONING AND LAND USE UNDER STATE ENVIRONMENTAL PLANNING POLICY
(SYDNEY REGION GROWTH CENTRES) 2006**

(Information is provided in this section only if the land is within any zone under State Environmental Planning Policy (Sydney Region Growth Centres) 2006.)

3 COMPLYING DEVELOPMENT

HOUSING CODE

(The Housing Code only applies if the land is within Zones R1, R2, R3, R4 or RU5 under Penrith Local Environmental Plan 2010 or an equivalent zone in a non standard template planning instrument.)

- The land is affected by environmentally sensitive land identified by an environmental planning instrument. If the land is within the relevant zones complying development under the Housing Code **may not** be carried out on any part of the land identified by an environmental planning instrument as being environmentally sensitive land. Complying development **may** be carried out on any part of the land that is not identified by an environmental planning instrument as being environmentally sensitive land. For the purposes of this section “environmentally sensitive land” means any land that is identified in Schedule 3 of Sydney Regional Environmental Plan No. 9 - Extractive Industry (No. 2); any land defined as “environmentally sensitive areas” in Sydney Regional Environmental Plan No 20 - Hawkesbury-Nepean River (No 2 - 1997); any land zoned Zone E2 Environmental Conservation under State Environmental Planning Policy (Western Sydney Employment Area) 2009; any Natural Resources Sensitive Land under Penrith Local Environmental Plan 2010; and any land zoned either Zone E1 National Parks and Nature Reserves, Zone E2 Environmental Conservation, Zone W1 Natural Waterways or Zone W2 Recreational Waterways under Penrith Local Environmental Plan 2010.

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RURAL HOUSING CODE

(The Rural Housing Code only applies if the land is within Zones RU1, RU2, RU3, RU4, RU6 or R5 under Penrith Local Environmental Plan 2010 or an equivalent zone in a non standard template planning instrument.)

- The land is affected by environmentally sensitive land identified by an environmental planning instrument. If the land is within the relevant zones complying development under the Rural Housing Code **may not** be carried out on any part of the land identified by an environmental planning instrument as being environmentally sensitive land. Complying development **may** be carried out on any part of the land that is not identified by an environmental planning instrument as being environmentally sensitive land. For the purposes of this section “environmentally sensitive land” means any land that is identified in Schedule 3 of Sydney Regional Environmental Plan No. 9 - Extractive Industry (No. 2); any land defined as “environmentally sensitive areas” in Sydney Regional Environmental Plan No 20 - Hawkesbury-Nepean River (No 2 - 1997); any land zoned Zone E2 Environmental Conservation under State Environmental Planning Policy (Western Sydney Employment Area) 2009; any Natural Resources Sensitive Land under Penrith Local Environmental Plan 2010; and any land zoned either Zone E1 National Parks and Nature Reserves, Zone E2 Environmental Conservation, Zone W1 Natural Waterways or Zone W2 Recreational Waterways under Penrith Local Environmental Plan 2010.

LOW RISE MEDIUM DENSITY HOUSING CODE

(The Low Rise Medium Density Housing Code only applies if the land is within Zones R1, R2, R3 or RU5 under Penrith Local Environmental Plan 2010 or an equivalent zone in a non standard template planning instrument.)

- The land is affected by environmentally sensitive land identified by an environmental planning instrument. If the land is within the relevant zones complying development under the Low Rise Medium Density Housing Code **may not** be carried out on any part of the land identified by an environmental planning instrument as being environmentally sensitive land. Complying development **may** be carried out on any part of the land that is not identified by an environmental planning instrument as being environmentally sensitive land. For the purposes of this section “environmentally sensitive land” means any land that is identified in Schedule 3 of Sydney Regional Environmental Plan No. 9 - Extractive Industry (No. 2); any land defined as “environmentally sensitive areas” in Sydney Regional Environmental Plan No 20 - Hawkesbury-Nepean River (No 2 - 1997); any land zoned Zone E2 Environmental Conservation under State Environmental Planning Policy (Western Sydney Employment Area) 2009; any Natural Resources Sensitive Land under Penrith Local Environmental Plan 2010; and any land zoned either Zone E1 National Parks and Nature Reserves, Zone E2 Environmental Conservation, Zone W1 Natural Waterways or Zone W2 Recreational Waterways under Penrith Local Environmental Plan 2010.

Please note that Council has been deferred from the application of Part 3B of the Low Rise Medium Density Housing Code until 1 July 2019. That Part will not apply to Penrith Local Government Area during this time.

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GREENFIELD HOUSING CODE

(The Greenfield Housing Code only applies if the land is within Zones R1, R2, R3, R4 or RU5 under Penrith Local Environmental Plan 2010 or an equivalent zone in a non standard template planning instrument, and if the land is identified as a Greenfield Housing Code Area by the Greenfield Housing Code Area Map.)

- The land is affected by environmentally sensitive land identified by an environmental planning instrument. If the land is within the relevant zones, and if the land is identified as a Greenfield Housing Code Area by the Greenfield Housing Code Area Map complying development under the Greenfield Housing Code **may not** be carried out on any part of the land identified by an environmental planning instrument as being environmentally sensitive land. Complying development **may** be carried out on any part of the land that is not identified by an environmental planning instrument as being environmentally sensitive land. For the purposes of this section “environmentally sensitive land” means any land that is identified in Schedule 3 of Sydney Regional Environmental Plan No. 9 - Extractive Industry (No. 2); any land defined as “environmentally sensitive areas” in Sydney Regional Environmental Plan No 20 - Hawkesbury-Nepean River (No 2 - 1997); any land zoned Zone E2 Environmental Conservation under State Environmental Planning Policy (Western Sydney Employment Area) 2009; any Natural Resources Sensitive Land under Penrith Local Environmental Plan 2010; and any land zoned either Zone E1 National Parks and Nature Reserves, Zone E2 Environmental Conservation, Zone W1 Natural Waterways or Zone W2 Recreational Waterways under Penrith Local Environmental Plan 2010.

HOUSING ALTERATIONS CODE

Complying development under the Housing Alterations Code **may** be carried out on the land.

GENERAL DEVELOPMENT CODE

Complying development under the General Development Code **may** be carried out on the land.

COMMERCIAL AND INDUSTRIAL ALTERATIONS CODE

Complying development under the Commercial and Industrial Alterations Code **may** be carried out on the land.

SUBDIVISIONS CODE

Complying development under the Subdivisions Code **may** be carried out on the land.

DEMOLITION CODE

Complying development under the Demolition Code **may** be carried out on the land.

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COMMERCIAL AND INDUSTRIAL (NEW BUILDINGS AND ADDITIONS) CODE

(The Commercial and Industrial (New Buildings and Additions) Code only applies if the land is within Zones B1, B2, B3, B4, B5, B6, B7, B8, IN1, IN2, IN3, IN4 or SP3 under Penrith Local Environmental Plan 2010 or an equivalent zone in a non standard template planning instrument.)

- The land is affected by environmentally sensitive land identified by an environmental planning instrument. If the land is within the relevant zones complying development under the Commercial and Industrial (New Buildings and Additions) Code **may not** be carried out on any part of the land identified by an environmental planning instrument as being environmentally sensitive land. Complying development **may** be carried out on any part of the land that is not identified by an environmental planning instrument as being environmentally sensitive land. For the purposes of this section “environmentally sensitive land” means any land that is identified in Schedule 3 of Sydney Regional Environmental Plan No. 9 - Extractive Industry (No. 2); any land defined as “environmentally sensitive areas” in Sydney Regional Environmental Plan No 20 - Hawkesbury-Nepean River (No 2 - 1997); any land zoned Zone E2 Environmental Conservation under State Environmental Planning Policy (Western Sydney Employment Area) 2009; any Natural Resources Sensitive Land under Penrith Local Environmental Plan 2010; and any land zoned either Zone E1 National Parks and Nature Reserves, Zone E2 Environmental Conservation, Zone W1 Natural Waterways or Zone W2 Recreational Waterways under Penrith Local Environmental Plan 2010.

FIRE SAFETY CODE

Complying development under the Fire Safety Code **may** be carried out on the land.

(NOTE: (1) Council has relied on Planning and Infrastructure Circulars and Fact Sheets in the preparation of this information. Applicants should seek their own legal advice in relation to this matter with particular reference to State Environmental Planning Policy (Exempt and Complying Development Codes) 2008.

(2) Penrith Local Environmental Plan 2010 (if it applies to the land) contains additional complying development not specified in State Environmental Planning Policy (Exempt and Complying Development Codes) 2008.)

4 *COASTAL PROTECTION*

The land is not affected by the operation of sections 38 or 39 of the Coastal Protection Act 1979, to the extent that council has been so notified by the Department of Public Works.

5 *MINE SUBSIDENCE*

The land is not proclaimed to be a mine subsidence district within the meaning of section 15 of the Mine Subsidence Compensation Act 1961.

6 *ROAD WIDENING AND ROAD REALIGNMENT*

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

- (a) Division 2 of Part 3 of the Roads Act 1993, or
- (b) an environmental planning instrument, or
- (c) a resolution of council.

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7 COUNCIL AND OTHER PUBLIC AUTHORITY POLICIES ON HAZARD RISK RESTRICTIONS

(a) Council Policies

The land is affected by the Asbestos Policy adopted by Council.

The land is not affected by any other policy adopted 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).

(b) Other Public Authority Policies

The Bush Fire Co-ordinating Committee has adopted a Bush Fire Risk Management Plan that covers the local government area of Penrith City Council, and includes public, private and Commonwealth lands.

The land is not affected by a policy 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, tidal inundation, subsidence, acid sulphate soils or any other risk (other than flooding).

7A FLOOD RELATED DEVELOPMENT CONTROLS INFORMATION

(1) Development on the 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) (if such uses are permissible on the land) is subject to flood related development controls.

(2) Development on the land or part of the land for industrial or commercial purposes (if such uses are permissible on the land) is subject to flood related development controls.

Development on the land or part of the land for purposes other than industrial or commercial, or for purposes other than those referred to in (1) above, will be considered on a merits based approach and flood related development controls may apply.

Note: The land is subject to Penrith Development Control Plan 2014 Section C3.5 Flood Planning. On application and payment of the prescribed fee Council may be able to provide in writing a range of advice in regard to the extent of flooding affecting the property.

8 LAND RESERVED FOR ACQUISITION

No 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.

9 CONTRIBUTIONS PLANS

The Cultural Facilities Development Contributions Plan applies anywhere residential development is permitted within the City of Penrith.

The Penrith City Local Open Space Development Contributions Plan applies anywhere residential development is permitted within the City of Penrith, excluding industrial areas and the release areas

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identified in Appendix B of the Plan (Penrith Lakes, Cranebrook, Sydney Regional Environmental Plan No. 30 - St Marys, Waterside, Thornton, the WELL Precinct, Glenmore Park and Erskine Park).

The Penrith City District Open Space Facilities Development Contributions Plan applies anywhere residential development is permitted within the City of Penrith, with the exclusion of industrial lands and the Penrith Lakes development site.

9A BIODIVERSITY CERTIFIED LAND

(Information is provided in this section only if the land is biodiversity certified land under Part 8 of the *Biodiversity Conservation Act 2016*. (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*.)

10 BIODIVERSITY STEWARDSHIP SITES

(Information is provided in this section only if Council has been notified by the Chief Executive of the Office of Environment and Heritage that the land is land to which a biobanking stewardship agreement under Part 5 of the *Biodiversity Conservation Act 2016* relates. Note. Biodiversity stewardship agreements include biobanking agreements under Part 7A of the *Threatened Species Conservation Act 1995* that are taken to be biodiversity stewardships agreements under Part 5 of the *Biodiversity Conservation Act 2016*)

11 BUSH FIRE PRONE LAND

All of the land is identified as bush fire prone land according to Council records. Guidance as to restrictions that may be placed on the land as a result of the land being bush fire prone can be obtained by contacting Council. Such advice would be subject to further requirements of the NSW Rural Fire Services.

12 PROPERTY VEGETATION PLANS

(Information is provided in this section only if Council has been notified that the land is land to which a property vegetation plan approved under the *Native Vegetation Act 2003* applies and continues in force.)

13 ORDERS UNDER TREES (DISPUTES BETWEEN NEIGHBOURS) ACT 2006

(Information is provided in this section only if Council has been notified that 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.)

14 DIRECTIONS UNDER PART 3A

(Information is provided in this section only if there is a direction by the Minister in force under section 75P(2)(c1) of the Act (repealed on 1st October 2011) 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.)

PLANNING CERTIFICATE UNDER SECTION 10.7

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15 SITE COMPATIBILITY CERTIFICATES AND CONDITIONS AFFECTING SENIORS HOUSING

(Information is provided in this section only if:

- (a) there is a current site compatibility certificate (seniors housing), of which the council is aware, issued under State Environmental Planning Policy (Housing for Seniors or People with a Disability) 2004 in respect of proposed development on the land; and/or
- (b) any terms of a kind referred to in clause 18(2) of State Environmental Planning Policy (Housing for Seniors or People with a Disability) 2004 have been imposed as a condition of consent to a development application granted after 11 October 2007 in respect of the land.)

16 SITE COMPATIBILITY CERTIFICATES FOR INFRASTRUCTURE

(Information is provided in this section only if there is a valid site compatibility certificate (infrastructure), of which council is aware, in respect of proposed development on the land.)

17 SITE COMPATIBILITY CERTIFICATES AND CONDITIONS FOR AFFORDABLE RENTAL HOUSING

(Information is provided in this section only if:

- (a) 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/or
- (b) any terms of a kind referred to in clause 17(1) or 37(1) of State Environmental Planning Policy (Affordable Rental Housing) 2009 have been imposed as a condition of consent to a development application in respect of the land.)

18 PAPER SUBDIVISION INFORMATION

(Information is provided in this section only if a development plan adopted by a relevant authority applies to the land or is proposed to be subject to a consent ballot, or a subdivision order applies to the land.)

19 SITE VERIFICATION CERTIFICATES

(Information is provided in this section only if there is a current site verification certificate, of which council is aware, in respect of the land.)

NOTE: 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) (Information is provided in this section only if, as at the date of this certificate, the land (or part of the land) is significantly contaminated land within the meaning of the Contaminated Land Management Act 1997.)

(b) (Information is provided in this section only if, as at the date of this certificate, the land is subject to a management order within the meaning of the Contaminated Land Management Act 1997.)

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(c) (Information is provided in this section only if, as at the date of this certificate, the land is the subject of an approved voluntary management proposal within the meaning of the Contaminated Land Management Act 1997.)

(d) (Information is provided in this section only if, at the date of this certificate, the land subject to an ongoing maintenance order within the meaning of the Contaminated Land Management Act 1997.)

(e) (Information is provided in this section only if the land is the subject of a site audit statement within the meaning of the Contaminated Land Management Act 1997 - a copy of which has been provided to Council.)

Note: Section 10.7(5) information for this property may contain additional information regarding contamination issues.

20 LOOSE FILL ASBESTOS INSULATION

(Information is provided in this section only if there is a residential premises listed on the register of residential premises that contain or have contained loose-fill asbestos insulation (as required by Division 1A of Part 8 of the Home Building Act 1989))

21 AFFECTED BUILDING NOTICES AND BUILDING PRODUCT RECTIFICATION ORDERS

(Information is provided in this section only if Council is aware of any “affected building notice” and/or a “building product rectification order” in force for the land).

Note: The Environmental Planning and Assessment Amendment Act 2017 commenced operation on the 1 March 2018. As a consequence of this Act the information contained in this certificate needs to be read in conjunction with the provisions of the Environmental Planning and Assessment (Savings, Transitional and Other Provisions) Regulation 2017, and Environmental Planning and Assessment Regulation 2000.

Information is provided only to the extent that Council has been notified by relevant government departments.

10.7(5) Certificate
This Certificate is directed to the following
relevant matters affecting the land

When information pursuant to section 10.7(5) is requested the Council is under no obligation to furnish any of the information supplied herein pursuant to that section. 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 sub-section (5). The absence of any reference to any matter affecting the land shall not imply that the land is not affected by any matter not referred to in this certificate.

Note:

- Council’s 10.7(5) information does not include development consent or easement information. Details of development consents may be obtained by making enquiries with Council’s Development Services Department pursuant to section 12 of the Local Government Act 1993 or (for development applications lodged after January 2007) by viewing the Online Services area at www.penrithcity.nsw.gov.au . Details of any easements may be obtained from a Title Search at Land and Property Information New South Wales.

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- This certificate does not contain information relating to Complying Development Certificates.
- This certificate may not provide full details of development rights over the land.

*** Threatened Species Conservation Act 1995**

When considering any development application Council must have regard to the Threatened Species Conservation Act 1995. Please note that this legislation may have application to any land throughout the city. Interested persons should make their own enquiries in regard to the impact that this legislation could have on this land.

*** Scenic and Landscape Values**

The land is identified as “Land with Scenic and Landscape Values” on the Penrith Local Environmental Plan 2010 Scenic and Landscape Values Map. See Clause 7.5 of Penrith Local Environmental Plan 2010 and Chapter C1 Site Planning and Design of Penrith Development Control Plan 2014.

*** Preservation of Trees and Vegetation**

See Chapter C2 of Penrith Development Control Plan 2014 for specific controls relating to the preservation of trees and vegetation.

*** Development Control Plan General Information**

Penrith Development Control Plan 2014 which applies to the land, sets out requirements for a range of issues that apply across the Penrith Local Government Area, including:

- Site Planning and Design Principles
- Vegetation Management
- Water Management
- Land Management
- Waste Management
- Landscape Design
- Culture and Heritage
- Public Domain
- Advertising and Signage
- Transport, Access and Parking
- Subdivision
- Noise and Vibration, and
- Infrastructure and Services.

The Development Control Plan also specifies requirements relating to various types of land uses including:

- Rural Land Uses
- Residential Development
- Commercial and Retail Development, and
- Industrial Development

as well as for a number of specific activities, including child care centres; health consulting rooms; educational establishments; parent friendly amenities; places of public worship; vehicle repair stations; cemeteries, crematoria and funeral homes; extractive industries; and telecommunication facilities.

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The Development Control Plan also details requirements relating to key precincts within the Penrith Local Government Area, including:

- Caddens
- Claremont Meadows Stage 2
- Cranebrook
- Emu Heights
- Emu Plains
- Erskine Business Park
- Glenmore Park
- Kingswood
- Mulgoa Valley
- Orchard Hills
- Penrith
- Penrith Health and Education Precinct
- Riverlink Precinct
- St Clair,
- St Marys / St Marys North, and
- Sydney Science Park.

Penrith Development Control Plan 2014 may be accessed at
<https://www.penrithcity.nsw.gov.au/Building-and-Development/Planning-and-Zoning/Planning-Controls/Development-Control-Plans/>

Warwick Winn
General Manager

PER



Please note:

Certain amendments to the Environmental Planning and Assessment Act 1979 No 203 (Act) commenced on 1 March 2018.

The Environmental Planning and Assessment (Amendment) Act 2017 No 60 makes structural changes to the Act and, as a consequence, the Act has been renumbered in a decimal format. For example, Section 149 Planning Certificates have become Section 10.7 Certificates. Some of the information in this certificate may refer to the previous version of the Act.

Council is committed to updating all relevant documents in a timely manner. This will include planning instruments, applications, approvals, orders, certificates, forms and other associated documents in both printed and electronic versions. Council is required to implement these changes and regrets any inconvenience caused to the local business, industry and the community.

PLANNING CERTIFICATE UNDER SECTION 10.7
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Property No: 640890
Your Reference: PO 134538
Contact No:

Issue Date: 29 November 2018
Certificate No: 18/06202

Issued to: Douglas Partners Pty Ltd
18 Waler Crescent
SMEATON GRANGE NSW 2167

PRECINCT 2010

DESCRIPTION OF LAND

County: CUMBERLAND

Parish: ROOTY HILL

Location: Lot 196 Christie Street ST MARYS NSW 2760

Land Description: Lot 196 DP 31912

- PART 1 PRESCRIBED MATTERS -

In accordance with the provisions of Section 10.7(2) of the Act the following information is furnished in respect of the abovementioned land:

1 NAMES OF RELEVANT PLANNING INSTRUMENTS AND DCPs

1(1) The name of each environmental planning instrument that applies to the carrying out of development on the land:

Penrith Local Environmental Plan 2010, published 22nd September 2010, as amended, applies to the land.

Sydney Regional Environmental Plan No.9 - Extractive Industry (No.2), gazetted 15 September 1995, as amended, applies to the local government area of Penrith.

Sydney Regional Environmental Plan No. 20 - Hawkesbury-Nepean River (No. 2 - 1997), gazetted 7 November 1997, as amended, applies to the local government area of Penrith (except land to which State Environmental Planning Policy (Penrith Lakes Scheme) 1989 applies).

The following State environmental planning policies apply to the land (subject to the exclusions noted below):

State Environmental Planning Policy No.1 - Development Standards. (Note: This policy does not apply to the land to which Penrith Local Environmental Plan 2010 or State Environmental Planning Policy (Western Sydney Employment Area) 2009 apply.)

State Environmental Planning Policy No.19 - Bushland in Urban Areas. (Note: This policy does not apply to certain land referred to in the National Parks and Wildlife Act 1974 and the Forestry Act 1916.)

State Environmental Planning Policy No.21 - Caravan Parks.

State Environmental Planning Policy No.30 - Intensive Agriculture.

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

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State Environmental Planning Policy No.50 - Canal Estate Development. (Note: This policy does not apply to the land to which State Environmental Planning Policy (Penrith Lakes Scheme) 1989 applies.

State Environmental Planning Policy No.55 - Remediation of Land.

State Environmental Planning Policy No.62 - Sustainable Aquaculture.

State Environmental Planning Policy No.64 - Advertising and Signage.

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

State Environmental Planning Policy No.70 - Affordable Housing (Revised Schemes).

State Environmental Planning Policy (Housing for Seniors or People with a Disability) 2004 (Note: This policy applies to land within New South Wales that is land zoned primarily for urban purposes or land that adjoins land zoned primarily for urban purposes, but only as detailed in clause 4 of the policy.)

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

State Environmental Planning Policy (State Significant Precincts) 2005.

State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2013.

State Environmental Planning Policy (Miscellaneous Consent Provisions) 2007.

State Environmental Planning Policy (Infrastructure) 2007.

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

State Environmental Planning Policy (Affordable Rental Housing) 2009.

State Environmental Planning Policy (State and Regional Development) 2011.

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

State Environmental Planning Policy (Education Establishments and Child Care Centre Facilities) 2017.

1(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:

(Information is provided in this section only if a proposed environmental planning instrument that is or has been the subject of community consultation or on public exhibition under the Act will apply to the carrying out of development on the land.)

Draft amendments to Penrith Development Control Plan 2014 for Multi-Dwelling Housing and Boarding Houses applies to the land. (See www.penrithcity.nsw.gov.au for details).

Draft State Environmental Planning Policy (Western Sydney Corridors) may apply to the land. Further information is available here: <https://www.transport.nsw.gov.au/corridors>.

On 22 June 2018, the NSW Government announced changes to the recommended alignments for the Western Sydney corridors, including continuing with the previously gazetted 1951 corridor for the Bells Line of Road Castlereagh Connection.

Draft State Environmental Planning Policy (Primary Production & Rural Development) applies to the land.

Draft State Environmental Planning Policy (Environment) applies to the land.

Draft State Environmental Planning Policy (Remediation of Land) applies to the land.

Draft Standard Instrument (Local Environmental Plans) Order 2006 applies to the land.

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Draft State Environmental Planning Policy (Exempt and Complying Development Codes) 2008 applies to the land.

1(3) The name of each development control plan that applies to the carrying out of development on the land:

Penrith Development Control Plan 2014 applies to the land.

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):

2(a)-(d) the identity of the zone; the purposes that may be carried out without development consent; the purposes that may not be carried out except with development consent; and the purposes that are prohibited within the zone. Any zone(s) applying to the land is/are listed below and/or in annexures.

(Note: If no zoning appears in this section see section 1(1) for zoning and land use details (under the Sydney Regional Environmental Plan or State Environmental Planning Policy that zones this property).)

**Zone IN1 General Industrial
(Penrith Local Environmental Plan 2010)**

1 Objectives of zone

- To provide a wide range of industrial and warehouse land uses.
- To encourage employment opportunities.
- To minimise any adverse effect of industry on other land uses.
- To support and protect industrial land for industrial uses.
- To promote development that makes efficient use of industrial land.
- To permit facilities that serve the daily recreation and convenience needs of the people who work in the surrounding industrial area.

2 Permitted without consent

Nil

3 Permitted with consent

Animal boarding or training establishments; Boat building and repair facilities; Car parks; Depots; Environmental facilities; Environmental protection works; Flood mitigation works; Freight transport facilities; Garden centres; General industries; Hardware and building supplies; Industrial retail outlets; Industrial training facilities; Industries; Kiosks; Landscaping material supplies; Light industries; Neighbourhood shops; Places of public worship; Plant nurseries; Recreation areas; Roads; Rural industries; Self-storage units; Signage; Storage premises; Take away food and drink premises; Timber yards; Transport depots; Truck depots; Vehicle body repair workshops; Vehicle repair stations; Warehouse or distribution centres

4 Prohibited

Hazardous industries; Offensive industries; Any other development not specified in item 2 or 3

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Zone SP2 Infrastructure - Railway
(Penrith Local Environmental Plan 2010)

1 Objectives of zone

- To provide for infrastructure and related uses.
- To prevent development that is not compatible with or that may detract from the provision of infrastructure.

2 Permitted without consent

Nil

3 Permitted with consent

The purpose shown on the Land Zoning Map, including any development that is ordinarily incidental or ancillary to development for that purpose; Environmental protection works; Flood mitigation works; Roads

4 Prohibited

Any development not specified in item 2 or 3

Flood planning

All or part of the subject land is identified in Penrith Local Environmental Plan 2010 (PLEP 2010) Clause 7.2 Flood Planning. Development consent is required for any development on land to which Clause 7.2 of PLEP 2010 applies.

Additional information relating to Penrith Local Environmental Plan 2010

Note 1: Under the terms of Clause 2.4 of Penrith Local Environmental Plan 2010 development may be carried out on unzoned land only with development consent.

Note 2: Under the terms of Clause 2.6 of Penrith Local Environmental Plan 2010 land may be subdivided but only with development consent, except for the exclusions detailed in the clause.

Note 3: Under the terms of Clause 2.7 of Penrith Local Environmental Plan 2010 the demolition of a building or work may be carried out only with development consent.

Note 4: A temporary use may be permitted with development consent subject to the requirements of Clause 2.8 of Penrith Local Environmental Plan 2010.

Note 5: Under the terms of Clause 4.1A of Penrith Local Environmental Plan 2010, despite any other provision of this plan, development consent must not be granted for dual occupancy on an internal lot in Zone R2 Low Density Residential.

Note 6: Under the terms of Clause 5.1 of Penrith Local Environmental Plan 2010 development on land acquired by an authority of the State under the owner-initiated acquisition provisions may, before it is used for the purpose for which it is reserved, be carried out, with development consent, for any purpose.

Note 7: Under the terms of Clause 5.3 of Penrith Local Environmental Plan 2010 development consent may be granted to development of certain land for any purpose that may be carried out in an adjoining zone.

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Note 8: Clause 5.10 of Penrith Local Environmental Plan 2010 details when development consent is required/not required in relation to heritage conservation.

Note 9: Under the terms of Clause 5.11 of Penrith Local Environmental Plan 2010 bush fire hazard reduction work authorised by the *Rural Fires Act 1997* may be carried out on any land without development consent.

Note 10: Under the terms of Clause 7.1 of Penrith Local Environmental Plan 2010 (PLEP 2010) development consent is required for earthworks unless the work is exempt development under PLEP 2010 or another applicable environmental planning instrument, or the work is ancillary to other development for which development consent has been given.

Note 11: Sex services premises and restricted premises may only be permitted subject to the requirements of Clause 7.23 of Penrith Local Environmental Plan 2010.

2(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:

(Information is provided in this section only if 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.)

2(f) whether the land includes or comprises critical habitat:

(Information is provided in this section only if the land includes or comprises critical habitat.)

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

(Information is provided in this section only if the land is in a conservation area (however described).)

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

(Information is provided in this section only if an item of environmental heritage (however described) is situated on the land.)

2A ZONING AND LAND USE UNDER STATE ENVIRONMENTAL PLANNING POLICY (SYDNEY REGION GROWTH CENTRES) 2006

(Information is provided in this section only if the land is within any zone under State Environmental Planning Policy (Sydney Region Growth Centres) 2006.)

3 COMPLYING DEVELOPMENT

HOUSING CODE

(The Housing Code only applies if the land is within Zones R1, R2, R3, R4 or RU5 under Penrith Local Environmental Plan 2010 or an equivalent zone in a non standard template planning instrument.)

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- The land is affected by a reservation for a public purpose. If the land is within the relevant zones complying development under the Housing Code **may not** be carried out on any part of the land that is reserved for a public purpose by an environmental planning instrument. Complying development **may** be carried out on any part of the land that is not reserved for a public purpose by an environmental planning instrument. For the purposes of this section “public purpose” means any land that is zoned either Zone E1, RE1, SP1 or SP2 under Penrith Local Environmental Plan 2010 or an equivalent zone in a non standard template planning instrument, or land that is subject to acquisition.
- The land is affected by environmentally sensitive land identified by an environmental planning instrument. If the land is within the relevant zones complying development under the Housing Code **may not** be carried out on any part of the land identified by an environmental planning instrument as being environmentally sensitive land. Complying development **may** be carried out on any part of the land that is not identified by an environmental planning instrument as being environmentally sensitive land. For the purposes of this section “environmentally sensitive land” means any land that is identified in Schedule 3 of Sydney Regional Environmental Plan No. 9 - Extractive Industry (No. 2); any land defined as “environmentally sensitive areas” in Sydney Regional Environmental Plan No 20 - Hawkesbury-Nepean River (No 2 - 1997); any land zoned Zone E2 Environmental Conservation under State Environmental Planning Policy (Western Sydney Employment Area) 2009; any Natural Resources Sensitive Land under Penrith Local Environmental Plan 2010; and any land zoned either Zone E1 National Parks and Nature Reserves, Zone E2 Environmental Conservation, Zone W1 Natural Waterways or Zone W2 Recreational Waterways under Penrith Local Environmental Plan 2010.

RURAL HOUSING CODE

(The Rural Housing Code only applies if the land is within Zones RU1, RU2, RU3, RU4, RU6 or R5 under Penrith Local Environmental Plan 2010 or an equivalent zone in a non standard template planning instrument.)

- The land is affected by a reservation for a public purpose. If the land is within the relevant zones complying development under the Rural Housing Code **may not** be carried out on any part of the land that is reserved for a public purpose by an environmental planning instrument. Complying development **may** be carried out on any part of the land that is not reserved for a public purpose by an environmental planning instrument. For the purposes of this section “public purpose” means any land that is zoned either Zone E1, RE1, SP1 or SP2 under Penrith Local Environmental Plan 2010 or an equivalent zone in a non standard template planning instrument, or land that is subject to acquisition.
- The land is affected by environmentally sensitive land identified by an environmental planning instrument. If the land is within the relevant zones complying development under the Rural Housing Code **may not** be carried out on any part of the land identified by an environmental planning instrument as being environmentally sensitive land. Complying development **may** be carried out on any part of the land that is not identified by an environmental planning instrument as being environmentally sensitive land. For the purposes of this section “environmentally sensitive land” means any land that is identified in Schedule 3 of Sydney Regional Environmental Plan No. 9 - Extractive Industry (No. 2); any land defined as “environmentally sensitive areas” in Sydney Regional Environmental Plan No 20 -

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Hawkesbury-Nepean River (No 2 - 1997); any land zoned Zone E2 Environmental Conservation under State Environmental Planning Policy (Western Sydney Employment Area) 2009; any Natural Resources Sensitive Land under Penrith Local Environmental Plan 2010; and any land zoned either Zone E1 National Parks and Nature Reserves, Zone E2 Environmental Conservation, Zone W1 Natural Waterways or Zone W2 Recreational Waterways under Penrith Local Environmental Plan 2010.

LOW RISE MEDIUM DENSITY HOUSING CODE

(The Low Rise Medium Density Housing Code only applies if the land is within Zones R1, R2, R3 or RU5 under Penrith Local Environmental Plan 2010 or an equivalent zone in a non standard template planning instrument.)

- The land is affected by a reservation for a public purpose. If the land is within the relevant zones complying development under the Low Rise Medium Density Housing Code **may not** be carried out on any part of the land that is reserved for a public purpose by an environmental planning instrument. Complying development **may** be carried out on any part of the land that is not reserved for a public purpose by an environmental planning instrument. For the purposes of this section “public purpose” means any land that is zoned either Zone E1, RE1, SP1 or SP2 under Penrith Local Environmental Plan 2010 or an equivalent zone in a non standard template planning instrument, or land that is subject to acquisition.
- The land is affected by environmentally sensitive land identified by an environmental planning instrument. If the land is within the relevant zones complying development under the Low Rise Medium Density Housing Code **may not** be carried out on any part of the land identified by an environmental planning instrument as being environmentally sensitive land. Complying development **may** be carried out on any part of the land that is not identified by an environmental planning instrument as being environmentally sensitive land. For the purposes of this section “environmentally sensitive land” means any land that is identified in Schedule 3 of Sydney Regional Environmental Plan No. 9 - Extractive Industry (No. 2); any land defined as “environmentally sensitive areas” in Sydney Regional Environmental Plan No 20 - Hawkesbury-Nepean River (No 2 - 1997); any land zoned Zone E2 Environmental Conservation under State Environmental Planning Policy (Western Sydney Employment Area) 2009; any Natural Resources Sensitive Land under Penrith Local Environmental Plan 2010; and any land zoned either Zone E1 National Parks and Nature Reserves, Zone E2 Environmental Conservation, Zone W1 Natural Waterways or Zone W2 Recreational Waterways under Penrith Local Environmental Plan 2010.

Please note that Council has been deferred from the application of Part 3B of the Low Rise Medium Density Housing Code until 1 July 2019. That Part will not apply to Penrith Local Government Area during this time.

GREENFIELD HOUSING CODE

(The Greenfield Housing Code only applies if the land is within Zones R1, R2, R3, R4 or RU5 under Penrith Local Environmental Plan 2010 or an equivalent zone in a non standard template planning instrument, and if the land is identified as a Greenfield Housing Code Area by the Greenfield Housing Code Area Map.)

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- The land is affected by a reservation for a public purpose. If the land is within the relevant zones, and if the land is identified as a Greenfield Housing Code Area by the Greenfield Housing Code Area Map complying development under the Greenfield Housing Code **may not** be carried out on any part of the land that is reserved for a public purpose by an environmental planning instrument. Complying development **may** be carried out on any part of the land that is not reserved for a public purpose by an environmental planning instrument. For the purposes of this section “public purpose” means any land that is zoned either Zone E1, RE1, SP1 or SP2 under Penrith Local Environmental Plan 2010 or an equivalent zone in a non standard template planning instrument, or land that is subject to acquisition.
- The land is affected by environmentally sensitive land identified by an environmental planning instrument. If the land is within the relevant zones, and if the land is identified as a Greenfield Housing Code Area by the Greenfield Housing Code Area Map complying development under the Greenfield Housing Code **may not** be carried out on any part of the land identified by an environmental planning instrument as being environmentally sensitive land. Complying development **may** be carried out on any part of the land that is not identified by an environmental planning instrument as being environmentally sensitive land. For the purposes of this section “environmentally sensitive land” means any land that is identified in Schedule 3 of Sydney Regional Environmental Plan No. 9 - Extractive Industry (No. 2); any land defined as “environmentally sensitive areas” in Sydney Regional Environmental Plan No 20 - Hawkesbury-Nepean River (No 2 - 1997); any land zoned Zone E2 Environmental Conservation under State Environmental Planning Policy (Western Sydney Employment Area) 2009; any Natural Resources Sensitive Land under Penrith Local Environmental Plan 2010; and any land zoned either Zone E1 National Parks and Nature Reserves, Zone E2 Environmental Conservation, Zone W1 Natural Waterways or Zone W2 Recreational Waterways under Penrith Local Environmental Plan 2010.

HOUSING ALTERATIONS CODE

Complying development under the Housing Alterations Code **may** be carried out on the land.

GENERAL DEVELOPMENT CODE

Complying development under the General Development Code **may** be carried out on the land.

COMMERCIAL AND INDUSTRIAL ALTERATIONS CODE

Complying development under the Commercial and Industrial Alterations Code **may** be carried out on the land.

SUBDIVISIONS CODE

Complying development under the Subdivisions Code **may** be carried out on the land.

DEMOLITION CODE

Complying development under the Demolition Code **may** be carried out on the land.

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COMMERCIAL AND INDUSTRIAL (NEW BUILDINGS AND ADDITIONS) CODE

(The Commercial and Industrial (New Buildings and Additions) Code only applies if the land is within Zones B1, B2, B3, B4, B5, B6, B7, B8, IN1, IN2, IN3, IN4 or SP3 under Penrith Local Environmental Plan 2010 or an equivalent zone in a non standard template planning instrument.)

- The land is affected by a reservation for a public purpose. If the land is within the relevant zones complying development under the Commercial and Industrial (New Buildings and Additions) Code **may not** be carried out on any part of the land that is reserved for a public purpose by an environmental planning instrument. Complying development **may** be carried out on any part of the land that is not reserved for a public purpose by an environmental planning instrument. For the purposes of this section “public purpose” means any land that is zoned either Zone E1, RE1, SP1 or SP2 under Penrith Local Environmental Plan 2010 or an equivalent zone in a non standard template planning instrument, or land that is subject to acquisition.
- The land is affected by environmentally sensitive land identified by an environmental planning instrument. If the land is within the relevant zones complying development under the Commercial and Industrial (New Buildings and Additions) Code **may not** be carried out on any part of the land identified by an environmental planning instrument as being environmentally sensitive land. Complying development **may** be carried out on any part of the land that is not identified by an environmental planning instrument as being environmentally sensitive land. For the purposes of this section “environmentally sensitive land” means any land that is identified in Schedule 3 of Sydney Regional Environmental Plan No. 9 - Extractive Industry (No. 2); any land defined as “environmentally sensitive areas” in Sydney Regional Environmental Plan No 20 - Hawkesbury-Nepean River (No 2 - 1997); any land zoned Zone E2 Environmental Conservation under State Environmental Planning Policy (Western Sydney Employment Area) 2009; any Natural Resources Sensitive Land under Penrith Local Environmental Plan 2010; and any land zoned either Zone E1 National Parks and Nature Reserves, Zone E2 Environmental Conservation, Zone W1 Natural Waterways or Zone W2 Recreational Waterways under Penrith Local Environmental Plan 2010.

FIRE SAFETY CODE

Complying development under the Fire Safety Code **may** be carried out on the land.

(NOTE: (1) Council has relied on Planning and Infrastructure Circulars and Fact Sheets in the preparation of this information. Applicants should seek their own legal advice in relation to this matter with particular reference to State Environmental Planning Policy (Exempt and Complying Development Codes) 2008.

(2) Penrith Local Environmental Plan 2010 (if it applies to the land) contains additional complying development not specified in State Environmental Planning Policy (Exempt and Complying Development Codes) 2008.)

4 COASTAL PROTECTION

The land is not affected by the operation of sections 38 or 39 of the Coastal Protection Act 1979, to the extent that council has been so notified by the Department of Public Works.

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5 MINE SUBSIDENCE

The land is not proclaimed to be a mine subsidence district within the meaning of section 15 of the Mine Subsidence Compensation Act 1961.

6 ROAD WIDENING AND ROAD REALIGNMENT

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

- (a) Division 2 of Part 3 of the Roads Act 1993, or
- (b) an environmental planning instrument, or
- (c) a resolution of council.

7 COUNCIL AND OTHER PUBLIC AUTHORITY POLICIES ON HAZARD RISK RESTRICTIONS

(a) Council Policies

The land is affected by the Asbestos Policy adopted by Council.

The land is not affected by any other policy adopted 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).

(b) Other Public Authority Policies

The Bush Fire Co-ordinating Committee has adopted a Bush Fire Risk Management Plan that covers the local government area of Penrith City Council, and includes public, private and Commonwealth lands.

The land is not affected by a policy 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, tidal inundation, subsidence, acid sulphate soils or any other risk (other than flooding).

7A FLOOD RELATED DEVELOPMENT CONTROLS INFORMATION

(1) Development on the 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) (if such uses are permissible on the land) is subject to flood related development controls.

(2) Development on the land or part of the land for industrial or commercial purposes (if such uses are permissible on the land) is subject to flood related development controls.

Development on the land or part of the land for purposes other than industrial or commercial, or for purposes other than those referred to in (1) above, will be considered on a merits based approach and flood related development controls may apply.

Note: The land is subject to Penrith Development Control Plan 2014 Section C3.5 Flood Planning. On application and payment of the prescribed fee Council may be able to provide in writing a range of advice in regard to the extent of flooding affecting the property.

PLANNING CERTIFICATE UNDER SECTION 10.7Environmental Planning and Assessment Act, 1979

8 LAND RESERVED FOR ACQUISITION

No 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.

9 CONTRIBUTIONS PLANS

The Cultural Facilities Development Contributions Plan applies anywhere residential development is permitted within the City of Penrith.

The Penrith City Local Open Space Development Contributions Plan applies anywhere residential development is permitted within the City of Penrith, excluding industrial areas and the release areas identified in Appendix B of the Plan (Penrith Lakes, Cranebrook, Sydney Regional Environmental Plan No. 30 - St Marys, Waterside, Thornton, the WELL Precinct, Glenmore Park and Erskine Park).

The Penrith City District Open Space Facilities Development Contributions Plan applies anywhere residential development is permitted within the City of Penrith, with the exclusion of industrial lands and the Penrith Lakes development site.

9A BIODIVERSITY CERTIFIED LAND

(Information is provided in this section only if the land is biodiversity certified land under Part 8 of the *Biodiversity Conservation Act 2016*. (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*.)

10 BIODIVERSITY STEWARDSHIP SITES

(Information is provided in this section only if Council has been notified by the Chief Executive of the Office of Environment and Heritage that the land is land to which a biobanking stewardship agreement under Part 5 of the *Biodiversity Conservation Act 2016* relates. Note. Biodiversity stewardship agreements include biobanking agreements under Part 7A of the *Threatened Species Conservation Act 1995* that are taken to be biodiversity stewardships agreements under Part 5 of the *Biodiversity Conservation Act 2016*.)

11 BUSH FIRE PRONE LAND

Some of the land is identified as bush fire prone land according to Council records. Guidance as to restrictions that may be placed on the land as a result of the land being bush fire prone can be obtained by contacting Council. Such advice would be subject to further requirements of the NSW Rural Fire Services.

12 PROPERTY VEGETATION PLANS

(Information is provided in this section only if Council has been notified that the land is land to which a property vegetation plan approved under the *Native Vegetation Act 2003* applies and continues in force.)

PLANNING CERTIFICATE UNDER SECTION 10.7

Environmental Planning and Assessment Act, 1979

13 ORDERS UNDER TREES (DISPUTES BETWEEN NEIGHBOURS) ACT 2006

(Information is provided in this section only if Council has been notified that 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.)

14 DIRECTIONS UNDER PART 3A

(Information is provided in this section only if there is a direction by the Minister in force under section 75P(2)(c1) of the Act (repealed on 1st October 2011) 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.)

15 SITE COMPATIBILITY CERTIFICATES AND CONDITIONS AFFECTING SENIORS HOUSING

(Information is provided in this section only if:

- (a) there is a current site compatibility certificate (seniors housing), of which the council is aware, issued under State Environmental Planning Policy (Housing for Seniors or People with a Disability) 2004 in respect of proposed development on the land; and/or
- (b) any terms of a kind referred to in clause 18(2) of State Environmental Planning Policy (Housing for Seniors or People with a Disability) 2004 have been imposed as a condition of consent to a development application granted after 11 October 2007 in respect of the land.)

16 SITE COMPATIBILITY CERTIFICATES FOR INFRASTRUCTURE

(Information is provided in this section only if there is a valid site compatibility certificate (infrastructure), of which council is aware, in respect of proposed development on the land.)

17 SITE COMPATIBILITY CERTIFICATES AND CONDITIONS FOR AFFORDABLE RENTAL HOUSING

(Information is provided in this section only if:

- (a) 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/or
- (b) any terms of a kind referred to in clause 17(1) or 37(1) of State Environmental Planning Policy (Affordable Rental Housing) 2009 have been imposed as a condition of consent to a development application in respect of the land.)

18 PAPER SUBDIVISION INFORMATION

(Information is provided in this section only if a development plan adopted by a relevant authority applies to the land or is proposed to be subject to a consent ballot, or a subdivision order applies to the land.)

19 SITE VERIFICATION CERTIFICATES

(Information is provided in this section only if there is a current site verification certificate, of which council is aware, in respect of the land.)

PLANNING CERTIFICATE UNDER SECTION 10.7
Environmental Planning and Assessment Act, 1979

NOTE: 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) (Information is provided in this section only if, as at the date of this certificate, the land (or part of the land) is significantly contaminated land within the meaning of the Contaminated Land Management Act 1997.)

(b) (Information is provided in this section only if, as at the date of this certificate, the land is subject to a management order within the meaning of the Contaminated Land Management Act 1997.)

(c) (Information is provided in this section only if, as at the date of this certificate, the land is the subject of an approved voluntary management proposal within the meaning of the Contaminated Land Management Act 1997.)

(d) (Information is provided in this section only if, at the date of this certificate, the land subject to an ongoing maintenance order within the meaning of the Contaminated Land Management Act 1997.)

(e) (Information is provided in this section only if the land is the subject of a site audit statement within the meaning of the Contaminated Land Management Act 1997 - a copy of which has been provided to Council.)

Note: Section 10.7(5) information for this property may contain additional information regarding contamination issues.

20 *LOOSE FILL ASBESTOS INSULATION*

(Information is provided in this section only if there is a residential premises listed on the register of residential premises that contain or have contained loose-fill asbestos insulation (as required by Division 1A of Part 8 of the Home Building Act 1989))

21 *AFFECTED BUILDING NOTICES AND BUILDING PRODUCT RECTIFICATION ORDERS*

(Information is provided in this section only if Council is aware of any “affected building notice” and/or a “building product rectification order” in force for the land).

Note: The Environmental Planning and Assessment Amendment Act 2017 commenced operation on the 1 March 2018. As a consequence of this Act the information contained in this certificate needs to be read in conjunction with the provisions of the Environmental Planning and Assessment (Savings, Transitional and Other Provisions) Regulation 2017, and Environmental Planning and Assessment Regulation 2000.

Information is provided only to the extent that Council has been notified by relevant government departments.

PLANNING CERTIFICATE UNDER SECTION 10.7

Environmental Planning and Assessment Act, 1979

10.7(5) Certificate

**This Certificate is directed to the following
relevant matters affecting the land**

When information pursuant to section 10.7(5) is requested the Council is under no obligation to furnish any of the information supplied herein pursuant to that section. 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 sub-section (5). The absence of any reference to any matter affecting the land shall not imply that the land is not affected by any matter not referred to in this certificate.

Note:

- Council's 10.7(5) information does not include development consent or easement information. Details of development consents may be obtained by making enquiries with Council's Development Services Department pursuant to section 12 of the Local Government Act 1993 or (for development applications lodged after January 2007) by viewing the Online Services area at www.penrithcity.nsw.gov.au. Details of any easements may be obtained from a Title Search at Land and Property Information New South Wales.
- This certificate does not contain information relating to Complying Development Certificates.
- This certificate may not provide full details of development rights over the land.

*** Threatened Species Conservation Act 1995**

When considering any development application Council must have regard to the Threatened Species Conservation Act 1995. Please note that this legislation may have application to any land throughout the city. Interested persons should make their own enquiries in regard to the impact that this legislation could have on this land.

*** Scenic and Landscape Values**

The land is identified as "Land with Scenic and Landscape Values" on the Penrith Local Environmental Plan 2010 Scenic and Landscape Values Map. See Clause 7.5 of Penrith Local Environmental Plan 2010 and Chapter C1 Site Planning and Design of Penrith Development Control Plan 2014.

*** Preservation of Trees and Vegetation**

See Chapter C2 of Penrith Development Control Plan 2014 for specific controls relating to the preservation of trees and vegetation.

*** Development Control Plan General Information**

Penrith Development Control Plan 2014 which applies to the land, sets out requirements for a range of issues that apply across the Penrith Local Government Area, including:

- Site Planning and Design Principles
- Vegetation Management
- Water Management
- Land Management
- Waste Management
- Landscape Design
- Culture and Heritage
- Public Domain
- Advertising and Signage
- Transport, Access and Parking
- Subdivision

PLANNING CERTIFICATE UNDER SECTION 10.7
Environmental Planning and Assessment Act, 1979

- Noise and Vibration, and
- Infrastructure and Services.

The Development Control Plan also specifies requirements relating to various types of land uses including:

- Rural Land Uses
- Residential Development
- Commercial and Retail Development, and
- Industrial Development

as well as for a number of specific activities, including child care centres; health consulting rooms; educational establishments; parent friendly amenities; places of public worship; vehicle repair stations; cemeteries, crematoria and funeral homes; extractive industries; and telecommunication facilities.

The Development Control Plan also details requirements relating to key precincts within the Penrith Local Government Area, including:

- Caddens
- Claremont Meadows Stage 2
- Cranebrook
- Emu Heights
- Emu Plains
- Erskine Business Park
- Glenmore Park
- Kingswood
- Mulgoa Valley
- Orchard Hills
- Penrith
- Penrith Health and Education Precinct
- Riverlink Precinct
- St Clair,
- St Marys / St Marys North, and
- Sydney Science Park.

Penrith Development Control Plan 2014 may be accessed at
<https://www.penrithcity.nsw.gov.au/Building-and-Development/Planning-and-Zoning/Planning-Controls/Development-Control-Plans/>

Warwick Winn
General Manager

PER



PLANNING CERTIFICATE UNDER SECTION 10.7
Environmental Planning and Assessment Act, 1979

Please note:

Certain amendments to the Environmental Planning and Assessment Act 1979 No 203 (Act) commenced on 1 March 2018.

The Environmental Planning and Assessment (Amendment) Act 2017 No 60 makes structural changes to the Act and, as a consequence, the Act has been renumbered in a decimal format. For example, Section 149 Planning Certificates have become Section 10.7 Certificates. Some of the information in this certificate may refer to the previous version of the Act.

Council is committed to updating all relevant documents in a timely manner. This will include planning instruments, applications, approvals, orders, certificates, forms and other associated documents in both printed and electronic versions. Council is required to implement these changes and regrets any inconvenience caused to the local business, industry and the community.

Appendix H

EPA Search Records

[Home](#) [Contaminated land](#) [Record of notices](#)

Search results

Your search for: Name (site, occupier, owner, recipient): 2

Forrester Road
Suburb: ST MARYS
Date from: 01 Jan 1960
Date to: 01 Jan 2019

[Search Again](#)

[Refine Search](#)

did not find any records in our database.

If a site does not appear on the record it may still be affected by contamination. For example:

- Contamination may be present but the site has not been regulated by the EPA under the Contaminated Land Management Act 1997 or the Environmentally Hazardous Chemicals Act 1985.
- The EPA may be regulating contamination at the site through a licence or notice under the Protection of the Environment Operations Act 1997 (POEO Act).
- Contamination at the site may be being managed under the [planning process](#).

Search TIP

To search for a specific site, search by LGA (local government area) and carefully review all sites listed.

... [more search tips](#)

More information about particular sites may be available from:

- The [POEO public register](#)
- The appropriate planning authority: for example, on a planning certificate issued by the local council under [section 149 of the Environmental Planning and Assessment Act](#).

See [What's in the record and What's not in the record](#).

If you want to know whether a specific site has been the subject of notices issued by the EPA under the CLM Act, we suggest that you search by Local Government Area only and carefully review the sites that are listed.

This public record provides information about sites regulated by the EPA under the Contaminated Land Management Act 1997, including sites currently and previously regulated under the Environmentally Hazardous Chemicals Act 1985. Your inquiry using the above search criteria has not matched any record of current or former regulation. You should consider searching again using different criteria. The fact that a site does not appear on the record does not necessarily mean that it is not affected by contamination. The site may have been notified to the EPA but not yet assessed, or contamination may be present but the site is not yet being regulated by the EPA. Further information about particular sites may be available from the appropriate planning authority, for example, on a planning certificate issued by the local council under section 149 of the Environmental Planning and Assessment Act. In addition the EPA may be regulating contamination at the site through a licence under the Protection of the Environment Operations Act 1997. You may wish to search the POEO public register. [POEO public register](#)

7 January 2019

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Accessibility (<https://www.epa.nsw.gov.au/about-us/contact-us/website-service-standards/help-index>)

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[Home](#) [Contaminated land](#) [Record of notices](#)

Search results

Your search for: Name (site, occupier, owner, recipient): Lee Holm
Road
Suburb: ST MARYS
Date from: 01 Jan 1960
Date to: 01 Jan 2019

did not find any records in our database.

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7 January 2019

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[Search Again](#)

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Search TIP

To search for a specific site, search by LGA (local government area) and carefully review all sites listed.

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[Home](#) [Environment protection licences](#) [POEO Public Register](#) [Enforceable undertakings](#)

Enforceable undertakings

Notice number:

Issued to:

Suburb:

St Marys

LGA:

Catchment:

Search

Clear

returned 0 results

Enforceable undertaking - the administrative power of the EPA to accept a written undertaking by a company or individual in relation to an actual or potential breach of the POEO Act, which is enforceable in the Land and Environment Court.

For more information, see the [enforceable undertakings guidelines](#).

You can also [view the media releases for all enforceable undertakings](#).

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[Accessibility \(https://www.epa.nsw.gov.au/about-us/contact-us/website-service-standards/help-index\)](https://www.epa.nsw.gov.au/about-us/contact-us/website-service-standards/help-index)
[Disclaimer \(https://www.epa.nsw.gov.au/about-us/contact-us/website-service-standards/disclaimer\)](https://www.epa.nsw.gov.au/about-us/contact-us/website-service-standards/disclaimer)
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Search results

Your search for: Name (site, occupier, owner, recipient): Christie
Street
Suburb: ST MARYS
Date from: 01 Jan 1960
Date to: 01 Jan 2019

did not find any records in our database.

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7 January 2019

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Search results

Your search for:Suburb: ST MARYS

Matched 10 notices
relating to 2 sites.

Notice Type: Management Order
Date from: 01 Jan 1960
Date to: 01 Jan 2019

Search Again
Refine Search

Suburb	Address	Site Name	Notices related to this site
ST MARYS	Vallance STREET	Drum Recycler	5 former
ST MARYS	38 LINKS ROAD	Solveco	1 current and 7 former

Page 1 of 1

8 January 2019

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POEO Licenses, Applications and Notices

Number	Name	Location	Type	Status	Issued date
11508	ABLEWAY WASTE MANAGEMENT PTY LTD	DP734445 Lot 2 37-55 Lee Holm Road, ST MARYS, NSW 2760	POEO licence	Surrendered	31-Aug-01
1031002	ABLEWAY WASTE MANAGEMENT PTY LTD	DP734445 Lot 2 37-55 Lee Holm Road, ST MARYS, NSW 2760	s.91 Clean Up Notice	Issued	2-Oct-03
1034286	ABLEWAY WASTE MANAGEMENT PTY LTD	DP734445 Lot 2 37-55 Lee Holm Road, ST MARYS, NSW 2760	s.110 Revocation of Clean Up Notice	Issued	30-Jan-04
4289	ARCADIA PRODUCTS PTY LTD	1 BENT STREET, ST MARYS, NSW 2760	POEO licence	Surrendered	18-Sep-00
1018811	ARCADIA PRODUCTS PTY LTD	1 BENT STREET, ST MARYS, NSW 2760	s.58 Licence Variation	Issued	13-Aug-02
1035	AUTOPAK-VETLAB GROUP PTY. LIMITED	39 HARRIS STREET, ST MARYS, NSW 2760	POEO licence	Issued	7-Sep-00
1020127	AUTOPAK-VETLAB GROUP PTY. LIMITED	39 HARRIS STREET, ST MARYS, NSW 2760	s.58 Licence Variation	Issued	19-Sep-02
1057338	AUTOPAK-VETLAB GROUP PTY. LIMITED	39 HARRIS STREET, ST MARYS, NSW 2760	s.58 Licence Variation	Issued	7-Apr-06
1072216	AUTOPAK-VETLAB GROUP PTY. LIMITED	39 HARRIS STREET, ST MARYS, NSW 2760	s.58 Licence Variation	Issued	20-Sep-07
1089390	AUTOPAK-VETLAB GROUP PTY. LIMITED	39 HARRIS STREET, ST MARYS, NSW 2760	s.58 Licence Variation	Issued	30-Jun-08
1090092	AUTOPAK-VETLAB GROUP PTY. LIMITED	39 HARRIS STREET, ST MARYS, NSW 2760	s.58 Licence Variation	Issued	8-Jul-08
1092524	AUTOPAK-VETLAB GROUP PTY. LIMITED	39 HARRIS STREET, ST MARYS, NSW 2760	s.58 Licence Variation	Issued	30-Sep-08
1093620	AUTOPAK-VETLAB GROUP PTY. LIMITED	39 HARRIS STREET, ST MARYS, NSW 2760	s.58 Licence Variation	Issued	4-Nov-08
1101929	AUTOPAK-VETLAB GROUP PTY. LIMITED	39 HARRIS STREET, ST MARYS, NSW 2760	s.58 Licence Variation	Issued	2-Sep-10
1525808	AUTOPAK-VETLAB GROUP PTY. LIMITED	39 HARRIS STREET, ST MARYS, NSW 2760	s.58 Licence Variation	Issued	27-Oct-14
1552517	AUTOPAK-VETLAB GROUP PTY. LIMITED	39 HARRIS STREET, ST MARYS, NSW 2760	s.58 Licence Variation	Issued	5-Jun-17
1552979	AUTOPAK-VETLAB GROUP PTY. LIMITED	39 HARRIS STREET, ST MARYS, NSW 2760	s.58 Licence Variation	Issued	9-Jun-17
1553543	AUTOPAK-VETLAB GROUP PTY. LIMITED	39 HARRIS STREET, ST MARYS, NSW 2760	s.58 Licence Variation	Issued	29-Jun-17
1556139	AUTOPAK-VETLAB GROUP PTY. LIMITED	39 HARRIS STREET, ST MARYS, NSW 2760	s.58 Licence Variation	Issued	29-Aug-17
1568212	AUTOPAK-VETLAB GROUP PTY. LIMITED	39 HARRIS STREET, ST MARYS, NSW 2760	s.58 Licence Variation	Issued	21-Aug-18
21220	AWESOME RUBBER PTY LIMITED	39-45 Vallance Street, ST MARYS, NSW 2760	POEO licence	Pending	
1563102	AWESOME RUBBER PTY LIMITED	39-45 VALLANCE ST, ST MARYS, NSW 2760	s.55 Licence Refusal	Issued	3-Apr-18
11963	BETTER DRUMS PTY LTD	42 PLASSER CRESCENT, ST MARYS, NSW 2760	POEO licence	Surrendered	1-Aug-03
1031980	BETTER DRUMS PTY LTD	42 PLASSER CRESCENT, ST MARYS, NSW 2760	s.58 Licence Variation	Issued	23-Oct-03

POEO Licenses, Applications and Notices

Number	Name	Location	Type	Status	Issued date
1039029	BETTER DRUMS PTY LTD	42 PLASSER CRESCENT, ST MARYS, NSW 2760	s.58 Licence Variation	Issued	29-Jul-05
1176	BORAL RESOURCES (NSW) PTY LTD	136 CHRISTIE STREET, ST MARYS, NSW 2760	POEO licence	No longer in force	30-May-00
5973	BRANDSTER SERVICES PTY LIMITED	UNIT 4, 5, 6 & 7; 15 LEE HOLM ROAD, ST MARYS, NSW 2760	POEO licence	Issued	17-Mar-00
1027390	BRANDSTER SERVICES PTY LIMITED	UNIT 4, 5, 6 & 7; 15 LEE HOLM ROAD, ST MARYS, NSW 2760	s.58 Licence Variation	Issued	1-Aug-03
1031041	BRANDSTER SERVICES PTY LIMITED	UNIT 4, 5, 6 & 7; 15 LEE HOLM ROAD, ST MARYS, NSW 2760	s.58 Licence Variation	Issued	22-Sep-03
1059072	BRANDSTER SERVICES PTY LIMITED	UNIT 4, 5, 6 & 7; 15 LEE HOLM ROAD, ST MARYS, NSW 2760	s.58 Licence Variation	Issued	11-May-06
1093341	BRANDSTER SERVICES PTY LIMITED	UNIT 4, 5, 6 & 7; 15 LEE HOLM ROAD, ST MARYS, NSW 2760	s.58 Licence Variation	Issued	11-Nov-08
1113513	BRANDSTER SERVICES PTY LIMITED	UNIT 4, 5, 6 & 7; 15 LEE HOLM ROAD, ST MARYS, NSW 2760	s.58 Licence Variation	Issued	3-Jun-10
7082	BRAZIER GROUP PTY. LIMITED	32 BENT STREET, ST MARYS, NSW 2760	POEO licence	Surrendered	14-Sep-01
1018607	BRAZIER GROUP PTY. LIMITED	32 BENT STREET, ST MARYS, NSW 2760	s.58 Licence Variation	Issued	9-Aug-02
1025029	BRAZIER GROUP PTY. LIMITED	32 BENT STREET, ST MARYS, NSW 2760	s.58 Licence Variation	Issued	20-Feb-03
1035157	BRAZIER GROUP PTY. LIMITED	32 BENT STREET, ST MARYS, NSW 2760	s.58 Licence Variation	Issued	22-Sep-04
1064545	BRAZIER GROUP PTY. LIMITED	32 BENT STREET, ST MARYS, NSW 2760	s.58 Licence Variation	Issued	23-Oct-06
1072003	BRAZIER GROUP PTY. LIMITED	32 BENT STREET, ST MARYS, NSW 2760	s.58 Licence Variation	Issued	27-Apr-07
1096965	BRAZIER GROUP PTY. LIMITED	32 BENT STREET, ST MARYS, NSW 2760	s.58 Licence Variation	Issued	13-Feb-09
1110650	BRAZIER GROUP PTY. LIMITED	32 BENT STREET, ST MARYS, NSW 2760	s.58 Licence Variation	Issued	15-Jan-10
2131	CHEMCOLOUR INDUSTRIES AUSTRALIA PTY LIMITED	19-25 ANNE STREET, ST MARYS, NSW 2760	POEO licence	Issued	14-Oct-99
1020114	CHEMCOLOUR INDUSTRIES AUSTRALIA PTY LIMITED	19-25 ANNE STREET, ST MARYS, NSW 2760	s.58 Licence Variation	Issued	12-Sep-02
1079932	CHEMCOLOUR INDUSTRIES AUSTRALIA PTY LIMITED	19-25 ANNE STREET, ST MARYS, NSW 2760	s.58 Licence Variation	Issued	6-Nov-07
1106736	CHEMCOLOUR INDUSTRIES AUSTRALIA PTY LIMITED	19-25 ANNE STREET, ST MARYS, NSW 2760	s.58 Licence Variation	Issued	30-Aug-10

POEO Licenses, Applications and Notices

Number	Name	Location	Type	Status	Issued date
1510383	CHEMCOLOUR INDUSTRIES AUSTRALIA PTY LIMITED	19-25 ANNE STREET, ST MARYS, NSW 2760	s.58 Licence Variation	Issued	29-Nov-12
1548315	CHEMCOLOUR INDUSTRIES AUSTRALIA PTY LIMITED	19-25 ANNE STREET, ST MARYS, NSW 2760	s.58 Licence Variation	Issued	2-Feb-17
1553224	CHEMCOLOUR INDUSTRIES AUSTRALIA PTY LIMITED	19-25 ANNE STREET, ST MARYS, NSW 2760	s.58 Licence Variation	Issued	16-Jun-17
1566224	CHEMCOLOUR INDUSTRIES AUSTRALIA PTY LIMITED	19-25 ANNE STREET, ST MARYS, NSW 2760	s.96 Prevention Notice	Issued	2-Jul-18
1567242	CHEMCOLOUR INDUSTRIES AUSTRALIA PTY LIMITED	19-25 ANNE STREET, ST MARYS, NSW 2760	Compliance Audit	Complete	18-Jul-18
3173526108	CHEMCOLOUR INDUSTRIES AUSTRALIA PTY LIMITED	19-25 ANNE STREET, ST MARYS, NSW 2760	Penalty Notice	Issued	17-Aug-18
20767	CLEAN EARTH RECYCLING PTY LTD	98-102 Links Road, ST MARYS, NSW 2760	POEO licence	Issued	7-Feb-18
5479	CLEANAWAY PTY LTD	562-568 MAMRE RD, ST MARYS, NSW 2760	POEO licence	Surrendered	7-Sep-00
21136	CMA ECOCYCLE PTY LTD	22-24 Christie Street, ST MARYS, NSW 2760	POEO licence	Pending	
3085773635	CMA ECOCYCLE PTY LTD	52-54 POWER STREET, ST MARYS, NSW 2760	Penalty Notice	Withdrawn	
11753	CMA ECOCYCLE PTY LTD	52-54 POWER STREET, ST MARYS, NSW 2760	POEO licence	Surrendered	18-Oct-02
1048527	CMA ECOCYCLE PTY LTD	52-54 POWER STREET, ST MARYS, NSW 2760	s.58 Licence Variation	Issued	8-Jun-05
1078499	CMA ECOCYCLE PTY LTD	52-54 POWER STREET, ST MARYS, NSW 2760	s.58 Licence Variation	Issued	26-Sep-07
1093335	CMA ECOCYCLE PTY LTD	52-54 POWER STREET, ST MARYS, NSW 2760	s.58 Licence Variation	Issued	22-Jun-09
1520718	CMA ECOCYCLE PTY LTD	52-54 POWER STREET, ST MARYS, NSW 2760	s.58 Licence Variation	Issued	12-Mar-14
3027	CNH AUSTRALIA PTY LTD	31-53 KURRAJONG AVE, ST MARYS, NSW 2760	POEO licence	No longer in force	18-Sep-00

POEO Licenses, Applications and Notices

Number	Name	Location	Type	Status	Issued date
1042172	CNH AUSTRALIA PTY LTD	31-53 KURRAJONG AVE, ST MARYS, NSW 2760	s.58 Licence Variation	Issued	9-Nov-04
1043841	CNH AUSTRALIA PTY LTD	31-53 KURRAJONG AVE, ST MARYS, NSW 2760	s.58 Licence Variation	Issued	19-Jan-05
644	CORINTHIAN INDUSTRIES (AUSTRALIA) PTY LIMITED	17-35 LEE HOLM ROAD, ST MARYS, NSW 2760	POEO licence	Surrendered	8-May-00
1020903	CORINTHIAN INDUSTRIES (AUSTRALIA) PTY LIMITED	17-35 LEE HOLM ROAD, ST MARYS, NSW 2760	s.58 Licence Variation	Issued	30-Sep-02
20292	GULF WESTERN PREMIUM QUALITY LUBRICATING OILS (AUSTRALIA) PTY LIMITED	92-96 Links Road, ST MARYS, NSW 2760	POEO licence	Issued	12-Jun-13
10562	HI-QUALITY WASTE MANAGEMENT PTY LTD	55 Lee Holm Road, ST MARYS, NSW 2760	POEO licence	Surrendered	20-Mar-00
5857	HI-QUALITY WASTE MANAGEMENT PTY LTD	37 LEE HOLM STREET, ST MARYS, NSW 2760	POEO licence	Issued	19-Sep-00
1008683	HI-QUALITY WASTE MANAGEMENT PTY LTD	37 LEE HOLM STREET, ST MARYS, NSW 2760	s.58 Licence Variation	Issued	12-Sep-01
1016576	HI-QUALITY WASTE MANAGEMENT PTY LTD	37 LEE HOLM STREET, ST MARYS, NSW 2760	s.91 Clean Up Notice	Issued	22-Apr-02
1046028	HI-QUALITY WASTE MANAGEMENT PTY LTD	37 LEE HOLM STREET, ST MARYS, NSW 2760	s.58 Licence Variation	Issued	3-May-05
1096760	HI-QUALITY WASTE MANAGEMENT PTY LTD	37 LEE HOLM STREET, ST MARYS, NSW 2760	s.58 Licence Variation	Issued	21-Jan-09
1124838	HI-QUALITY WASTE MANAGEMENT PTY LTD	37 LEE HOLM STREET, ST MARYS, NSW 2760	s.91 Clean Up Notice	Issued	1-Mar-11
1126196	HI-QUALITY WASTE MANAGEMENT PTY LTD	37 LEE HOLM STREET, ST MARYS, NSW 2760	s.91 Clean Up Notice	Issued	22-Mar-11
1128245	HI-QUALITY WASTE MANAGEMENT PTY LTD	37 LEE HOLM STREET, ST MARYS, NSW 2760	s.91 Clean Up Notice	Issued	31-May-11
1500636	HI-QUALITY WASTE MANAGEMENT PTY LTD	37 LEE HOLM STREET, ST MARYS, NSW 2760	s.110 Variation of Clean Up Notice	Issued	2-Sep-11

POEO Licenses, Applications and Notices

Number	Name	Location	Type	Status	Issued date
3085765037	HI-QUALITY WASTE MANAGEMENT PTY LTD	37 LEE HOLM STREET, ST MARYS, NSW 2760	Penalty Notice	Issued	7-Aug-12
3085765046	HI-QUALITY WASTE MANAGEMENT PTY LTD	37 LEE HOLM STREET, ST MARYS, NSW 2760	Penalty Notice	Issued	7-Aug-12
1507633	HI-QUALITY WASTE MANAGEMENT PTY LTD	37 LEE HOLM STREET, ST MARYS, NSW 2760	s.91 Clean Up Notice	Issued	15-Aug-12
1511551	HI-QUALITY WASTE MANAGEMENT PTY LTD	37 LEE HOLM STREET, ST MARYS, NSW 2760	s.110 Variation of Clean Up Notice	Issued	22-Feb-13
3085773745	HI-QUALITY WASTE MANAGEMENT PTY LTD	37 LEE HOLM STREET, ST MARYS, NSW 2760	Penalty Notice	Issued	14-Apr-14
1521897	HI-QUALITY WASTE MANAGEMENT PTY LTD	37 LEE HOLM STREET, ST MARYS, NSW 2760	s.58 Licence Variation	Issued	12-Dec-14
1530683	HI-QUALITY WASTE MANAGEMENT PTY LTD	37 LEE HOLM STREET, ST MARYS, NSW 2760	s.58 Licence Variation	Issued	15-Jun-15
1535841	HI-QUALITY WASTE MANAGEMENT PTY LTD	37 LEE HOLM STREET, ST MARYS, NSW 2760	s.91 Clean Up Notice	Issued	24-Nov-15
3085778127	HI-QUALITY WASTE MANAGEMENT PTY LTD	37 LEE HOLM STREET, ST MARYS, NSW 2760	Penalty Notice	Issued	15-Feb-16
1532262	HI-QUALITY WASTE MANAGEMENT PTY LTD	37 LEE HOLM STREET, ST MARYS, NSW 2760	s.58 Licence Variation	Issued	7-Apr-16
1539046	HI-QUALITY WASTE MANAGEMENT PTY LTD	37 LEE HOLM STREET, ST MARYS, NSW 2760	s.110 Variation of Clean Up Notice	Issued	6-May-16
1546677	HI-QUALITY WASTE MANAGEMENT PTY LTD	37 LEE HOLM STREET, ST MARYS, NSW 2760	s.110 Variation of Clean Up Notice	Issued	18-Jan-17
3085781243	HI-QUALITY WASTE MANAGEMENT PTY LTD	37 LEE HOLM STREET, ST MARYS, NSW 2760	Penalty Notice	Issued	21-Feb-17
3085782590	HI-QUALITY WASTE MANAGEMENT PTY LTD	37 LEE HOLM STREET, ST MARYS, NSW 2760	Penalty Notice	Issued	14-Jun-17
3085782619	HI-QUALITY WASTE MANAGEMENT PTY LTD	37 LEE HOLM STREET, ST MARYS, NSW 2760	Penalty Notice	Issued	14-Jun-17
3085782545	HI-QUALITY WASTE MANAGEMENT PTY LTD	37 LEE HOLM STREET, ST MARYS, NSW 2760	Penalty Notice	Issued	14-Jun-17

POEO Licenses, Applications and Notices

Number	Name	Location	Type	Status	Issued date
1541749	HI-QUALITY WASTE MANAGEMENT PTY LTD	37 LEE HOLM STREET, ST MARYS, NSW 2760	s.58 Licence Variation	Issued	26-Oct-17
3173524265	HI-QUALITY WASTE MANAGEMENT PTY LTD	37 LEE HOLM STREET, ST MARYS, NSW 2760	Penalty Notice	Issued	21-Dec-17
3445	HY-TEC INDUSTRIES PTY LTD	12 LINKS ROAD, ST MARYS, NSW 2760	POEO licence	No longer in force	22-Sep-00
1012028	HY-TEC INDUSTRIES PTY LTD	12 LINKS ROAD, ST MARYS, NSW 2760	s.58 Licence Variation	Issued	26-Nov-01
20640	J.J. RICHARDS & SONS PTY LTD	8 Kommer Place , ST MARYS, NSW 2760	POEO licence	Issued	9-Feb-16
1565580	J.J. RICHARDS & SONS PTY LTD	8 Kommer Place , ST MARYS, NSW 2760	Compliance Audit	Complete	31-May-18
1563118	J.J. RICHARDS & SONS PTY LTD	8 Kommer Place , ST MARYS, NSW 2760	s.58 Licence Variation	Issued	13-Jul-18
1571748	J.J. RICHARDS & SONS PTY LTD	8 Kommer Place , ST MARYS, NSW 2760	s.58 Licence Variation	Issued	8-Nov-18
1540293	Maganic Brothers and Sister Pty Limited	65 Dunheved Cct, ST MARYS, NSW 2760	s.91 Clean Up Notice	Issued	16-May-16
1527949	Nabil Magar	11 Severn Street, ST MARYS, NSW 2760	s.91 Clean Up Notice	Issued	19-Jan-15
4801	PLASTECH OPERATIONS PTY LIMITED (C/- MICHAEL C HIRD - ADMINISTRATOR)	66 LINKS ROAD, ST MARYS, NSW 2760	POEO licence	Revoked	13-Jun-00
1030570	PLASTECH OPERATIONS PTY LIMITED (C/- MICHAEL C HIRD - ADMINISTRATOR)	66 LINKS ROAD, ST MARYS, NSW 2760	s.58 Licence Variation	Issued	23-Sep-03
1067060	PLASTECH OPERATIONS PTY LIMITED (C/- MICHAEL C HIRD - ADMINISTRATOR)	66 LINKS ROAD, ST MARYS, NSW 2760	s.91 Clean Up Notice	Issued	1-Dec-06
1063241	PLASTECH OPERATIONS PTY LIMITED (C/- MICHAEL C HIRD - ADMINISTRATOR)	66 LINKS ROAD, ST MARYS, NSW 2760	s.58 Licence Variation	Issued	7-Feb-07
1070032	PLASTECH OPERATIONS PTY LIMITED (C/- MICHAEL C HIRD - ADMINISTRATOR)	66 LINKS ROAD, ST MARYS, NSW 2760	s.91 Clean Up Notice	Issued	7-Mar-07
1082788	PLASTECH OPERATIONS PTY LIMITED (C/- MICHAEL C HIRD - ADMINISTRATOR)	66 LINKS ROAD, ST MARYS, NSW 2760	s.79 Revocation of a Licence	Issued	26-Feb-08
11688	PYRMONT RAW MATERIALS PTY LTD	OFF CHRISTIE STREET, ST MARYS, NSW 2760	POEO licence	Revoked	21-Feb-03
1060364	PYRMONT RAW MATERIALS PTY LTD	OFF CHRISTIE STREET, ST MARYS, NSW 2760	s.79 Revocation of a Licence	Issued	19-May-06
13365	SAMOS POLYMERS PTY LTD	26 Links Road, ST MARYS, NSW 2760	POEO licence	Issued	25-May-11
13295	SAMOS POLYMERS PTY LTD	9-15 Kommer Place, ST MARYS, NSW 2760	POEO licence	Issued	25-May-11

POEO Licenses, Applications and Notices

Number	Name	Location	Type	Status	Issued date
1509520	SAMOS POLYMERS PTY LTD	9-15 Kommer Place, ST MARYS, NSW 2760	s.58 Licence Variation	Issued	23-Oct-12
2494	SI GROUP-AUSTRALIA PTY LIMITED	72 CHRISTIE STREET, ST MARYS, NSW 2760	POEO licence	Surrendered	1-May-00
1044213	SI GROUP-AUSTRALIA PTY LIMITED	72 CHRISTIE STREET, ST MARYS, NSW 2760	s.58 Licence Variation	Issued	3-Feb-05
1093908	SI GROUP-AUSTRALIA PTY LIMITED	72 CHRISTIE STREET, ST MARYS, NSW 2760	s.58 Licence Variation	Issued	2-Jul-09
1504267	SI GROUP-AUSTRALIA PTY LIMITED	72 CHRISTIE STREET, ST MARYS, NSW 2760	s.58 Licence Variation	Issued	10-Feb-12
2017	SIMS ALUMINIUM PTY LIMITED	42-46 CHARLES STREET, ST MARYS, NSW 2760	POEO licence	Surrendered	4-Apr-00
6934	SIMS GROUP AUSTRALIA HOLDINGS LIMITED	76 - 100 CHRISTIE STREET , ST MARYS, NSW 2760	POEO licence	Issued	30-Oct-00
1018948	SIMS GROUP AUSTRALIA HOLDINGS LIMITED	76 - 100 CHRISTIE STREET , ST MARYS, NSW 2760	s.58 Licence Variation	Issued	13-Aug-02
1055296	SIMS GROUP AUSTRALIA HOLDINGS LIMITED	76 - 100 CHRISTIE STREET , ST MARYS, NSW 2760	s.58 Licence Variation	Issued	13-Jan-06
1057381	SIMS GROUP AUSTRALIA HOLDINGS LIMITED	76 - 100 CHRISTIE STREET , ST MARYS, NSW 2760	s.58 Licence Variation	Issued	18-Aug-08
1092273	SIMS GROUP AUSTRALIA HOLDINGS LIMITED	76 - 100 CHRISTIE STREET , ST MARYS, NSW 2760	s.58 Licence Variation	Issued	25-Sep-09
1110266	SIMS GROUP AUSTRALIA HOLDINGS LIMITED	76 - 100 CHRISTIE STREET , ST MARYS, NSW 2760	s.58 Licence Variation	Issued	16-Mar-10
1123950	SIMS GROUP AUSTRALIA HOLDINGS LIMITED	76 - 100 CHRISTIE STREET , ST MARYS, NSW 2760	s.58 Licence Variation	Issued	2-Feb-11
1500478	SIMS GROUP AUSTRALIA HOLDINGS LIMITED	76 - 100 CHRISTIE STREET , ST MARYS, NSW 2760	s.58 Licence Variation	Issued	22-Aug-11
1501437	SIMS GROUP AUSTRALIA HOLDINGS LIMITED	76 - 100 CHRISTIE STREET , ST MARYS, NSW 2760	s.58 Licence Variation	Issued	5-Sep-11
1509111	SIMS GROUP AUSTRALIA HOLDINGS LIMITED	76 - 100 CHRISTIE STREET , ST MARYS, NSW 2760	s.58 Licence Variation	Issued	21-Nov-12

POEO Licenses, Applications and Notices

Number	Name	Location	Type	Status	Issued date
1518434	SIMS GROUP AUSTRALIA HOLDINGS LIMITED	76 - 100 CHRISTIE STREET , ST MARYS, NSW 2760	Compliance Audit	Complete	22-Nov-13
1512642	SIMS GROUP AUSTRALIA HOLDINGS LIMITED	76 - 100 CHRISTIE STREET , ST MARYS, NSW 2760	Compliance Audit	Complete	13-Mar-14
1557778	SIMS GROUP AUSTRALIA HOLDINGS LIMITED	76 - 100 CHRISTIE STREET , ST MARYS, NSW 2760	s.91 Clean Up Notice	Issued	18-Oct-17
5661	SOLVECO PTY LIMITED	38 LINKS ROAD, ST MARYS, NSW 2760	POEO licence	Issued	7-Mar-01
1049649	SOLVECO PTY LIMITED	38 LINKS ROAD, ST MARYS, NSW 2760	s.96 Prevention Notice	Issued	21-Jul-05
1049570	SOLVECO PTY LIMITED	38 LINKS ROAD, ST MARYS, NSW 2760	s.58 Licence Variation	Issued	16-Dec-05
1056021	SOLVECO PTY LIMITED	38 LINKS ROAD, ST MARYS, NSW 2760	s.58 Licence Variation	Issued	8-Feb-06
1058789	SOLVECO PTY LIMITED	38 LINKS ROAD, ST MARYS, NSW 2760	s.58 Licence Variation	Issued	1-Jun-06
1064844	SOLVECO PTY LIMITED	38 LINKS ROAD, ST MARYS, NSW 2760	s.58 Licence Variation	Issued	12-Sep-06
1068248	SOLVECO PTY LIMITED	38 LINKS ROAD, ST MARYS, NSW 2760	s.58 Licence Variation	Issued	24-Jan-07
1082534	SOLVECO PTY LIMITED	38 LINKS ROAD, ST MARYS, NSW 2760	s.58 Licence Variation	Issued	24-Mar-08
1093340	SOLVECO PTY LIMITED	38 LINKS ROAD, ST MARYS, NSW 2760	s.58 Licence Variation	Issued	3-Dec-08
1096018	SOLVECO PTY LIMITED	38 LINKS ROAD, ST MARYS, NSW 2760	s.58 Licence Variation	Issued	19-Dec-08
1097934	SOLVECO PTY LIMITED	38 LINKS ROAD, ST MARYS, NSW 2760	s.58 Licence Variation	Issued	27-Mar-09
1113282	SOLVECO PTY LIMITED	38 LINKS ROAD, ST MARYS, NSW 2760	s.58 Licence Variation	Issued	5-May-10
1122575	SOLVECO PTY LIMITED	38 LINKS ROAD, ST MARYS, NSW 2760	s.58 Licence Variation	Issued	13-Jul-11
1502905	SOLVECO PTY LIMITED	38 LINKS ROAD, ST MARYS, NSW 2760	s.96 Prevention Notice	Issued	24-Nov-11
1504531	SOLVECO PTY LIMITED	38 LINKS ROAD, ST MARYS, NSW 2760	s.58 Licence Variation	Issued	29-Feb-12
1506751	SOLVECO PTY LIMITED	38 LINKS ROAD, ST MARYS, NSW 2760	s.58 Licence Variation	Issued	26-Jun-12
1512382	SOLVECO PTY LIMITED	38 LINKS ROAD, ST MARYS, NSW 2760	s.91 Clean Up Notice	Issued	26-Feb-13
1522629	SOLVECO PTY LIMITED	38 LINKS ROAD, ST MARYS, NSW 2760	s.58 Licence Variation	Issued	12-Nov-14
1554878	SOLVECO PTY LIMITED	38 LINKS ROAD, ST MARYS, NSW 2760	s.91 Clean Up Notice	Issued	1-Aug-17
3173523257	SOLVECO PTY LIMITED	38 LINKS ROAD, ST MARYS, NSW 2760	Penalty Notice	Issued	5-Sep-17
1554973	SOLVECO PTY LIMITED	38 LINKS ROAD, ST MARYS, NSW 2760	s.58 Licence Variation	Issued	16-Oct-17
1566633	SOLVECO PTY LIMITED	38 LINKS ROAD, ST MARYS, NSW 2760	s.58 Licence Variation	Issued	31-Aug-18
1570343	SOLVECO PTY LIMITED	38 LINKS ROAD, ST MARYS, NSW 2760	Compliance Audit	Complete	24-Sep-18
20621	ST MARYS RECYCLING PTY LTD	25 Dunheved Cct, ST MARYS, NSW 2760	POEO licence	Issued	9-Oct-15
2052	SUPERIOR CONSTRUCTION MATERIALS PTY LIMITED	17 BENT STREET, ST MARYS, NSW 2760	POEO licence	Surrendered	22-Sep-99

POEO Licenses, Applications and Notices

Number	Name	Location	Type	Status	Issued date
1099868	SYDNEY DRUM MACHINERY PTY LTD	75 CHRISTIE ST, ST MARYS, NSW 2760	s.58 Licence Variation	Issued	20-May-09
1106659	SYDNEY DRUM MACHINERY PTY LTD	75 CHRISTIE ST, ST MARYS, NSW 2760	s.91 Clean Up Notice	Issued	9-Nov-09
1126545	SYDNEY DRUM MACHINERY PTY LTD	75 CHRISTIE ST, ST MARYS, NSW 2760	s.91 Clean Up Notice	Issued	20-Apr-11
1501637	SYDNEY DRUM MACHINERY PTY LTD	75 CHRISTIE ST, ST MARYS, NSW 2760	s.79 Suspension of a Licence	Issued	5-Oct-11
1502921	SYDNEY DRUM MACHINERY PTY LTD	75 CHRISTIE ST, ST MARYS, NSW 2760	s.91 Clean Up Notice	Issued	25-Nov-11
1503352	SYDNEY DRUM MACHINERY PTY LTD	75 CHRISTIE ST, ST MARYS, NSW 2760	s.91 Clean Up Notice	Issued	16-Dec-11
1503772	SYDNEY DRUM MACHINERY PTY LTD	75 CHRISTIE ST, ST MARYS, NSW 2760	s.91 Clean Up Notice	Issued	17-Jan-12
1503835	SYDNEY DRUM MACHINERY PTY LTD	75 CHRISTIE ST, ST MARYS, NSW 2760	s.110 Variation of Clean Up Notice	Issued	19-Jan-12
1503916	SYDNEY DRUM MACHINERY PTY LTD	75 CHRISTIE ST, ST MARYS, NSW 2760	s.91 Clean Up Notice	Issued	24-Jan-12
12893	SYDNEY DRUM MACHINERY PTY LTD	75 CHRISTIE ST, ST MARYS, NSW 2760	POEO licence	Surrendered	3-May-13
1729	SYDNEY WATER CORPORATION	OFF LINKS ROAD, ST MARYS, NSW 2760	POEO licence	Issued	25-May-00
1005322	SYDNEY WATER CORPORATION	OFF LINKS ROAD, ST MARYS, NSW 2760	s.58 Licence Variation	Issued	22-Oct-01
1017903	SYDNEY WATER CORPORATION	OFF LINKS ROAD, ST MARYS, NSW 2760	s.58 Licence Variation	Issued	26-Jun-02
1018901	SYDNEY WATER CORPORATION	OFF LINKS ROAD, ST MARYS, NSW 2760	s.58 Licence Variation	Issued	23-Dec-02
1032532	SYDNEY WATER CORPORATION	OFF LINKS ROAD, ST MARYS, NSW 2760	s.58 Licence Variation	Issued	24-Nov-03
1032870	SYDNEY WATER CORPORATION	OFF LINKS ROAD, ST MARYS, NSW 2760	s.58 Licence Variation	Issued	19-Mar-04
1047588	SYDNEY WATER CORPORATION	OFF LINKS ROAD, ST MARYS, NSW 2760	s.58 Licence Variation	Issued	30-Jun-05
1061415	SYDNEY WATER CORPORATION	OFF LINKS ROAD, ST MARYS, NSW 2760	s.58 Licence Variation	Issued	29-Jun-06
1074761	SYDNEY WATER CORPORATION	OFF LINKS ROAD, ST MARYS, NSW 2760	s.58 Licence Variation	Issued	27-Jun-07
13210	SYDNEY WATER CORPORATION	Gate 4, Links Road, ST MARYS, NSW 2760	POEO licence	Issued	25-Feb-10
1116215	SYDNEY WATER CORPORATION	OFF LINKS ROAD, ST MARYS, NSW 2760	s.58 Licence Variation	Issued	2-Jul-10
1129008	SYDNEY WATER CORPORATION	OFF LINKS ROAD, ST MARYS, NSW 2760	s.58 Licence Variation	Issued	23-Jun-11
1504849	SYDNEY WATER CORPORATION	OFF LINKS ROAD, ST MARYS, NSW 2760	s.58 Licence Variation	Issued	28-Jun-12
1528930	SYDNEY WATER CORPORATION	OFF LINKS ROAD, ST MARYS, NSW 2760	s.58 Licence Variation	Issued	23-Mar-15
1538190	SYDNEY WATER CORPORATION	OFF LINKS ROAD, ST MARYS, NSW 2760	s.58 Licence Variation	Issued	19-Feb-16
21011	THE COBRA GROUP (AUST) PTY LTD	30-32 Bent Street, ST MARYS, NSW 2760	POEO licence	Issued	19-Sep-18
12628	TOX FREE AUSTRALIA PTY LTD	40 CHRISTIE STREET, ST MARYS, NSW 2760	POEO licence	Issued	4-Jan-07
12943	TOX FREE AUSTRALIA PTY LTD	66 Links Road, ST MARYS, NSW 2760	POEO licence	Issued	6-Aug-08
1095209	TOX FREE AUSTRALIA PTY LTD	66 Links Road, ST MARYS, NSW 2760	s.58 Licence Variation	Issued	24-Nov-08

POEO Licenses, Applications and Notices

Number	Name	Location	Type	Status	Issued date
1093336	TOX FREE AUSTRALIA PTY LTD	40 CHRISTIE STREET, ST MARYS, NSW 2760	s.58 Licence Variation	Issued	28-Nov-08
1101806	TOX FREE AUSTRALIA PTY LTD	40 CHRISTIE STREET, ST MARYS, NSW 2760	s.58 Licence Variation	Issued	16-Jun-09
1120636	TOX FREE AUSTRALIA PTY LTD	40 CHRISTIE STREET, ST MARYS, NSW 2760	s.58 Licence Variation	Issued	9-Nov-10
20271	TOX FREE AUSTRALIA PTY LTD	42-46 CHARLES STREET, ST MARYS, NSW 2760	POEO licence	Issued	26-Sep-13
1521195	TOX FREE AUSTRALIA PTY LTD	66 Links Road, ST MARYS, NSW 2760	s.58 Licence Variation	Issued	4-Apr-14
1522845	TOX FREE AUSTRALIA PTY LTD	40 CHRISTIE STREET, ST MARYS, NSW 2760	s.58 Licence Variation	Issued	18-Jun-14
3173524247	TOX FREE AUSTRALIA PTY LTD	42-46 CHARLES STREET, ST MARYS, NSW 2760	Penalty Notice	Issued	12-Jan-18
1536335	TRUEGAIN PTY. LIMITED	38 Charles Sreet, ST MARYS, NSW 2760	s.91 Clean Up Notice	Issued	15-Jan-16
3085779346	TRUEGAIN PTY. LIMITED	38 Charles Sreet, ST MARYS, NSW 2760	Penalty Notice	Issued	29-Apr-16
13217	TYRECYCLE PTY LTD	81-85 Christie Street, ST MARYS, NSW 2760	POEO licence	Issued	21-Jun-10
1535929	TYRECYCLE PTY LTD	81-85 Christie Street, ST MARYS, NSW 2760	s.58 Licence Variation	Issued	21-Dec-15
4452	VETLAB PTY. LIMITED	25 HARRIS STREET, ST MARYS, NSW 2760	POEO licence	Surrendered	20-Apr-00
1020129	VETLAB PTY. LIMITED	25 HARRIS STREET, ST MARYS, NSW 2760	s.58 Licence Variation	Issued	10-Sep-02
1057333	VETLAB PTY. LIMITED	25 HARRIS STREET, ST MARYS, NSW 2760	s.58 Licence Variation	Issued	7-Apr-06
1072505	VETLAB PTY. LIMITED	25 HARRIS STREET, ST MARYS, NSW 2760	s.58 Licence Variation	Issued	19-Sep-07
1120813	VETLAB PTY. LIMITED	25 HARRIS STREET, ST MARYS, NSW 2760	s.58 Licence Variation	Issued	1-Nov-10
1525407	VETLAB PTY. LIMITED	25 HARRIS STREET, ST MARYS, NSW 2760	s.58 Licence Variation	Issued	23-Oct-14

POEO Licensed Premises

EPL	Organisation Name	Suburb	Postcode	State Code	Premise Address	Fee-Based Activity	Review Due Date
1035	AUTOPAK-VETLAB GROUP PTY. LIMITED	ST MARYS	2760	NSW	39 HARRIS STREET	Chemical production waste generation	6/04/2021
1035	AUTOPAK-VETLAB GROUP PTY. LIMITED	ST MARYS	2760	NSW	39 HARRIS STREET	Chemical storage waste generation	6/04/2021
1035	AUTOPAK-VETLAB GROUP PTY. LIMITED	ST MARYS	2760	NSW	39 HARRIS STREET	Non-thermal treatment of hazardous and other waste	6/04/2021
1035	AUTOPAK-VETLAB GROUP PTY. LIMITED	ST MARYS	2760	NSW	39 HARRIS STREET	Pesticides and related products production	6/04/2021
1035	AUTOPAK-VETLAB GROUP PTY. LIMITED	ST MARYS	2760	NSW	39 HARRIS STREET	Pharmaceutical and veterinary products production	6/04/2021
1035	AUTOPAK-VETLAB GROUP PTY. LIMITED	ST MARYS	2760	NSW	39 HARRIS STREET	Waste storage - hazardous, restricted solid, liquid, clinical and related waste and asbestos waste	6/04/2021
2131	CHEMCOLOUR INDUSTRIES AUSTRALIA PTY LIMITED	ST MARYS	1790	NSW	19-25 ANNE STREET	Chemical production waste generation	17/10/2021
2131	CHEMCOLOUR INDUSTRIES AUSTRALIA PTY LIMITED	ST MARYS	1790	NSW	19-25 ANNE STREET	Chemical storage waste generation	17/10/2021
2131	CHEMCOLOUR INDUSTRIES AUSTRALIA PTY LIMITED	ST MARYS	1790	NSW	19-25 ANNE STREET	Dangerous goods production	17/10/2021
2131	CHEMCOLOUR INDUSTRIES AUSTRALIA PTY LIMITED	ST MARYS	1790	NSW	19-25 ANNE STREET	General chemicals storage	17/10/2021
2131	CHEMCOLOUR INDUSTRIES AUSTRALIA PTY LIMITED	ST MARYS	1790	NSW	19-25 ANNE STREET	Petroleum products storage	17/10/2021
4865	ENVIROGUARD PTY LIMITED	ST MARYS	1790	NSW	50 QUARRY ROAD	Waste disposal by application to land	16/06/2019
5938	COOPER'S ENVIRONMENTAL WASTE RECYCLING PTY LTD	ST MARYS	1790	NSW		Transport of category 1 trackable waste	18/04/2020
5938	COOPER'S ENVIRONMENTAL WASTE RECYCLING PTY LTD	ST MARYS	1790	NSW		Transport of category 2 trackable waste	18/04/2020
5973	BRANDSTER SERVICES PTY LIMITED	ST MARYS	1790	NSW	UNIT 4, 5, 6 & 7; 15 LEE HOLM ROAD	Non-thermal treatment of hazardous and other waste	5/05/2021
5973	BRANDSTER SERVICES PTY LIMITED	ST MARYS	1790	NSW	UNIT 4, 5, 6 & 7; 15 LEE HOLM ROAD	Waste storage - hazardous, restricted solid, liquid, clinical and related waste and asbestos waste	5/05/2021
6099	SOUTHERN OIL COLLECTION PTY LTD	ST MARYS	1790	NSW	1 DAINTREE PLACE	Non-thermal treatment of hazardous and other waste	5/04/2021
6099	SOUTHERN OIL COLLECTION PTY LTD	ST MARYS	1790	NSW	1 DAINTREE PLACE	Waste storage - hazardous, restricted solid, liquid, clinical and related waste and asbestos waste	5/04/2021
6134	CLEANAWAY PTY LTD	ST MARYS	2760	NSW		Transport of category 1 trackable waste	4/01/2021
6134	CLEANAWAY PTY LTD	ST MARYS	2760	NSW		Transport of category 2 trackable waste	4/01/2021
6414	BRANDSTER SERVICES PTY LIMITED	ST MARYS	1790	NSW		Transport of category 1 trackable waste	17/12/2019
6414	BRANDSTER SERVICES PTY LIMITED	ST MARYS	1790	NSW		Transport of category 2 trackable waste	17/12/2019
6650	SOUTHERN OIL COLLECTION PTY LTD	ST MARYS	1790	NSW		Transport of category 1 trackable waste	15/12/2019
6650	SOUTHERN OIL COLLECTION PTY LTD	ST MARYS	1790	NSW		Transport of category 2 trackable waste	15/12/2019
7537	CAMSONS PTY LIMITED	ST MARYS	1790	NSW		Transport of category 1 trackable waste	4/03/2020
7537	CAMSONS PTY LIMITED	ST MARYS	1790	NSW		Transport of category 2 trackable waste	4/03/2020
12473	COOPER'S ENVIRONMENTAL WASTE RECYCLING PTY LTD	ST MARYS	1790	NSW	11 Kurrajong Rd	Non-thermal treatment of hazardous and other waste	6/10/2021
12495	BLUESCOPE STEEL LIMITED	ST MARYS SOUTH	2760	NSW	Templar Road	Metal coating	9/06/2021
12495	BLUESCOPE STEEL LIMITED	ST MARYS SOUTH	2760	NSW	Templar Road	Metal waste generation	9/06/2021
13340	BULK TRANSPORT SOLUTIONS PTY. LIMITED	ST MARYS EAST	2760	NSW		Transport of category 1 trackable waste	26/10/2020
13340	BULK TRANSPORT SOLUTIONS PTY. LIMITED	ST MARYS EAST	2760	NSW		Transport of category 2 trackable waste	26/10/2020
13383	REACH CRANE TRUCKS PTY LTD	ST MARYS	1790	NSW		Transport of category 1 trackable waste	31/01/2021
20238	COOPER'S ENVIRONMENTAL WASTE RECYCLING PTY LTD	ST MARYS	1790	NSW		Mobile waste processing	30/08/2023
20268	SOUTHERN OIL COLLECTION PTY LTD	ST MARYS	1790	NSW	27 Forthorn Place	Non-thermal treatment of hazardous and other waste	11/10/2023
20767	CLEAN EARTH RECYCLING PTY LTD	ST MARYS	2760	NSW	98-102 Links Road	Non-thermal treatment of waste tyres	7/02/2023
20767	CLEAN EARTH RECYCLING PTY LTD	ST MARYS	2760	NSW	98-102 Links Road	Waste storage - waste tyres	7/02/2023
21013	ENVIRONMENTAL PROTECTION EQUIPMENT PTY LTD	ST MARYS	2760	NSW		Transport of category 2 trackable waste	11/10/2022
21087	MEYER TIMBER N.S.W. PTY LTD	ST MARYS	1790	NSW	2101-2113 Castlereagh Road	Wood preservation	6/04/2023

POEO_De-licenced Premises

Local Govt Area	Licence No.	Accountable Party Name	Prem Street	Prem Suburb	Prem State	Prem Postcode	Fee-Based Activity	Low Scale	>	High Scale
Penrith	1176	BORAL RESOURCES (NSW) PTY LTD	136 CHRISTIE STREET	ST MARYS	NSW	2760	Concrete works	25000	>	50000
Penrith	3027	CNH AUSTRALIA PTY LTD	31-53 KURRAJONG AVE	ST MARYS	NSW	2760	Hazardous, Industrial or Group A Waste Generation or Storage	10	>	100
Penrith	3445	HY-TEC INDUSTRIES PTY LTD	12 LINKS ROAD	ST MARYS	NSW	2760	Concrete works	13000	>	25000

Appendix I

SafeWork NSW Search Records



SafeWork NSW

Locked Bag 2906, Lisarow NSW 2252

Customer Experience 13 10 50

ABN 81 913 830 179 | www.safework.nsw.gov.au

Our Ref: D19/053813

11 January 2019

Douglas Partners Pty Ltd
Yashu Shrestha
18 Waler Crescent
SMEATON GRANGE NSW 2567

Dear Yashu Shrestha

RE SITE: 69-81 Lee Holm Rd, St Mary's NSW

I refer to your site search request received by SafeWork NSW on 21 December 2018 requesting information on Storage of Hazardous Chemicals for the above site.

A search of the records held by SafeWork NSW has not located any records pertaining to the above-mentioned premises.

For further information or if you have any questions, please call us on 13 10 50 or email licensing@safework.nsw.gov.au

Yours sincerely

Customer Service Officer
Customer Experience - Operations
SafeWork NSW



SafeWork NSW

Locked Bag 2906, Lisarow NSW 2252

Customer Experience 13 10 50

ABN 81 913 830 179 | www.safework.nsw.gov.au

Our Ref: D19/053813

11 January 2019

Douglas Partners Pty Ltd
Yashu Shrestha
18 Waler Crescent
SMEATON GRANGE NSW 2567

Dear Yashu Shrestha

RE SITE: 2 Forrester Rd, St Mary's NSW

I refer to your site search request received by SafeWork NSW on 21 December 2018 requesting information on Storage of Hazardous Chemicals for the above site.

Enclosed are copies of the documents that SafeWork NSW holds on record number 35/016228 relating to the storage of Hazardous Chemicals at the above-mentioned premises.

For further information or if you have any questions, please call us on 13 10 50 or email licensing@safework.nsw.gov.au

Yours sincerely

Customer Service Officer
Customer Experience - Operations
SafeWork NSW

EFTPOS FROM WESTPAC
SAFEWORK NSW
92-100 DONNISON STREET
GOSFORD 2250
Australia

TIME 03JAN19 10:27
MID 25236662
TSP 100381916320
RRN 190103001689
Visa(M) CR
CARD.....4973
AUTH 085384

MOTO AUD306.72

(000) APPROVED

CUSTOMER COPY

* U/Croony Tank

35/016228

**OHS LICENSING UNIT
Dangerous Goods Licensing**

ph. (02) 9370 5187 fax (02) 9370 6122
e-mail: scid@workcover.nsw.gov.au



ADMINISTRATIVE SERVICES DEPT
BOX 4052 G P O
SYDNEY NSW 2000

18 November 2001

Dear Sir/Madam

RE: SECURITY OF DANGEROUS GOODS AT YOUR SITE

PREMISES: 2 FORRESTER RD, ST MARYS 2760 .

As a consequence of the 11 September 2001 terrorist attacks on New York and Washington, the New South Wales Government is taking every measure necessary to ensure the security of the State's residents and property.

One of these measures involves the security of certain dangerous goods with high potential for public harm. This letter is intended to remind you of your obligation to ensure the security of your premises at all times and to be mindful that for the time being there may be an increased risk of theft of dangerous goods.

Under clause 17 of the Dangerous Goods (General) Regulation 1999 you are responsible, amongst other things, for ensuring that unauthorised persons do not have access to those areas where you keep dangerous goods.

We therefore ask that you take steps, at your earliest convenience, to:

- conduct an inspection of your facilities for storing chemicals, checking the condition of your stock and your inventories;
- re-assess security arrangements in place (more advisory information on security aspects will be available from the NSW Police in the near future);
- review your on-site procedures for emergency response and to remove any material accumulated around storage facilities which may hinder a clear view of unforeseen interference or unusual devices etc.

Should you at any time find that there has been a theft of dangerous goods or if there are other aspects of concern relating to site security issues, please immediately advise the NSW Police Chemical Operations Unit by phone on (02) 9316 8133 and the NSW WorkCover Authority Chemical Management Unit on (02) 9370 5164.

Thank you for your cooperation in this matter.

Yours sincerely

A handwritten signature in black ink, appearing to read 'M. Patterson'.

Michele Patterson
Assistant General Manager
OHS Division



Penrith City Council

Facsimile Transmission



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Date:

3/11

To:

SENIOR LICENSING CLERK
WORK COVER

From:

LINDA MATHONY

My contact No:

4732 7752

Subject:

Premises AT 2 FOREST RD St Marys

MESSAGE:

REF: 30/016228

I AM UNABLE TO IDENTIFY THE
PROPERTY FROM THE INFORMATION
SUPPLIED. PLEASE ADVISE

If you do not receive 2 page(s) including this page, please contact me on
(02) 4732 7752 immediately.

Fax No.:

9370 6105

Civic Centre
601 High Street, Penrith

DX 8017, Penrith
P O Box 60, Penrith 2751

Telephone: (02) 4732 7777
Facsimile: (02) 4732 7958
E-mail: Penclt@penrithcity.nsw.gov.au

35/016228

SCIENTIFIC SERVICES BRANCH

Dangerous Goods Licensing

ph. (02) 370 5187 fax (02) 370 8105

Attn: Rates Section
Penrith City Council
PO BOX 60
PENRITH 2751

PENRITH CITY COUNCIL	
File No.	
RECEIVED	30 OCT 2000 AM
	PM

25 October 2000

Dear Sir/Madam

RE: PREMISES AT 2 FOREST RD, ST MARYS 2760

WorkCover previously licensed the abovementioned site for storage of dangerous goods in underground tanks. This licence has lapsed and the previous occupier of the site, Administrative Services, has not responded to a request to renew the licence.

It would be appreciated if you would supply us with the name and mailing address of the current owner of the premises, quoting the above reference number, so we can contact them over this matter.

Thank you for your assistance.

Yours faithfully



for Senior Licensing Clerk, Dangerous Goods

35/016228

SCIENTIFIC SERVICES BRANCH

Dangerous Goods Licensing

ph. (02) 370 5187 fax (02) 370 6105

Attn: Rates Section
Penrith City Council
PO BOX 60
PENRITH 2751

25 October 2000

Dear Sir/Madam

RE: PREMISES AT 2 FOREST RD, ST MARYS 2760

WorkCover previously licensed the abovementioned site for storage of dangerous goods in underground tanks. This licence has lapsed and the previous occupier of the site, Administrative Services, has not responded to a request to renew the licence.

It would be appreciated if you would supply us with the name and mailing address of the current owner of the premises, quoting the above reference number, so we can contact them over this matter.

Thank you for your assistance.

Yours faithfully



for Senior Licensing Clerk, Dangerous Goods

Telecom Bunt/Plows 20 June 1995

1. LP Tanks & drums of solvent in Plowman & liquid
oil removed.
2. 30000 L Petrol tanks still in commission.
8.6.95

ERNIE

3. Site is in process of building sold

4. Mr Plows will advise new owner to transfer
license or have tanks abandoned.

5. The foregoing will be advised in writing.

A Mr Graham Plows has been trying to contact

you about an underground tank at

John
20/6/95

Z Foresters Road
St Marys

|| phone: (06) 202 5624
|| fax: (06) 202 5600

He was absolutely irate because of problems
with our phone system and because (he said)
you hadn't returned his call. ~~He said~~

I explained The problems we are having with
fireworks and he agreed That he could wait
till next week to hear from you. I've sent
him a "Have your say" form so he can
comment about The phones.

* || Would you please ring him without fail
no later than Wednesday 14 June?

Nancy, pls send non-renewal ltr
to site address.

WORKCOVER AUTHORITY
DETAILS OF LICENCE FOR KEEPING
DANGEROUS GOODS ON 18 APRIL 1995

To
Re
21/4/95

Licence Number 35/016228

Expiry Date 15/08/89

Licensee Details

Licensee ADMINISTRATIVE SERVICES DEPT

Trading name

Postal Address BOX 4052 G P O, SYDNEY 2000

Licensee Contact

Site Details

Premises Licensed to Keep Dangerous Goods
2 FORRESTER RD
ST MARYS 2760

Nature of Site PRIVATE DWELLING Supplier

Emergency Contact ph.

Site staffing

Details of Depots

Depot No.	Depot Type	Goods Stored in Depot	Qty
1	UNDERGROUND TANK	Class 3	30000 L
2	ROOFED STORE	Class 3	5000 L
3	ABOVEGROUND TANK	Class 2.1	5000 L
4	ABOVEGROUND TANK	Class 2.1	5000 L

Penny/Lucy

This file does not refer to ADI

St Marys, site is still,

I believe, extant,

W/S Dept's Commonwealth.

Phil 21/4/95

Reference 35/016228

WORKCOVER AUTHORITY



SCIENTIFIC SERVICES BRANCH

Dangerous Goods Licensing

Ph (02) 370 5187 Fax (02) 370 6105

ADMINISTRATIVE SERVICES DEPT

~~BOX 4052 GPO~~ 2 Forrester Rd
~~SYDNEY 2000~~ St Marys 2760

24 April 1995

Dear Licensee

RE: NON RENEWAL OF LICENCE FOR THE KEEPING OF DANGEROUS GOODS

Our records indicate you previously held licence number 35/016228 for storage of dangerous goods at 2 FORRESTER RD , ST MARYS 2760. This licence has expired.

If dangerous goods are still being kept at this site the licence will need to be renewed. **To renew the licence** to 1995/96, please fully complete and return the enclosed application form. If extra depots need to be added to your licence, please include a plan stamped by an accredited consultant for these depots.

If the licence is not to be renewed, please provide the Chief Inspector of Dangerous Goods, WorkCover Authority with a signed statement giving the reason why the licence is no longer required *eg site sold, lease ended or storage removed*.

- Where the site has been sold or the lease ended, please inform the WorkCover Authority, of the date you sold/vacated the premises and whether you removed the dangerous goods before leaving. Where possible, please supply the new owner's name and address.
- If the depot has been removed from the site or is no longer used for storing dangerous goods, please advise the date the goods/depots were removed and by whom *see specific information overleaf for underground tanks*.

Thank you for your assistance.

Yours faithfully

for Senior Licensing Clerk, Dangerous Goods
encs

Department of Industrial Relations



LICENCE No.

35-0622

DANGEROUS GOODS ACT, 1975

APPLICATION FOR LICENCE (or AMENDMENT or TRANSFER of LICENCE)*
FOR THE KEEPING OF DANGEROUS GOODS

(* delete whichever is not required)

FEE: \$15.00 per Depot for new licence.
\$15.00 for amendment or transfer.

Name of Applicant in full (see Item 1—Explanatory notes—page 4)	Department of Local Government and Administrative Services		
Trading name or occupier's name (if any)	Transport and Storage Division		
Postal Address	Box 4052 GPO Sydney.	Postcode	2001
Address of the premises to be licensed. (Including Street No.)	FORRESTER RD. ST. MARYS		Postcode 2760
Nature of premises (See Item 2—Explanatory notes—page 4)	Storage Depot		
Telephone number of applicant	STD Code 02	Number	6694900

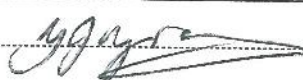
Particulars of type of depots and maximum quantities of dangerous goods to be kept at any one time.

Depot number	Type of depot (See item 3—Explanatory notes—page 4)	Storage capacity	Dangerous goods	C & C Office use only
			Product being stored	
1	Underground Tank	30,000	Petrol	
2	Underground Tank	30,000	Diesel	
3 2	Roofed Package Store	5,000	Flammable Liquids	
4 3	Aboveground Tank	5,400	LPG	
5 4	Aboveground Tank	4,500	LPG	
6				
7				
8				
9	Diesel only - no amendment required			
10				
11				
12				

Has site plan been approved by the Dangerous Goods Branch? ☒ Yes ☐ No
If yes, no plans required.
If no, please attach site plan, or provide sketch plan overleaf.

Have premises previously been licensed? ☒ Yes ☐ No
If, yes, state name of previous occupier, and licence No. (if known).

Name of oil company supplying flammable liquid (if applicable).

Signature of applicant 

Date 31/10/85

For external explosives magazine(s), please fill in page 3.

FOR OFFICE USE ONLY

CERTIFICATE OF INSPECTION

I, RAYMOND CHARLES MCLARTIN being an Inspector under the Dangerous Goods Act, 1975, do hereby certify that the premises described above do comply with the requirements of the Dangerous Goods Act, 1975, and the Dangerous Goods Regulation with regard to their situation and construction for the keeping of dangerous goods of the nature and in the quantity specified.

Signature of Inspector 

Date 12.12.85

DANGEROUS GOODS ACT, 1975

APPLICATION FOR LICENCE (or AMENDMENT or TRANSFER of LICENCE) FOR THE KEEPING OF DANGEROUS GOODS

Application is hereby made for ~~a licence (or amendment of the licence)~~ ~~the transfer of the licence~~ for the keeping of dangerous goods in or on the premises described below.

(*delete whichever is not required)

FEE: \$10.00 per Depot

Name of Applicant in full (see over)	DEPT. OF ADMINISTRATIVE SERVICES	
	Surname	Given Names
Trading name or occupier's name (if any)	STORES & TRANSPORT BRANCH N.S.W.	
Postal address	P.O. BOX 299 ST. MARYS.	Postcode
Telephone number of applicant	STD Code	Number ?
Address of the premises in or on which the depot or depots are situated (including street number, if any)	2 FORRESTER RD. ST. MARYS. Postcode 2760	
Nature of premises (see over)	STORES & OFFICE	

PLEASE ATTACH SITE PLAN

Particulars of type of depots and maximum quantities of dangerous goods to be kept at any one time.

Depot number	Type of depot (see over)	Storage capacity	Dangerous goods	
			Product being stored	4 120 C & C Office use only
1	UNDERGROUND TANK	30000	MINERAL SPIRIT	2 020 3
2	ROOFED PACKAGE STORE	5000	-	6 020 5
3	ABOVE GROUND STORE	5400	PROPANE	1 100 5
4	-	4500	-	7 1 100 5
5				
6				
7				
8				
9				
10				
11				
12				

Name of company supplying flammable liquid (if any)

CALTEX

Have premises previously been licensed?

YES

If known, state name of previous occupier DEPT. SERVICES & PROPERTIES. Licence No. 16228.

DEPARTMENT OF ADMINISTRATIVE SERVICES
STORES AND TRANSPORT BRANCH
BOX 4052 G.P.O. SYDNEY N.S.W. 2001

Signature of applicant

X RbWemy

Date 2-12-80

For external explosives magazine(s), please fill in side 2.

LICENCE No.

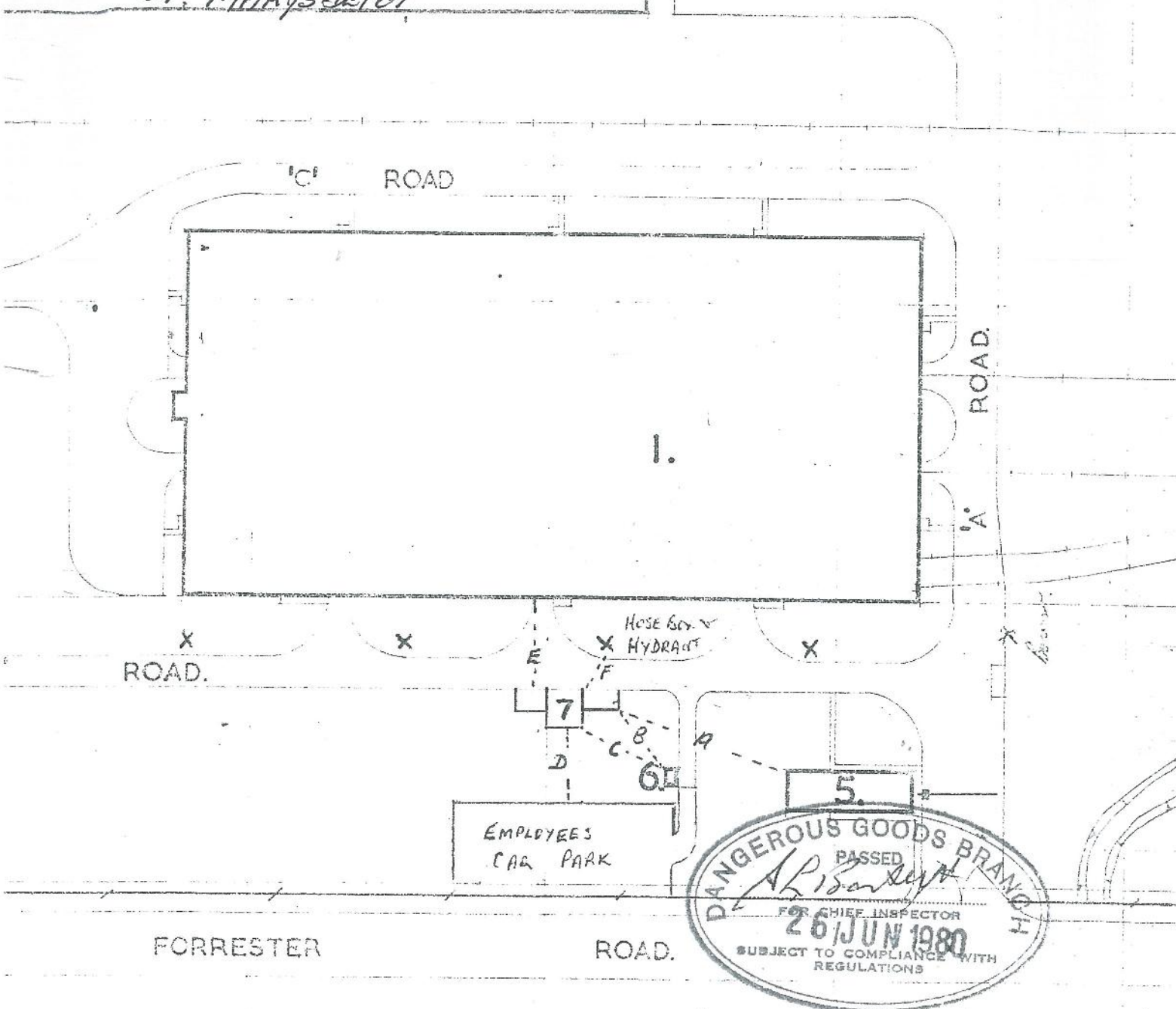
FOR OFFICE USE ONLY
CERTIFICATE OF INSPECTION

RAYMOND CHARLES MCPATH

OR. DEPT SUPPLY

11-7-80

FORRESTER RD
ST. MARY'S DEPOT



Am 1 AS 1596-1973.

- | | |
|------------|--|
| BUILDING 1 | BULK STOREHOUSE |
| BUILDING 5 | OFFICE, LUNCH ROOM & LOCKER ROOM |
| BUILDING 6 | INFLAMMABLE STORE |
| BUILDING 7 | PROPOSED L.P.G. DISPENSING STATION AND STORAGE AREA (REFER ATTACH. "A") H. |

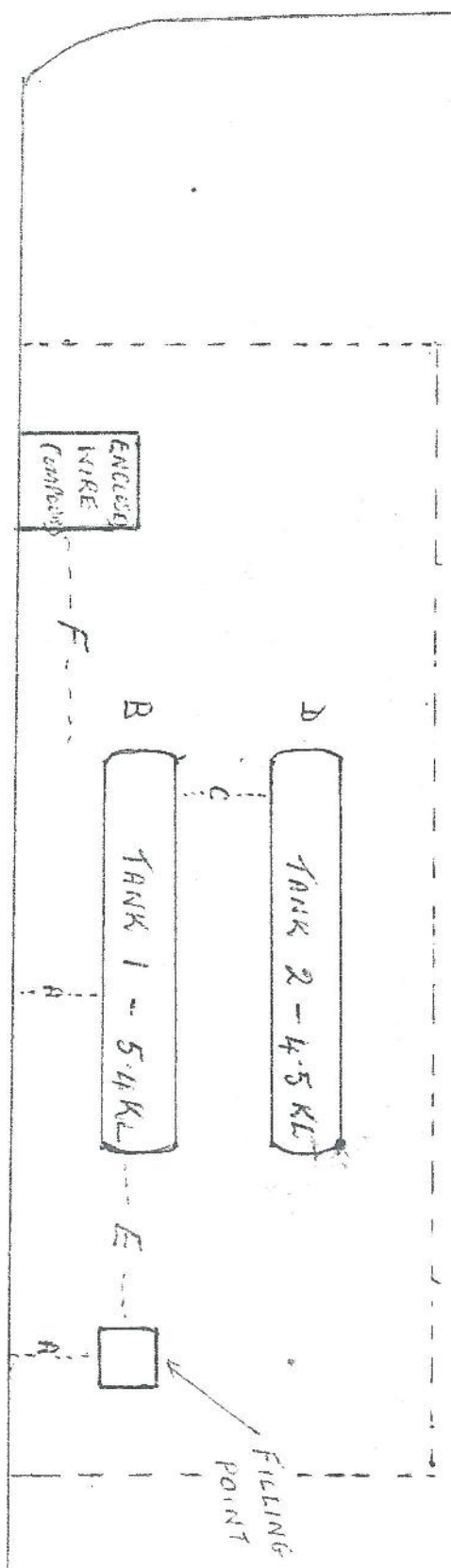
DISTANCES :- A = 40.0 M C = 18.4 M E = 20.0 M
B = 15.8 M D = 15.8 M F = 7.0 M → N

PROPOSED A.P.C. STORAGE & DISPENSING STATION

DISTANCES :- A = 1.5 M C = 1.3 M (MIN) E = 3.0 M (MIN)

B = 1.3 M D = 1.2 M F = 3.8 M

N.B. AREA TO BE ENCLOSED BY FENCE AS PRESCRIBED



10' 30 m. Filling point

NOS

To

SCALE

DEPARTMENT OF ADMINISTRATIVE SERVICES
TRANSPORT & STORAGE DIV., N.S.W. BRANCH
BOX 4052 G.P.O., SYDNEY, N.S.W. 2001

FORRESTER RD.

ST. MARK'S CHURCH

INFLAMMABLE LIQUID ACT, 1915

LICENCE No. 16228

3.11.80

APPLICATION FOR:

REGISTRATION OF PREMISES
STORE LICENCE
AMENDMENT TO REGISTRATION OR LICENCEFOR THE KEEPING OF
INFLAMMABLE LIQUID
AND/OR DANGEROUS GOODS.

Name of Occupier

Department of
Services and Properties

(Surname)

(First Names)

Trading Name (if any)

Stores and Transport Branch N.S.W.

Postal Address

P.O. Box 299 St. Mary'sPostcode 2760Address of the
premises in which the
depot or depots are
situated2 Forrester Road St. Mary's.

Postcode

Occupation Australian Government Department

Nature of Premises

Stores & Office

Particulars of construction of depots and maximum quantities of inflammable liquid and/or dangerous goods to be kept at any one time.

PLEASE SKETCH SITE ON BACK OR ATTACH PLAN

Transfer of Amendment to
include 1. in depot
and 1. in P.A.

Depot No.	Construction of depots *			Inflammable Liquid		Dangerous Goods						
	Walls	Roof	Floor	Mineral spirit litres	Mineral oil litres	Class 1 litres	Class 2 litres	Class 3 kg	Class 4 m ³	Class 5A# litres	Class 5B# litres	Class 9 litres
1	Brick	Iron	Concrete		5000							
2	Underground	Tank		30000								
3	Aboveground	Tank								4500		
4												
5												
6												
7												
8												
9												
10												
TOTAL												

PUBLIC REVENUE A/c

18/8/75

* If kept in tanks describe depots as underground or aboveground tanks.

Insert water capacity of tanks or cylinders.

18. 8. 75
(Date)Receipt No. 3241Name of Company supplying inflammable liquid Caltex

Have premises previously been licensed?

B 16228

If known, state name of previous occupier

Signature of applicant

Robert S. S. S.

Date

7. 8. 75

CERTIFICATE OF INSPECTION

I, William A. Mahon being an Inspector under the Inflammable Liquid Act, 1915, do hereby certify that the premises or store described above does comply with the requirements of that Act and regulations with regard to its situation and construction for the keeping of inflammable liquid and/or dangerous goods in quantity and nature specified.

FORRESTER ROAD.

PERIMET

CAR PARK.

INCLINE
STORE

ADMIN.
BLOCK.

8' x 6'

20 M.

4 M.

18 M.

40 M.

TANKS

L.P.G. CYLINDER
STORAGE

L.P.G. GAS

6.8

20 M.

SEALED ROAD.

90 M.

PETROL BOMBER.

LAWN

LAWN

Nº 1 STORE.

North.

STORES & TRANSPORT STAIRS
LOCATION L.P.G. GAS STORAGE TANK.

NOT TO SCALE

INFLAMMABLE LIQUID ACT, 1915 (AS AMENDED)

Application for Registration of Premises or Store Licence under Division B. 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.

SEE PAGE 4 FOR DETAILS OF FEES PAYABLE AND DISTANCES FROM PROTECTED WORKS

DIRECTIONS

Ctx.

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.
- Registration of Premises - 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 Licence, Div. 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 Licence, 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.

1. Name of occupier including full christian names.

Department of Supply

2. Trading Name (if any)

Stores & Transport Division

3. Locality of the premises in which the depot or depots are situated

No. or Name 21

Street Forrester Road

Town St. Mary's

P.O. Box 299 St. Mary's Postcode 2760

4. Postal address

5. Occupation

Stores & Transport

6. Nature of premises (dwelling, garage etc.)

Stores & Office

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 5B water gal	Class 9 gallons
1	Underground Tank			6000								
2												
3												
4												
5												
6												
7												
8												
9												
10												

No fee
date 30/7/73
rec. no 9605

FOR STC 43 FOR Cd. 2
DATE 19, 7, 73
Signature of applicant

*If product is kept in tanks describe depots as underground or aboveground tanks.

PLAN OF PROPOSED WORK FOR CALTEX

(Measurements as per Page 2)

gs, Fences, other Structures, Fall of Ground etc.
Switchboard - Vent Location)

ACCURATE MEASUREMENTS

CLIENT'S NAME & ADDRESS

Department of Supply
(Stores & Transport Division) Windsor Rd. St. Marys.
Windsor Rd. Phone 623-3046.

1/4
etc.

Entrance

ST Marys

Railway Station X
300 yds.

Security
office.

LIQUID LEAK IN PROTECTED
WITH CALTEX NO. C/88351
NO PROTECTED WORKS WITHIN
18 FEET.

Location of S/F Super Pump.
Air Vent - tree standing on Pump Island.

EXPLOSIVES DEPARTMENT
PASSED
A. L. B. [Signature]
FOR CHIEF INSPECTOR
26/11/78
SUBJECT TO COMPLIANCE WITH
REGULATIONS

Proposed Location of 6000 gall. u/c.
Super Gas Tank - Common Pipe Fall - Flat Ground

Switchboard.

Wharfage
Office

Wharfage

6000 MS.

Electric u/c Cable

0

Air Vent

Reib.

THE ABOVE LAYOUT MEETS WITH MY APPROVAL

Customer Signature
Essential

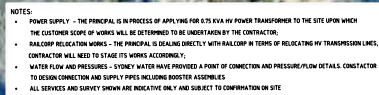
EXPLOSIVES: Requirements do not permit fill points inside a building or within 5' of any door. No pump inside a building or on a wharf without special approval. U/ground Gasoline Tanks must be separated from protected works, as under:

<u>CALTEX</u>	500	gallon	-	10'	=	7'6"	x	4'	dia)	
<u>AWING</u>	1000	"	-	10'	=	8'7"	x	5'	dia)	
<u>88351</u>	2000	"	-	10'	=	9'10"	x	7'	dia)	Protected Works, Dwellings,
	3000	"	-	13'	=	13'10"	x	7'	dia)	Amenities, Property,
	4000	"	-	15'	=	18'	x	7'	dia)	Boundaries, etc. To be
	5000	"	-	18'	=	22'2"	x	7'	dia)	shown on plan.
	6000	"	-	18'	=	26'3"	x	7'	dia)	

ELECTRICAL: Each pump to have its own circuit. Fuse 4 1/2 amps. S/F

Appendix J

Extract Figures from Previous Investigation Reports

[illegible]

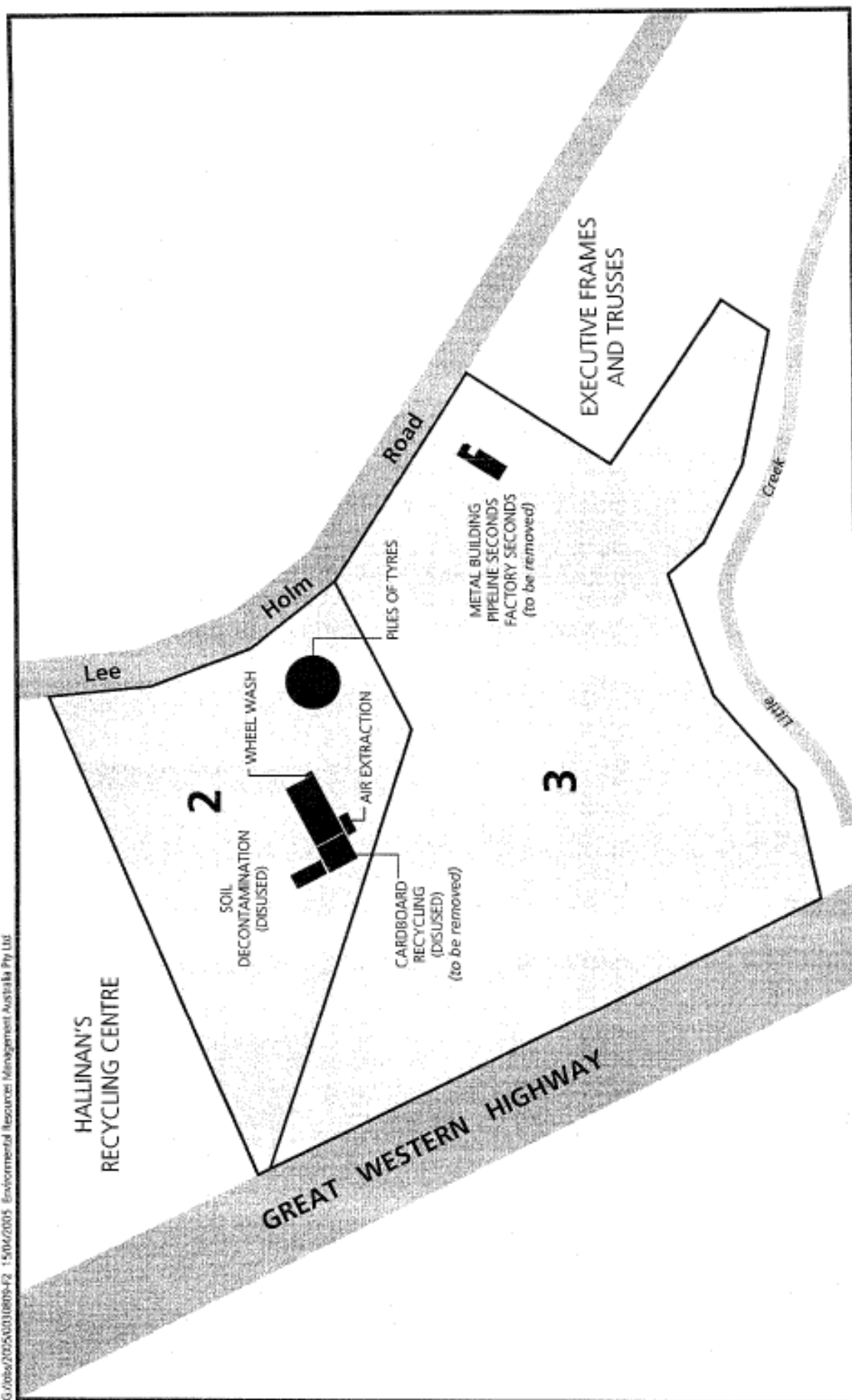


Figure 2 Site Layout

NOT TO SCALE



Project White
55-67 and 69-81 Lee Holm Road,
St Marys, NSW.

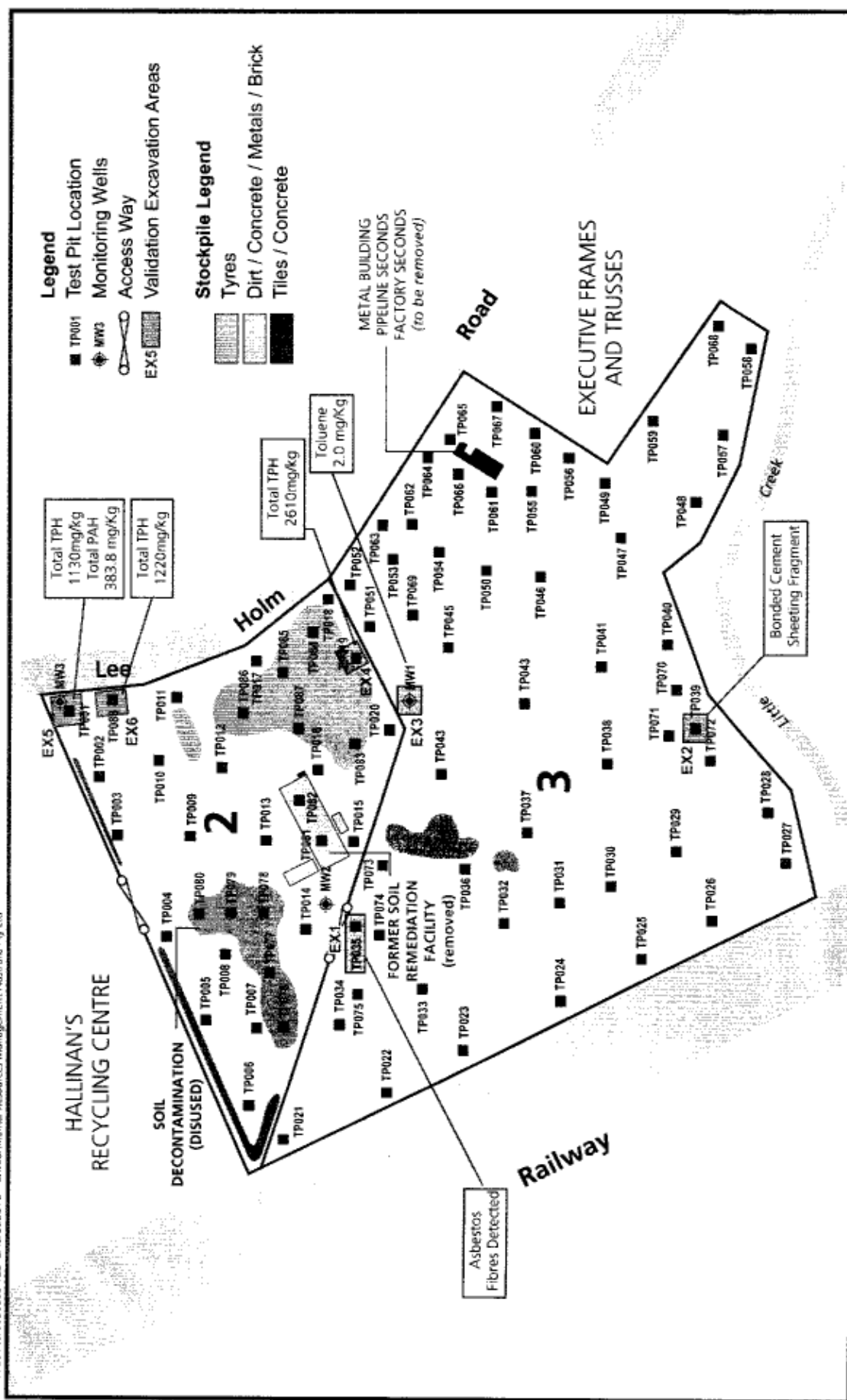


Figure 2

Site Layout and Remediation Locations



NOT TO SCALE

Project White
55-67 and 69-81 Lee Holm Road,
St Marys, NSW.



LOCALITY PLAN

LEGEND

- ▲ TEST BORE LOCATION
- TEST PIT LOCATION
- CONCRETE CORE & DYNAMIC CONE PENETRATION TEST LOCATION
- + CONE PENETRATION TEST LOCATION
- (25.53) SURFACE LEVEL OF BORE (AHD)
- ◆ TEST BORE LOCATION (SOUTHERN DEVELOPMENT)

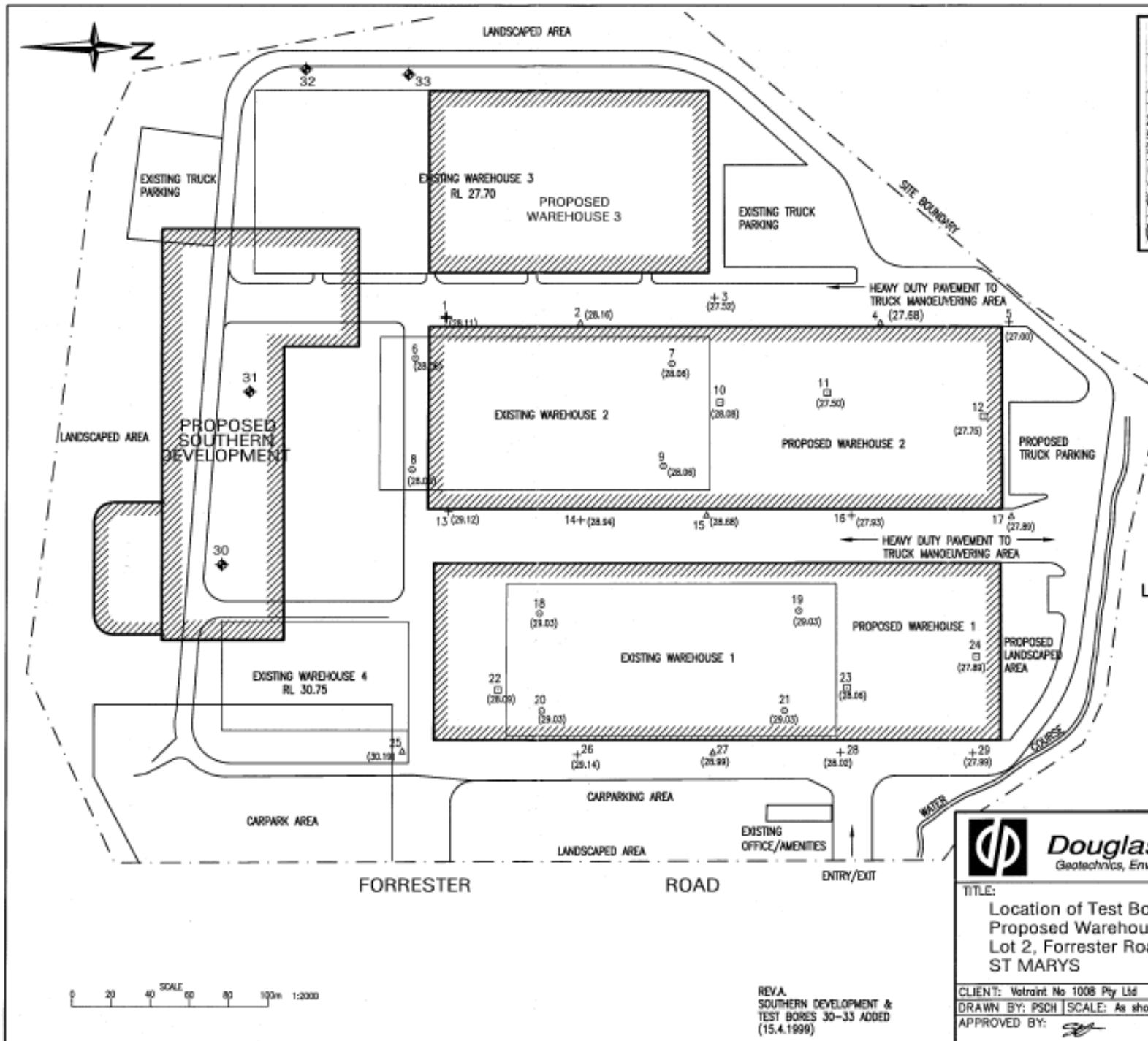


Douglas Partners
Geotechnics, Environmental, Groundwater

Sydney, Newcastle, Brisbane,
Melbourne, Perth, Wyang,
Singleton, Campbelltown,
Tennantville, Coimbs, Wollongong

TITLE:
Location of Test Bores, Test Pits, DCPs & CPTs
Proposed Warehouses
Lot 2, Forrester Road
ST MARYS

CLIENT: Voltraint No 1008 Pty Ltd
DRAWN BY: PSCH SCALE: As shown PROJECT No: 27638 OFFICE: SYDNEY
APPROVED BY: DATE: 15.4.1999 DRAWING No: 1/A



Appendix K

PAEC Table

Table K1: Summary of Identified Potential Areas of Environmental Concern

PAEC	Description	Co-ordinates*		Comments
		Easting	Northing	
1	Former Building/Structure Footprints & Existing Structures			
	Stockpile Area	0293493	6262764	Located at the southeast portion of Lot 3, D.P 876781. Identified through walkover and site history information.
	Stockpile Area	0293329	6262636	Located at the north-western portion of Lot 2, D.P 876781. Identified through walkover and historical aerial imagery.
	Former structure footprint (potential radio towers)	0293513	6262658	Located at the north portion of Lot 2, D.P 876781. Identified through historical aerial imagery. Could not verify during a site walkover.
	Existing unloading metal shed	-	-	Located along the railway corridor. Small area within the site
2	Deep Filling			
	Deep fill	-	-	Deep filling present throughout the site based on the site history information and recent intrusive events.
3	Stockpiles			
	Stockpile - SP1	0293806	6262055	Stockpiles of concrete fragments, sandstone rock pieces, concrete sleepers, metal I beam, cans and reinforced steel.
		0293830	6262058	Also a small stockpile of timber and a pile of concrete sleepers next to the second gate from the Forrester Road entrance
	Stockpile – SP2	0293475	6262213	Multiple stockpiles of railway ballast and soil with some concrete pieces, PVC fragments covered by overgrown vegetation.
	Stockpile – SP3	0293505	6262170	A large stockpile (approximately 4m high) along the eastern boundary.
	Stockpile – SP4	029486	6262583	Multiple small stockpiles of soil and gravel, with fragments of sandstone, timbers and scrap metals. Stockpiles partially covered with overgrown vegetation.
	Stockpile – SP5	0293434	6262312	A large soil mound (approximately 5-6 m high) partially covered with vegetation.
	Stockpile – SP7	0293476	6262654	Two stockpiles of sandstones with some broken concrete pipe and a tyre immediately south of the sediment detention basin.
	Stockpile – SP8	-	-	Three small stockpiles of soil (approximately 3-4m ³ each) 10-15m west of SP7.
	Stockpile – SP9	0293460	6262804	Multiple stockpiles of soil with fragments of bricks, tiles, timbers, wooden pallets etc. at the southeast portion of Lot 3

PAEC	Description	Co-ordinates*		Comments
		Easting	Northing	
4	Timber power poles			
	Power pole - PP1	0293872	6262068	Located in the western portion of Lot 2, D.P 876781
	Power pole – PP2	0293742	6262073	Located in the southern portion of Lot 2, D.P 876781
	Power pole – PP3	0293455	6262198	Three timber power poles between TP 109 and railway line.
5	Surficial ACM Fragments & discarded brake shoes in the railway corridor			
	ACM 1	0293491	6262781	A fragment of bonded ACM on site surface at the former building footprint in Lot 3
6	Fuel and Chemical leaks and spills			
	Former vehicle parking area	0293903	6262070	Based on the historical aerial imagery.
7	General Surficial Refuse/ Litters			
	Refuse near TP 106 at the former car park area	0293902	6262070	Refuse comprise can, tile fragments, timber pieces on site surface.
	Refuse on the eastern side of access pathway from the Forrester Road entrance	0293847	6262067	Refuse comprise mattress, glass bottles, PVC pipe, milk crate.
	Refuse near vandalised south-eastern fence line	0293769	6262071	Corroded metal pipe on surface between second and the third gate from the Forrester Road entrance.
		0293696	6262087	Fragments of timbers and tiles on surface adjacent to the vandalised fence line.
8	Off-site sources			
	Australian Reinforcing Company	-	-	Located off-site southeast.
	High Quality Group and Sims Metal Management	-	-	Located north-northeast. Based on site history information.
	Lot 2, D.P 734445 and Lot 3, D.P 876781	-	-	Former industrial premises. Based on the site history information
9	Former site use by James Hardie & Coy Pty Limited			
	Entire site	-	-	Potential use of the site for asbestos disposal

Note: *Co-ordinates based on hand held GPS.

“-” Not measured.

Appendix L

DQO and SAC

Appendix L1: Data Quality Objectives

The PSI has been devised broadly in accordance with 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 (NEPC, 2013). The DQO process is outlined below:

L1.1 State the Problem

The “problem” to be addressed is the extent and nature of potential contamination at the site which is unknown, and as such, it is unclear whether the site is suitable for the proposed development.

The objectives of the investigation are as follows:

- Undertake intrusive investigations of the site to assess and describe the nature and extent of contamination;
- Determine the suitability of the site for the proposed St Marys Freight Hub development; and
- Recommend further investigation as considered necessary based on the findings of work completed.

L1.2 Identify the Decision/Goal of the Study

The suitability of the site for the proposed development was assessed based on the site history review, site walkover, intrusive investigations and a comparison of the analytical results for contaminants of potential concern (COPC) against the adopted site assessment criteria (SAC) for soil and groundwater as detailed in Appendix L2 below. Based on the proposed development, the SAC for this PSI were based on the commercial/industrial land use criteria provided in NEPC (2013).

Based on the results of the site history review, the main COPC are expected to be metals, total recoverable hydrocarbons (TRH), benzene, toluene, ethylbenzene and xylenes (BTEX), polycyclic aromatic hydrocarbons (PAH), and asbestos. Other commonly found contaminants which may be present include phenols, organochlorine pesticides (OCP), organophosphate pesticides (OPP) and polychlorinated, biphenyls (PCB), volatile organic compounds (VOC).

The following specific decisions were considered as part of the PSI:

- Did field observation and analytical results identify potential contamination sources which were not included in the preliminary CSM?
- Were COPC present in soil and groundwater at concentrations that pose a potential risk to identified receptors?
- Is the data sufficient to make a decision regarding the abovementioned risks, the suitability of the site for the proposed development, or are additional investigations required?
- Does contamination at the site, if encountered, trigger the Duty to Report requirements under the CLM Act 1997?
- Are there any off-site migration issues that need to be considered?
- Is the data sufficient to enable the preparation of a Remediation Action Plan (RAP) and / or Environmental Management Plan (EMP) should the data suggest these are required?

L1.3 Identify Information Inputs

Inputs into the decisions are as follows:

- Review of regional geology, topography and hydrogeology information;
- Review of site history information;
- Observations made during a site walkover;
- The lithology of the site as described in the test pit logs (Appendix M);
- Soil sampling via drilling of four soil bores and excavation of eight test pits. Collection of additional surface samples;
- Groundwater sampling via installation of four monitoring wells;
- Field and laboratory QA/QC data to assess the suitability of the environmental data for the PSI (Appendix P); and
- Laboratory reported concentrations of COPC were compared against the SAC adopted from NEPC (2013).

L1.4 Define the Study Boundaries

The site is located in the suburb of St Marys within the local government area of Penrith City Council ("Council") and is identified as:

- Part Lot 2 Deposited Plan (D.P.) 876781;
- Part Lot 2 and 3 in D.P. 876781; and
- Part Lot 196 in D.P. 31912.

The site location and boundary are shown on Drawing 1, Appendix B.

Soil investigation was undertaken on 4 to 7 December 2018 and groundwater investigation was undertaken on 10 January 2018 by a DP environmental scientist.

L1.5 Develop the Analytical Approach (or decision rule)

The information obtained during the assessment was used to characterise the site in terms of contamination issues and risk to human health and the environment. The decision rules used in characterising the site were as follows:

- The adopted SAC were the NSW Environment Protection Authority (EPA) endorsed criteria;
- The contaminant concentrations in soil were compared to the adopted SAC to determine whether further investigation or remedial action was required; and
- The contaminant concentrations in groundwater were compared to the adopted SAC to determine whether further investigation or remedial action was required.

Field and laboratory test results were considered useable for the assessment after evaluation against the following data quality indicators (DQIs):

- Precision – a measure of variability or reproducibility of data;
- Accuracy – a measure of closeness of the data to the ‘true’ value;
- Representativeness – the confidence (qualitative) of data representativeness of media present on site;
- Completeness – a measure of the amount of usable data from a data collection activity; and
- Comparability – the confidence (qualitative) that data may be considered to be equivalent for each sampling and analytical event.

The specific limits are outlined in the data QA / QC procedures and results (Appendix P).

L1.6 Specify the Performance or Acceptable Criteria

Decision errors for the respective COPC for fill and natural soils are:

1. Deciding that fill and natural soil at the site exceeds the adopted SAC when they truly do not; and
2. Deciding that fill and natural soil at the site is within the adopted SAC when they truly do not.

Decision errors for the PSI were minimised and measured by the following:

- The sampling regime targeted each stratum identified to account for site variability;
- Sample collection and handling techniques were in accordance with DP’s *Field Procedures Manual*;
- Samples were prepared and analysed by a NATA-accredited laboratory with the acceptance limits for laboratory QA / QC parameters based on the laboratory reported acceptance limits and those stated in NEPC (2013);
- The analyte selection is based on the available site history, past site activities and site features. The potential for contaminants other than those proposed to be analysed is considered to be low;
- The SAC were adopted from established and NSW EPA endorsed guidelines. The SAC have risk probabilities already incorporated; and
- A NATA accredited laboratory using NATA endorsed methods are used to perform laboratory analysis.

L1.7 Optimise the design for obtaining data

Sampling design and procedures that were implemented to optimise data collection for achieving the DQOs included the following:

- Intrusive locations were selected targeting potential contamination sources (based on the site history review and observations made during a site walkover) and general site coverage;

- Given that the entire site is filled, filling present at the site was considered to present a greater risk, if contamination is detected. Therefore, soil samples collected from various fill strata were selected for analysis (at a rate of one fill sample per fill layer), keeping other sub-surface soil samples on hold. Similarly, samples collected from some of the potential areas of concerns (PAEC) were also put on hold from analysis;
- A NATA accredited laboratory using NATA endorsed methods were used to perform laboratory analysis; and
- Adequately experienced environmental scientists/engineers were chosen to conduct field work and sample analysis interpretation.

Appendix L2: Adopted Assessment Criteria

L.2.1 Soil

The Site Assessment Criteria (SAC) for soil applied in the current investigation are informed by the CSM which identified human and environmental receptors to potential contamination on the site (refer to Section 8). Analytical results are assessed (as a Tier 1 assessment) against the SAC comprising investigation and screening levels for a generic commercial and industrial land use as per Schedule B1 of NEPC (2013). Considerations were also given to protection of intrusive maintenance workers during sub-surface works, as well as ecological receptors from contamination present in soil.

L2.1.1 Health Investigation and Screening Levels

The generic Health Investigation Levels (HILs) and Health Screening Levels (HSLs) are considered to be appropriate for the assessment of human health risk associated with contamination at the site. The adopted soil HILs and HSLs for the potential contaminants of concern (COPC) are presented in Table L2, with inputs into their derivation shown in Table L1.

HILs are applicable to assessing health risk arising via all relevant pathways of exposure for a range of metals and organic substances. HSLs are applicable to selected petroleum compounds and fractions to assess the risk to human health via inhalation and direct contact pathways. It should be noted that although the CSM identifies a direct contact pathway as well as construction worker receptors, the corresponding HSLs for direct contact pathway are significantly higher than those for the vapour intrusion pathway and therefore the direct contact is not drivers for further assessment and/or remediation.

Table L1: Inputs to the Derivation of HSLs for Soil

Variable	Input	Rationale
Potential exposure pathway	Inhalation of vapours and direct contact with impacted media	Potential exposure pathways include vapour intrusion through concrete from potentially contaminated fill. There is also the risk of soil vapours during any excavation of potentially contaminated fill material.
Soil Type	Sand	Sand has been adopted as a conservative approach for this PSI given the presence of sandy gravelly fill at the site (see Test Pit Logs – Appendix L)
Depth to contamination	0 m to <1 m	As filling was identified from the surface a conservative contamination depth has been adopted for this PSI.

Table L2: HIL and HSL for Soil in mg/kg Unless Otherwise Indicated

Contaminants		HIL- D	HSL- D	Intrusive Worker
Metals	Arsenic	3000	NC	NC
	Cadmium	900	NC	NC
	Chromium (VI)	3600	NC	NC
	Copper	240000	NC	NC
	Lead	1500	NC	NC
	Mercury (inorganic)	730/180	NC	NC
	Nickel	6000	NC	NC
	Zinc	400000	NC	NC
PAH	Benzo(a)pyrene TEQ ¹	40	NC	NC
	Naphthalene	NC	NL ³	NL ³
	Total PAH	4000	NC	NC
TRH	C6 – C10 (less BTEX) [F1]	NC	260	NL ³
	>C10-C16 (less Naphthalene) [F2]	NC	NL ³	NL ³
	>C16-C34 [F3]	NC	NC	NC
	>C34-C40 [F4]	NC	NC	NC
BTEX	Benzene	NC	3	77
	Toluene	NC	NL ³	NL ³
	Ethylbenzene	NC	NL ³	NL ³
	Xylenes	NC	230	NL ³
Phenol	Pentachlorophenol used as a screen	660	NC	NC
OCP	Aldrin + Dieldrin	45	NC	NC
	Chlordane	530	NC	NC
	DDT+DDE+DDD	3600	NC	NC
	Endosulfan	2000	NC	NC
	Endrin	100	NC	NC
	Heptachlor	50	NC	NC
	HCB	80	NC	NC
	Methoxychlor	2500	NC	NC
OPP	Chlorpyrifos	2000	NC	NC
PCB²		7	NC	NC

Notes:

- Sum of carcinogenic PAH
- Non dioxin-like PCBs only.
- The soil saturation concentration (C_{sat}) is defined as the soil concentration at which the porewater phase cannot dissolve any more of an individual chemical. The soil vapour that is in equilibrium with the porewater will be at its maximum. If the derived soil HSL exceeds C_{sat}, a soil vapour source concentration for a petroleum mixture could not exceed a level that would result in the maximum allowable vapour risk for the given scenario. For these scenarios, no HSL is presented for these chemicals and the HSL is shown as 'not limiting' or 'NL'.
- NC: No criteria

L2.1.2 Ecological Investigation Levels

Ecological Investigation Levels (EILs) and Added Contaminant Limits (ACLs), where appropriate, have been derived in NEPC (2013) for only a short list of contaminants comprising As, Cu, Cr (III), DDT, naphthalene, Ni, Pb and Zn. The adopted EILs, derived using the *Interactive (Excel) Calculation Spreadsheet* (Standing Council on Environment and Water (SCEW) website (<http://www.scew.gov.au/node/941>)) are shown in the following Table K4, with inputs into their derivation shown on Table K3.

Table L3: Inputs to the Derivation of EILs

Variable	Input	Rationale
Age of contaminants	"Aged" (>2 years)	Given the potential sources of soil contamination are from historic use, the contamination is considered as "aged" (>2 years);
pH	7.85	Two selected samples (BH101/0.4-0.5 and BH103/0.9-1.0) were tested for pH. The mean pH value (7.85) was adopted for initial screening.
CEC	10.6 cmol/kg	Two selected samples (BH101/0.4-0.5 and BH103/0.9-1.0) were tested for CEC. The mean CEC value (10.6 cmol/kg) was adopted for initial screening.
Clay content	10 %	Conservative value for initial screening
Traffic volumes	low	The site is considered to be located within a low traffic area
State / Territory	New South Wales	-

Table L4: EIL in mg/kg

Analyte		EIL
Metals	Arsenic	160
	Copper	300
	Nickel	300
	Chromium III	670
	Lead	1800
	Zinc	730
PAH	Naphthalene	370
OCP	DDT	640

L2.1.3 Ecological Screening Levels

Ecological Screening Levels (ESLs) are used to assess the risk of selected petroleum hydrocarbon compounds, BTEX and benzo(a)pyrene, to terrestrial ecosystems. The adopted ESLs, based on a coarse soil type, are shown in the following Table L5.

Table L5: ESL in mg/kg

Analyte		ESL ¹	Comments
TRH	C6 – C10 (less BTEX) [F1]	215*	All ESLs are low reliability apart from those marked with * which are moderate reliability
	>C10-C16 (less Naphthalene) [F2]	170*	
	>C16-C34 [F3]	1700	
	>C34-C40 [F4]	3300	
BTEX	Benzene	75	
	Toluene	135	
	Ethylbenzene	165	
	Xylenes	180	
PAH	Benzo(a)pyrene	0.7	

L2.1.4 Management Limits

In addition to the application of HSL and ESL, a further screening measure is applicable to petroleum hydrocarbons, which takes into account policy considerations and reflect the nature and properties of petroleum hydrocarbons, including:

- Formation of observable light non-aqueous phase liquids (LNAPL);
- Fire and explosion hazards; and
- Effects on buried infrastructure e.g. penetration of, or damage to, in-ground services.

The adopted management limits, based on a coarse soil type, are shown in the following Table E6.

Table L6: Management Limits in mg/kg

Analyte		Management Limit
TRH	C ₆ – C ₁₀ (F1) [#]	700
	>C ₁₀ -C ₁₆ (F2) [#]	1000
	>C ₁₆ -C ₃₄ (F3)	3500
	>C ₃₄ -C ₄₀ (F4)	10000

[#] Separate management limits for BTEX and naphthalene are not available hence these have not been subtracted from the relevant fractions to obtain F1 and F2

L2.1.5 Asbestos in Soil

NEPC (2013) defines the various asbestos types as follows:

- **Bonded ACM:** Asbestos containing material which is in sound condition, bound in a matrix of cement or resin, and cannot pass a 7 mm x 7 mm sieve.
- **FA:** Fibrous asbestos material including severely weathered cement sheet, insulation products and woven asbestos material. This material is typically unbonded or was previously bonded and is now significantly degraded and crumbling.
- **AF:** Asbestos fines including free fibres, small fibre bundles and also small fragments of bonded ACM that pass through a 7 mm x 7 mm sieve.

NEPC (2013) provides HSL for asbestos in soil which are based on scenario specific likely exposure levels. The HSL for all land use scenarios detailed in NEPC (2013) includes 'no visible asbestos for surface soils', and allowable concentrations of ACM and FA/FA.

A detailed asbestos assessment was not undertaken as part of this PSI as the site surface will be concrete paved during the proposed development. Therefore the presence or absence of asbestos at a limit of reporting of 0.1 g/kg has been adopted for this assessment as an initial screen. The adopted asbestos SAC for the purposes of this investigation is:

- No visible asbestos; and
- Concentrations of all forms of asbestos below the laboratory LOR.

L.2.2 Groundwater

The potential receptors of impacted groundwater from the site include:

- Future occupiers of the site (construction and maintenance workers);
- Workers conducting excavations, construction or maintenance works within the site or nearby the site (impacted groundwater); and
- The water ecosystems of Little Creek and South Creek.

The SAC adopted for groundwater are based on the groundwater investigation levels (GILs) and the health screening levels (HSLs) for groundwater provided in NEPC (2013).

L2.2.1 Groundwater Investigation Levels

The GILs adopted in NEPC (2013) are based on the following:

- *Australian Drinking Water Guidelines 2011 (ADWG, 2011); and*
- *Australian and New Zealand Guidelines for Fresh and Marine Water Quality (ANZG, August 2018).*

Groundwater bore search result did not identify any beneficial groundwater bores within a 500 m distance from the site. Similarly, the field groundwater quality parameters recorded during the GME indicate groundwater at the site is saline and unsuitable for potable use. Therefore, the ADWG have not been adopted in relation to potential human receptors.

On the basis of the identified potential ecological receptors, the adopted GIL are as follows:

- The fresh water GIL from NEPC (2013) for a slightly/moderately disturbed fresh water system, at a general protection level of protection of 95% of species.

The adopted GIL for the analytes included in the assessment (where applicable), and the corresponding source documents, are shown in Table L7. Based on the hardness reported in groundwater samples from the site, the GILs for metals were adjusted to make the GILs site specific.

Table L7: Groundwater Investigation Levels (in µg/L unless otherwise stated)

Analyte		GIL Fresh Waters ^a	GIL –Hardness Adjusted	Adopted GILs for this PSI
Metals	Aluminium	55	-	55
	Arsenic (V)	24	-	24
	Cadmium	0.2 ^b	2	2
	Chromium (VI)	0.4	3.4	3.4
	Copper	1.4 ^b	12.6	12.6
	Lead	3.4 ^b	90.8	90.8
	Manganese	1,900	-	1,900
	Mercury (total)	0.6	-	0.6
	Nickel	11 ^b	99	99
	Zinc	8 ^b	72	72
TRH	C6 – C10 (less BTEX) [F1]	NC	-	NC
	>C10-C16 (less Naphthalene) [F2]	NC	-	NC
	>C16-C34 [F3]	NC	-	NC
	>C34-C40 [F4]	NC	-	NC
PAH	Naphthalene	16	-	16
	Benzo(a)pyrene	NC	-	NC
	Phenanthrene	0.6 ^c	-	0.6 ^c
BTEX	Benzene	950	-	950
	Toluene	180 ^c	-	180 ^c
	Ethylbenzene	80 ^c	-	80 ^c
	Xylene (o)	350	-	350
	Xylene (m)	75 ^c	-	75 ^c
	Xylene (p)	200	-	200
OCP	Aldrin	0.001 ^c	-	0.001 ^c
	Dieldrin	0.01 ^c	-	0.01 ^c
	Aldrin+dieldrin	NC	-	NC
	Chlordane	0.08	-	0.08
	DDT	0.006	-	0.006
	Endosulfan	0.03	-	0.03
	Endrin	0.01	-	0.01
	Heptachlor	0.01	-	0.01
	g-BHC (Lindane)	0.2	-	0.2
OPP	Chlorpyrifos	0.01	-	0.01
	Diazinon	0.01	-	0.01
	Dimethoate	0.15	-	0.15
	Fenitrothion	0.2	-	0.2
	Malathion	0.05	-	0.05
	Parathion	0.004	-	0.004

Analyte		GIL Fresh Waters ^a	GIL –Hardness Adjusted	Adopted GILs for this PSI
PCB	Aroclor 1242	0.3	-	0.3
	Aroclor 1254	0.01	-	0.01
Phenols	Total Phenolics	320	-	320
VOC	1,1,2-trichloroethane	6,500	-	6,500
	1,2,3-trichlorobenzene	10	-	10
	1,2,4-trichlorobenzene	170	-	170
	1,2-dichlorobenzene	160	-	160
	1,3-dichlorobenzene	260	-	260
	1,4-dichlorobenzene	60	-	60
	Tetrachloroethene (PCE)	70 ^c	-	70 ^c
	Chloroform	370 ^c	-	370 ^c
	Isopropylbenzene	30 ^c	-	30 ^c
	1,1-dichloroethane	90 ^e	-	90 ^e
	1,2-dichloroethane	1900 ^d	-	1900 ^d
Nutrient	Ammonia as N	900 ^c	-	900 ^c

Notes:

- a ANZG (2018) for freshwater water ecosystems. Investigation levels apply to typically slightly-moderately disturbed systems
- b GIL may be adjusted for hardness in accordance ANZECC & ARMCANZ (2000)
- c low reliability interim working level value adopted as screening level in absence of available moderate or high reliability GIL
- d ANZG (2018). Low reliability trigger value for fresh water.

L2.2.2 Health Screening Levels for Groundwater

Schedule B1, NEPC (2013) provides HSLs for commonly encountered contaminants which are applicable to generic land uses and include consideration of, where relevant, the soil type and the depth of contamination. Based on the proposed development, the HSLs for commercial/industrial land use (HSL D) and intrusive maintenance workers provided in the NEPC (2013) have been adopted for a Tier 1 screening of potential risks posed to the future site occupants and the intrusive workers by groundwater contamination present beneath the site. The HSLs for intrusive workers are "non-limiting" indicating that theoretically soil vapour concentrations for petroleum mixtures cannot exceed a level that would result in the maximum allowable vapour risk.

Given that groundwater was encountered at depths ranging from 3.31 m bgl to 7.45 m bgl at the site during the GME, the HSL for sand with groundwater depth 2 m - <4 m and HSL for clay with groundwater depth 4 m - < 8 m were adopted.

Table L8: HSL for Groundwater in µg/L

Analyte		HSL D – Sand ¹	HSL D – Clay ²	HSL - Intrusive Workers
TRH	C6 – C10 (less BTEX) [F1]	6,000	NL	NL
	>C10-C16 (less Naphthalene) [F2]	NL	NL	NL
	>C16-C34 [F3]	NC	NC	NC
	>C34-C40 [F4]	NC	NC	NC
BTEX	Benzene	5,000	30,000	NL
	Toluene	NL	NL	NL
	Ethylbenzene	NL	NL	NL
	Xylenes	NL	NL	NL
PAH	Naphthalene	NL	NL	NL

Note: 1 Groundwater depth 2m to <4m

2 Groundwater depth 4m to <8m

NC: No criteria

NL: Not limiting.

Appendix M

Bore Logs/Test Pit Logs

BOREHOLE LOG

CLIENT: Pacific National
PROJECT: St Marys Freight Hub - Stage 1
LOCATION: Lot 2 Forrester Road, St Mary's

SURFACE LEVEL: 29.2 mAHD
EASTING: 293487.5
NORTHING: 6262221.3
DIP/AZIMUTH: 90°/-

BORE No: BH/MW 101
PROJECT No: 94525.00
DATE: 5/12/2018
SHEET 1 OF 2

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing				Water	Well Construction	
				Type	Depth	Sample	Results & Comments		Details	
29	0.0	FILLING - brown, sandy gravel filling, humid. Sand is fine to medium grain and gravel is fine to coarse.		A/E	0.0		PID<1		1.05m Stick-up	
	0.2			A/E	0.2					
	0.4			A/E	0.4		PID<1			
	0.5			A/E	0.5					
1	0.9	1.0m: becoming grey, gravelly sand		A/E	0.9		PID<1			
	1.0			A/E	1.0					
	1.4			A/E	1.4		PID<1			
	1.5			A/E	1.5				0-3.2m Backfill	
2	1.9	2.0m: becoming brown, gravel fine to medium		A/E	1.9		PID<1			
	2.0			A/E	2.0				0-4.2m Casing	
2.2	2.4	FILLING - grey ripped siltstone filling, humid		A/E	2.4		PID<1			
	2.5			A/E	2.5					
3	2.9			A/E	2.9		PID<1			
	3.0			A/E	3.0					
3.3	3.4	SILTY CLAY - stiff, brown, silty clay, damp		A/E	3.4		pp = 150			
	3.5			A/E	3.5				3.2-3.7m Bentonite	
4	3.9	3.8m: becoming yellow-brown, stiff to very stiff		A/E	3.9		pp = 150			
	4.0			A/E	4.0					
5	5.9	5.5m: becoming brown		A	5.9					
6	6.0	6.0m: becoming brown mottled grey		A	6.0					
7	7.9			A	7.9		pp = 300			
8	8.0	8.0m: very stiff		A	8.0				3.7-9.2m Specialised Sand	
9									4.2-9.2m Screen	
10.0										

RIG: MC-T 200

DRILLER: Terratest

LOGGED: JY

CASING: PVC

TYPE OF BORING: 150mm diameter solid flight auger

WATER OBSERVATIONS: No free groundwater observed whilst augering

REMARKS: Location coordinates are in MGA94 Zone 56. Top casing elevation: 30.3 mAHD

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	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	W	Water seep	S	Standard penetration test
E	Environmental sample	W	Water level	V	Shear vane (kPa)




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BOREHOLE LOG

CLIENT: Pacific National
PROJECT: St Marys Freight Hub - Stage 1
LOCATION: Lot 2 Forrester Road, St Mary's

SURFACE LEVEL: 29.2 mAHD
EASTING: 293487.5
NORTHING: 6262221.3
DIP/AZIMUTH: 90°/--

BORE No: BH/MW 101
PROJECT No: 94525.00
DATE: 5/12/2018
SHEET 2 OF 2

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing				Water	Well Construction Details	
				Type	Depth	Sample	Results & Comments			
10.5	10.5	SHALE - extremely low strength, grey-brown shale								
		Bore discontinued at 10.5m								
11	11									
12	12									
13	13									
14	14									
15	15									
16	16									
17	17									
18	18									
19	19									

RIG: MC-T 200

DRILLER: Terratest

LOGGED: JY

CASING: PVC

TYPE OF BORING: 150mm diameter solid flight auger

WATER OBSERVATIONS: No free groundwater observed whilst augering

REMARKS: Location coordinates are in MGA94 Zone 56. Top casing elevation: 30.3 mAHD

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	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	W	Water seep	S	Standard penetration test
E	Environmental sample	W	Water level	V	Shear vane (kPa)

BOREHOLE LOG

CLIENT: Pacific National
PROJECT: St Marys Freight Hub - Stage 1
LOCATION: Lot 2 Forrester Road, St Mary's

SURFACE LEVEL: 26.2 mAHD
EASTING: 293463.3
NORTHING: 6262472.6
DIP/AZIMUTH: 90°/-

BORE No: BH/MW 102
PROJECT No: 94525.00
DATE: 5/12/2018
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing				Water	Well Construction Details	
				Type	Depth	Sample	Results & Comments		1.0m Stick-up	
26		FILLING - brown-grey gravelly sand filling, humid								
	0.5m	some gravel		E	0.9		PID<10			
1					1.0					
25		1.2m: becoming grey		E	1.4		PID<10			
					1.5					
2		1.8m: becoming light grey (possibly sandstone)		E	1.9		PID<10			
					2.0					
24				E	2.4		PID<1			
					2.5					
3				E	2.9		PID<10			
					3.0					
3.2		SILTY CLAY - red-brown mottled grey silty clay, damp (possibly filling)		E	3.4		PID<10			
					3.5					
4		3.8m: becoming brown								
5				E	4.9		PID<1			
					5.0					
6										
7		7.0m: saturated with some gravel		A	6.9					
					7.0					
8										
8.5		SHALE - extremely low strength, grey shale, with a trace of carbonaceous material (possibly clay)								
9				A	8.9					
					9.0					
10										
				A	9.5					
10.0										

Bore discontinued at 10.0m

RIG: MC-T 200

DRILLER: Terratest

LOGGED: JY

CASING: PVC

TYPE OF BORING: 150mm diameter solid flight auger

WATER OBSERVATIONS: Free groundwater observed at 7.0m

REMARKS: Location coordinates are in MGA94 Zone 56. Top casing elevation: 27.3 mAHD

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	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	W	Water seep	S	Standard penetration test
E	Environmental sample	W	Water level	V	Shear vane (kPa)



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BOREHOLE LOG

CLIENT: Pacific National
PROJECT: St Marys Freight Hub - Stage 1
LOCATION: Lot 2 Forrester Road, St Mary's

SURFACE LEVEL: 24.1 mAHD
EASTING: 293329.1
NORTHING: 6262636.9
DIP/AZIMUTH: 90°/-

BORE No: BH/MW 103
PROJECT No: 94525.00
DATE: 4/12/2018
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing				Water	Well Construction Details	
				Type	Depth	Sample	Results & Comments			
24.1		FILLING - grey, sandy gravel filling, with some clay, damp		A/E	0.1		PID<10		1.1m Stick up	
				A/E	0.2					
				A/E	0.4		PID<10			
				A/E	0.5				0-1.0m Casing	
0.9		FILLING - dark brown, silty clay filling, with some organic material, damp (possibly topsoil filling)		A/E	0.9		PID<1			
1.2		FILLING - grey-brown, silty clay filling, damp		A/E	1.0				0-2.0m Backfill	
				A/E	1.4		PID<10			
				A/E	1.5					
2.2		SILTY CLAY - stiff, light grey mottled brown silty clay, damp		A/E	1.9		pp = 250 PID<10			
				A/E	2.0				2-2.5m Bentonite Seal	
				A/E	2.4		pp = 100 PID<10			
				A/E	2.5					
3.0				A/E	2.9		pp = 150 PID<10			
				A/E	3.0					
3.5		SILTY CLAY - brown, slightly sandy silty clay, wet								
				A/E	4.0		PID<10			
				A/E	4.1					
5.0		5.0m: saturated and becoming slightly gravelly		A/E	4.9				2.5-7.0m Specialised Sand	
				A/E	5.0				3-7.0m Screen	
				A/E	5.9					
				A/E	6.0					
7.0		Bore discontinued at 7.0m								

RIG: MC-T 200

DRILLER: Terratest

LOGGED: JY

CASING: PVC

TYPE OF BORING: 150mm diameter solid flight auger

WATER OBSERVATIONS: Free groundwater observed at approximately 3.5m

REMARKS: Location coordinates are in MGA94 Zone 56. Top casing elevation: 25.3 mAHD

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 _s	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	W _s	Water seep	S	Standard penetration test
E	Environmental sample	W _L	Water level	V	Shear vane (kPa)



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BOREHOLE LOG

CLIENT: Pacific National
PROJECT: St Marys Freight Hub - Stage 1
LOCATION: Lot 2 Forrester Road, St Mary's

SURFACE LEVEL: 25.1 mAH
EASTING: 293513.4
NORTHING: 6262658.8
DIP/AZIMUTH: 90°/-

BORE No: BH/MW 104
PROJECT No: 94525.00
DATE: 4/12/2018
SHEET 1 OF 2

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing				Water	Well Construction	
				Type	Depth	Sample	Results & Comments		Details	
25.1	0.0	FILLING - light brown, fine to coarse grain gravelly sand filling, humid. Gravel is fine to coarse and mostly white sandstone		A/E	0.0		PID<1		0.93m Stick-up	
	0.1			A/E	0.4		PID<1			
	0.5			A/E	0.9		PID<1			
	1.0			A/E	1.4		PID<1			
	1.5			A/E	1.9		PID<1			
2.0	2.0	2.0m: becoming grey		A/E	2.4		PID<1		0-4.0m Backfill	
	2.5			A/E	2.9		PID<1		0-5.0m Blank	
2.8	2.8	FILLING - orange-brown silty clay filling, with some fine to medium sandstone gravel, humid		A/E	3.0		pp = 100			
3.5	3.5	SILTY CLAY - brown silty clay, with a trace of fine gravel, damp		A/E	3.4		pp = 400			
	3.5			A/E	3.9		pp = 300			
	4.0			A/E	4.4		pp = 250		4-4.5m Bentonite	
	4.5			A/E	4.9		pp = 200			
	5.0			A/E	5.9		pp = 150			
6.0	6.0	6.0m: becoming yellow-brown, stiff		A/E	6.0		pp = 100			
		-possibly extremely low strength shale from 6.4m			6.9					
7.5	7.5	SHALE - extremely low strength, grey shale							4.5-10.0m Sand	
									5-10.0m Screen	

RIG: MCT-T 200

DRILLER: Terratest

LOGGED: JY

CASING: PVC

TYPE OF BORING: 150mm diameter solid flight auger to 10.5m

WATER OBSERVATIONS: No free groundwater observed whilst augering

REMARKS: Location coordinates are in MGA94 Zone 56. Top casing elevation: 26 mAH

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	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	W	Water seep	S	Standard penetration test
E	Environmental sample	W	Water level	V	Shear vane (kPa)




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BOREHOLE LOG

CLIENT: Pacific National
PROJECT: St Marys Freight Hub - Stage 1
LOCATION: Lot 2 Forrester Road, St Mary's

SURFACE LEVEL: 25.1 mAHD
EASTING: 293513.4
NORTHING: 6262658.8
DIP/AZIMUTH: 90°/--

BORE No: BH/MW 104
PROJECT No: 94525.00
DATE: 4/12/2018
SHEET 2 OF 2

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing				Water	Well Construction Details	
				Type	Depth	Sample	Results & Comments			
10.5	10.5	SHALE - extremely low strength, grey shale (<i>continued</i>)								
	10.5	Bore discontinued at 10.5m								
	11									
	12									
	13									
	14									
	15									
	16									
	17									
	18									
	19									

RIG: MCT-T 200

DRILLER: Terratest

LOGGED: JY

CASING: PVC

TYPE OF BORING: 150mm diameter solid flight auger to 10.5m

WATER OBSERVATIONS: No free groundwater observed whilst augering

REMARKS: Location coordinates are in MGA94 Zone 56. Top casing elevation: 26 mAHD

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	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	W	Water seep	S	Standard penetration test
E	Environmental sample	W	Water level	V	Shear vane (kPa)



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TEST PIT LOG

CLIENT: Pacific National
PROJECT: St Marys Freight Hub - Stage 1
LOCATION: Lot 2 Forrester Road, St Mary's

SURFACE LEVEL: 33.2 mAHD
EASTING: 29303.3
NORTHING: 6262070.5

PIT No: TP106
PROJECT No: 94525.00
DATE: 6/12/2018
SHEET 1 OF 1

[illegible]

RIG: 8 Tonne Backhoe

LOGGED: JY

SURVEY DATUM: MGA94 Zone 56

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
B	Bulk sample	P	Piston sample
BLK	Block sample	U	Tube sample (x mm dia.)
C	Core drilling	W	Water sample
D	Disturbed sample	W _s	Water seep
E	Environmental sample	W _l	Water level
		PID	Photo ionisation detector (ppm)
		PL(A)	Point load axial test (s(50) (MPa)
		PL(D)	Point load diametral test (s(50) (MPa)
		pp	Pocket penetrometer (kPa)
		S	Standard penetration test
		V	Shear vane (kPa)







TEST PIT LOG

CLIENT: Pacific National
PROJECT: St Marys Freight Hub - Stage 1
LOCATION: Lot 2 Forrester Road, St Mary's

SURFACE LEVEL: 33.2 mAHD
EASTING: 293797.5
NORTHING: 6226050.1

PIT No: TP107
PROJECT No: 94525.00
DATE: 6/12/2018
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing				Water	Dynamic Penetrometer Test (blows per mm)			
				Type	Depth	Sample	Results & Comments		5	10	15	20
33.2	0.0	FILLING - grey, sandy gravel filling, with some vegetation, concrete fragments rootlets, humid. Sand is fine to coarse grain and gravel is fine to coarse.		A/E	0.0		PID<1					
	0.2				0.2							
	0.4			A/E	0.4		pp = 300 PID<1					
	0.5				0.5							
	0.8	FILLING - brown, silty clay filling, with some fine to medium gravel, damp										
1	0.9			A/E	0.9		pp = 500 PID<1	1				
	1.0	SILTY CLAY - very stiff to hard, brown mottled red silty clay, with some gravel, damp (possibly filling)										
	1.2				1.2							
	1.4	SILTY CLAY - very stiff, red mottled grey silty clay, damp		A/E	1.4		pp = 250 PID<1					
	1.5				1.5							
1.65	1.65	Pit discontinued at 1.65m										
2	2							2				
3	3							3				
4	4							4				
5	5							5				
6	6							6				
7	7							7				
8	8							8				
9	9							9				

RIG: 8 Tonne Backhoe

LOGGED: JY

SURVEY DATUM: MGA94 Zone 56

WATER OBSERVATIONS: No free groundwater observed

REMARKS: Stockpile 1 nearby: Concrete fragments/blocks/metal I-beam/cans/ reinforcing steel/vegetation.

☐ Sand Penetrometer AS1289.6.3.3
☐ Cone Penetrometer AS1289.6.3.2



SAMPLING & IN SITU TESTING LEGEND			
A	Auger sample	G	Gas sample
B	Bulk sample	P	Piston sample
BLK	Block sample	U	Tube sample (x mm dia.)
C	Core drilling	W	Water sample
D	Disturbed sample	W	Water seep
E	Environmental sample	W	Water level
		PID	Photo ionisation detector (ppm)
		PL(A)	Point load axial test Is(50) (MPa)
		PL(D)	Point load diametral test Is(50) (MPa)
		pp	Pocket penetrometer (kPa)
		S	Standard penetration test
		V	Shear vane (kPa)

TEST PIT LOG

CLIENT: Pacific National
PROJECT: St Marys Freight Hub - Stage 1
LOCATION: Lot 2 Forrester Road, St Mary's

SURFACE LEVEL: 27.6 mAH
EASTING: 293472.2
NORTHING: 6262295.3

PIT No: TP108
PROJECT No: 94525.00
DATE: 6/12/2018
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing				Water	Dynamic Penetrometer Test (blows per mm)			
				Type	Depth	Sample	Results & Comments		5	10	15	20
27 1 26 2 25 3 24 4 23 5 22 6 21 7 20 8 19 9 18		FILLING - brown, sandy gravel filling, with some cobbles, humid. Appears well compacted. 1.4m: becoming grey		E	0.0		PID<1					
					0.2							
				E	0.4		PID<1					
					0.5							
				E	0.9		PID<10					
					1.0							
				E	1.4		PID<1					
					1.5							
	2.0	SILTY CLAY - stiff to very stiff, grey mottled red silty clay, damp		E	2.0		pp = 200 PID<1					
	2.4				2.1							
		Pit discontinued at 2.4m										

RIG: 8 Tonne Excavator

LOGGED: JY

SURVEY DATUM: MGA94 Zone 56

WATER OBSERVATIONS: No free groundwater observed

REMARKS: SP3 nearby 0-0.1m sample: Grassy stockpile composed of brown silty clay filling with some sand and gravel.

☐ Sand Penetrometer AS1289.6.3.3
☐ Cone Penetrometer AS1289.6.3.2

SAMPLING & IN SITU TESTING LEGEND			
A	Auger sample	G	Gas sample
B	Bulk sample	P	Piston sample
BLK	Block sample	U _s	Tube sample (x mm dia.)
C	Core drilling	W	Water sample
D	Disturbed sample	W _s	Water seep
E	Environmental sample	W _l	Water level
		PID	Photo ionisation detector (ppm)
		PL(A)	Point load axial test Is(50) (MPa)
		PL(D)	Point load diametral test Is(50) (MPa)
		pp	Pocket penetrometer (kPa)
		S	Standard penetration test
		V	Shear vane (kPa)

TEST PIT LOG

CLIENT: Pacific National
PROJECT: St Marys Freight Hub - Stage 1
LOCATION: Lot 2 Forrester Road, St Mary's

SURFACE LEVEL: 29.3 mAH
EASTING: 293474.1
NORTHING: 6262214.9

PIT No: TP109
PROJECT No: 94525.00
DATE: 6/12/2018
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing				Water	Dynamic Penetrometer Test (blows per mm)			
				Type	Depth	Sample	Results & Comments		5	10	15	20
29.3		FILLING - grey, sandy gravel filling, humid. Sand is fine to coarse and gravel is fine to cobble sized. Appears well compacted.		E	0.0		PID<10					
					0.2							
				E	0.4		PID<1					
					0.5							
1				E	0.9		PID<10	1				
					1.0							
				E	1.4		PID<10					
					1.5							
2				E	1.9		PID<10	2				
					2.0							
				E	2.4		PID<10					
					2.5							
3				E	2.9		PID<1	3				
					3.0							
26	3.3	Pit discontinued at 3.3m										
4												
5												
6												
7												
8												
9												

RIG: 8 Tonne Excavator

LOGGED: JY

SURVEY DATUM: MGA94 Zone 56

WATER OBSERVATIONS: No free groundwater observed

REMARKS: SP2 nearby - brown sandy gravel filling with lots of railway ballast.

☐ 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	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	W	Water seep	S	Standard penetration test
E	Environmental sample	W	Water level	V	Shear vane (kPa)

TEST PIT LOG

CLIENT: Pacific National
PROJECT: St Marys Freight Hub - Stage 1
LOCATION: Lot 2 Forrester Road, St Mary's

SURFACE LEVEL: 25.7 mAH
EASTING: 293395.6
NORTHING: 6262516.2

PIT No: TP110
PROJECT No: 94525.00
DATE: 6/12/2018
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing				Water	Dynamic Penetrometer Test (blows per mm)			
				Type	Depth	Sample	Results & Comments		5	10	15	20
		FILLING - light brown, sandy gravel filling, humid. Appears well compacted.		E	0.0		PID<1					
					0.2							
		0.4m: becoming grey		E	0.4		PID<1					
					0.5							
1				E	0.9		PID<1	1				
					1.0							
				E	1.4		PID<1					
					1.5							
2				E	1.9		PID<1	2				
					2.0							
				E	2.4		PID<1					
					2.5							
3				E	3.0			3				
					3.1							
3.3		Pit discontinued at 3.3m										
4												
5												
6												
7												
8												
9												

RIG: 8 Tonne Backhoe

LOGGED: JY

SURVEY DATUM: MGA94 Zone 56

WATER OBSERVATIONS: No free groundwater observed

REMARKS: SP5 nearby 0-0.1m sample: Filling - dark grey, slightly clayey gravelly sand, with some silt and rootlets, humid.

☐ Sand Penetrometer AS1289.6.3.3
☐ Cone Penetrometer AS1289.6.3.2



SAMPLING & IN SITU TESTING LEGEND			
A	Auger sample	G	Gas sample
B	Bulk sample	P	Piston sample
BLK	Block sample	U	Tube sample (x mm dia.)
C	Core drilling	W	Water sample
D	Disturbed sample	>	Water seep
E	Environmental sample	≡	Water level
		PID	Photo ionisation detector (ppm)
		PL(A)	Point load axial test Is(50) (MPa)
		PL(D)	Point load diametral test Is(50) (MPa)
		pp	Pocket penetrometer (kPa)
		S	Standard penetration test
		V	Shear vane (kPa)

TEST PIT LOG

CLIENT: Pacific National
PROJECT: St Marys Freight Hub - Stage 1
LOCATION: Lot 2 Forrester Road, St Mary's

SURFACE LEVEL: 25.5 mAH
EASTING: 293462.2
NORTHING: 6262573.8

PIT No: TP111
PROJECT No: 94525.00
DATE: 6/12/2018
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing				Water	Dynamic Penetrometer Test (blows per mm)			
				Type	Depth	Sample	Results & Comments		5	10	15	20
		FILLING - light brown, sandy gravel filling, humid. Sand is fine to coarse and gravel is fine to coarse crushed sandstone and siltstone.		E	0.0		PID<1					
					0.2							
				E	0.4		PID<1					
					0.5							
	1			E	0.9		PID<10					
					1.0							
				E	1.4		PID<10					
					1.5							
	2	1.8m: becoming grey		E	1.9		PID<10					
					2.0		PID<10					
	2.3	GRAVELLY CLAY - very stiff, brown slightly silty gravelly clay, with a trace of sand (possibly filling)		E	2.4		pp = 250					
				E	2.5		PID<1					
	2.8	Pit discontinued at 2.8m										
	3											
	4											
	5											
	6											
	7											
	8											
	9											

RIG: 8 Tonne Excavator

LOGGED: JY

SURVEY DATUM: MGA94 Zone 56

WATER OBSERVATIONS: No free groundwater observed

REMARKS: SP4 nearby 0-0.1m sample: Dark grey, sandy gravel filling with some ballast, rootlets, and timber.

☐ Sand Penetrometer AS1289.6.3.3
☐ Cone Penetrometer AS1289.6.3.2

SAMPLING & IN SITU TESTING LEGEND			
A	Auger sample	G	Gas sample
B	Bulk sample	P	Piston sample
BLK	Block sample	U	Tube sample (x mm dia.)
C	Core drilling	W	Water sample
D	Disturbed sample	W	Water seep
E	Environmental sample	W	Water level
		PID	Photo ionisation detector (ppm)
		PL(A)	Point load axial test Is(50) (MPa)
		PL(D)	Point load diametral test Is(50) (MPa)
		pp	Pocket penetrometer (kPa)
		S	Standard penetration test
		V	Shear vane (kPa)

TEST PIT LOG

CLIENT: Pacific National
PROJECT: St Marys Freight Hub - Stage 1
LOCATION: Lot 2 Forrester Road, St Mary's

SURFACE LEVEL: 24.2 mAHD
EASTING: 293493.4
NORTHING: 6262764.4

PIT No: TP112
PROJECT No: 94525.00
DATE: 6/12/2018
SHEET 1 OF 1

[illegible]

RIG: 8 Tonne Backhoe

LOGGED: JY

SURVEY DATUM: MGA94 Zone 56

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
B	Bulk sample	P	Piston sample
BLK	Block sample	U	Tube sample (x mm dia.)
C	Core drilling	W	Water sample
D	Disturbed sample	W _s	Water seep
E	Environmental sample	W _l	Water level
		PID	Photo ionisation detector (ppm)
		PL(A)	Point load axial test (s(50) (MPa)
		PL(D)	Point load diametral test (s(50) (MPa)
		pp	Pocket penetrometer (kPa)
		S	Standard penetration test
		V	Shear vane (kPa)



TEST PIT LOG

CLIENT: Pacific National
PROJECT: St Marys Freight Hub - Stage 1
LOCATION: Lot 2 Forrester Road, St Mary's

SURFACE LEVEL: 23.4 mAHD
EASTING: 29346.6
NORTHING: 6262811.8

PIT No: TP113
PROJECT No: 94525.00
DATE: 6/12/2018
SHEET 1 OF 1

[illegible]

RIG: 8 Tonne Backhoe

LOGGED: JY

SURVEY DATUM: MGA94 Zone 56

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
B	Bulk sample	P	Piston sample
BLK	Block sample	U	Tube sample (x mm dia.)
C	Core drilling	W	Water sample
D	Disturbed sample	W _s	Water seep
E	Environmental sample	W _l	Water level
		PID	Photo ionisation detector (ppm)
		PL(A)	Point load axial test (s(50) (MPa)
		PL(D)	Point load diametral test (s(50) (MPa)
		pp	Pocket penetrometer (kPa)
		S	Standard penetration test
		V	Shear vane (kPa)



Appendix N

Groundwater Gauging Table & Field Datasheets

Table N1: Groundwater Gauging Data

MW ID	Date	Ground Surface Elevation (mAHD)	Top of Case Elevation (mAHD)	Well Stick up Height Above Ground Surface (m)	Well Depth (mbTOC)	Top of Well Screen (mAHD)	Bottom of Well Screen (mAHD)	Screened Lithology	Depth to Groundwater (mbTOC)	Corrected Groundwater Elevation (mAHD)	Comments
BH/MW 101	10-Jan-19	29.20	30.30	1.10	10.30	26.10	21.10	Silty clay + shale	8.55	21.75	No odour
BH/MW 102	10-Jan-19	26.23	27.26	1.03	11.05	22.26	17.26	Silty clay + shale	5.74	21.52	No odour
BH/MW 103	10-Jan-19	24.13	25.27	1.14	8.06	22.27	18.27	Silty clay	4.45	20.82	No odour
BH/MW 104	10-Jan-19	25.07	26.03	0.96	11.06	21.03	16.03	Silty clay + shale	4.48	21.55	No odour

Note:

* Depth to groundwater corrected based on stick up height.

mAHD = metres Australian Height Datum

mbTOC = metres below top of casing

stickup: 1.05m

Groundwater Field Sheet

Project and Bore Installation Details

Bore / Standpipe ID:	BH101
Project Name:	St Marys Contamination Stage 1
Project Number:	94525.00
Site Location:	
Bore GPS Co-ord:	
Installation Date:	5.12.18
GW Level (during drilling):	- m bgl
Well Depth:	9.2 m bgl
Screened Interval:	4.2-9.2 m bgl
Contaminants/Comments:	-

$$\text{Bore Volume} = \text{casing volume} + \text{filter pack volume}$$

$$= \pi h_c d_c^2 / 4 + n(\pi h_f d_f^2 / 4 - \pi h_c d_c^2 / 4)$$

Where: $\pi = 3.14$

n = porosity (0.3 for most filter pack material)

h_c = height of water column

d_c = diameter of annulus

h_f = length of filter pack

d_f = diameter of casing

Bore Vol Normally: $7.2 \times h$

Bore Development Details

Date/Time:	8:45am 8.1.19
Purged By:	JY
GW Level (pre-purge):	6.33 m
GW Level (post-purge):	Dry m bgl
PSH observed:	Yes / No (interface / visual). Thickness if observed:
Observed Well Depth:	10.33 m
Estimated Bore Volume:	28.8 L
Total Volume Purged:	(target: no drill mud, min 3 well vol. or dry) 28L
Equipment:	Super Twister Pump

Micropurge and Sampling Details

Date/Time:	10.1.19 8:00 am gauge
Sampled By:	JY / MH
Weather Conditions:	Overcast
GW Level (pre-purge):	8.55 m bgl
GW Level (post sample):	9.16 m bgl
PSH observed:	Yes / No (interface / visual). Thickness if observed:
Observed Well Depth:	10.30 m bgl
Estimated Bore Volume:	13 L
Total Volume Purged:	4 L
Equipment:	Peri pump, YSI pro plus WQM

Data logger installed to 8.62m BGL,

9.66m below To PVC

Water Quality Parameters

Time / Volume L	Temp (°C)	DO (mg/L)	EC (µS or mS/cm)	pH	Turbidity	Redox (mV)
Stabilisation Criteria (3 readings)	0.1°C	+/- 0.3 mg/L	+/- 3%	+/- 0.1	+/- 10%	+/- 10 mV
0.2 L	22.2	8.8	29679	5.9		-180.9
0.5 L	22.4	8.0	29705	5.91		-175.9
WQM	had no	turbidity probe				
Additional Readings Following stabilisation:	DO % Sat	SPC	TDS			

Sample Details

Sampling Depth (rationale):	10 m bgl, needs the depth
Sample Appearance (e.g. colour, siltiness, odour):	dark brown silty, clear
Sample ID:	BH101
QA/QC Samples:	None
Sampling Containers and filtration:	1 plastic 1 purple plastic 2 purple vac vials 1 amber 1 red metals (filtered) 1 oil & grease jar
Comments / Observations:	Not enough water to get bladder pump working so peri. pump was used.

stickup: 0.97m

Groundwater Field Sheet

Project and Bore Installation Details

Bore / Standpipe ID:	BH102
Project Name:	St Marys Contamination Stage 1
Project Number:	94525.00
Site Location:	
Bore GPS Co-ord:	
Installation Date:	5.12.18
GW Level (during drilling):	~7 m bgl Sample wet at 7m
Well Depth:	11.05 m bgl 670c
Screened Interval:	4.5-10 m bgl
Contaminants/Comments:	-

Bore Volume = casing volume + filter pack volume

$$= \pi h_c d_c^2 / 4 + n(\pi h_f d_f^2 / 4 - \pi h_c d_c^2 / 4)$$

 Where $\pi = 3.14$
 n = porosity (0.3 for most filter pack material)
 h_c = height of water column
 d_c = diameter of annulus
 h_f = length of filter pack
 d_f = diameter of casing
 Bore Vol Normally: 7.2*m

Bore Development Details

Date/Time:	10am 8.1.19
Purged By:	JY
GW Level (pre-purge):	5.71 m bgl 670c
GW Level (post-purge):	6.06 m bgl 670c
PSH observed:	Yes / No (interface / visual). Thickness if observed:
Observed Well Depth:	11.07m 670c
Estimated Bore Volume:	38 L
Total Volume Purged:	(target: no drill mud, min 3 well vol. or dry) 120L
Equipment:	Super Twister Pump

Micropurge and Sampling Details

Date/Time:	10.1.19 8:02am gage
Sampled By:	JY / MH
Weather Conditions:	Overcast
GW Level (pre-purge):	5.74 m bgl 670c
GW Level (post sample):	6.4 m bgl 670c
PSH observed:	Yes / No (interface / visual). Thickness if observed:
Observed Well Depth:	11.05 m bgl 670c
Estimated Bore Volume:	38 L
Total Volume Purged:	8 L
Equipment:	Bailer, Geo Control Pro pump, YSI pio plus WQM

Water Quality Parameters

no probe supplied for turbidity

Time / Volume	Temp (°C)	DO (mg/L)	EC (µS or mS/cm)	pH	Turbidity	Redox (mV)
Stabilisation Criteria (3 readings)	0.1 °C	+/- 0.3 mg/L	+/- 3%	+/- 0.1	+/- 10%	+/- 10 mV
1:43 / 200 ml	21.2	8.3	13900	5.8		108
1:46 / 1	21.6	14.3	13787	5.78		102.8
1:49 / 1.8	21.7	19.7	13650	5.77		102
1:51 / 3	20.9	33	12900	5.74		106.4
1:53 / 4	20.9	34.7	12600	5.71		108.9
1:54 / 4.5	20.9	31	12550	5.70		110
1:55 / 5	20.9	31.2	12500	5.69		112
1:56 / 6	20.9	31.2	12369	5.67		114.7
Additional Readings Following stabilisation:	DO % Sat	SPC	TDS			

Sample Details

Sampling Depth (rationale):	9 m bgl, Pump wouldn't work any shallower
Sample Appearance (e.g. colour, siltiness, odour):	Orange silty, no odour
Sample ID:	BH102
QA/QC Samples:	None
Sampling Containers and filtration:	1 plastic 1 purple plastic 2 purple VOC vials 1 amber 1 red metals (filtered) 1 oil & grease jar
Comments / Observations:	

Stickup: 1.1m

Groundwater Field Sheet

Project and Bore Installation Details

Bore / Standpipe ID:	BH103
Project Name:	St Marys contamination Stage 1
Project Number:	94525.00
Site Location:	
Bore GPS Co-ord:	
Installation Date:	4.12.18
GW Level (during drilling):	~3.5 m bgl
Well Depth:	6.8 m bgl
Screened Interval:	2.6-6.8 m bgl
Contaminants/Comments:	-

$$\text{Bore Volume} = \text{casing volume} + \text{filter pack volume} \\ = \pi h_c d_c^2 / 4 + n(\pi h_f d_f^2 / 4 - \pi h_c d_c^2 / 4)$$

Where: $\pi = 3.14$

n = porosity (0.3 for most filter pack material)

h_c = height of water column

d_c = diameter of annulus

h_f = length of filter pack

d_c = diameter of casing

Bore Vol Normally: 7.2m³

Bore Development Details

Date/Time:	2:20pm 8.1.19
Purged By:	JY
GW Level (pre-purge):	4.41 m l 670c
GW Level (post-purge):	7.78 m l 670c
PSH observed:	Yes / No (interface / visual). Thickness if observed:
Observed Well Depth:	8.09 m l 670c
Estimated Bore Volume:	19 L
Total Volume Purged:	(target: no drill mud, min 3 well vol. or dry) 10L
Equipment:	Super Twister high flow

Micropurge and Sampling Details

Date/Time:	8:25am 10.1.19
Sampled By:	JY / MH
Weather Conditions:	Overcast, 20°C
GW Level (pre-purge):	4.45 m 670c
GW Level (post sample):	5.77 m 670c
PSH observed:	Yes / No (interface / visual). Thickness if observed:
Observed Well Depth:	8.06 m 670c
Estimated Bore Volume:	19 L
Total Volume Purged:	9 L
Equipment:	Geo control pro, YSI pro plus WQM

Water Quality Parameters

Time / Volume	Temp (°C)	DO (mg/L)	EC (µS or mS/cm)	pH	Turbidity	Redox (mV)
Stabilisation Criteria (3 readings)	0.1 °C	+/- 0.3 mg/L	+/- 3%	+/- 0.1	+/- 10%	+/- 10 mV
1030 / 0.5	10.4	0.6	15465	6.62		88.2
1032 / 1	10.3	3.8	14552	6.57		165.2
1034 / 2	10.3	4.4	13779	6.56		82
1036 / 3	10.4	5.6	12104	6.54		81.1
1038 / 4	10.6	8.0	10071	6.51		79.6
1040 / 5	10.6	8.6	10490	6.44		79.3
Additional Readings Following stabilisation:	DO % Sat	SPC	TDS			

Sample Details

Sampling Depth (rationale):	6.5 m bgl, mid column
Sample Appearance (e.g. colour, siltiness, odour):	orange silty
Sample ID:	BH103
QA/QC Samples:	N/A
Sampling Containers and filtration:	ASB11 105
Comments / Observations:	

4m screen.

6.1

Groundwater Field Sheet

Project and Bore Installation Details

Bore / Standpipe ID:	BH104
Project Name:	St Mary's Contamination Stage 1
Project Number:	94525.00
Site Location:	
Bore GPS Co-ord:	
Installation Date:	4.12.18
GW Level (during drilling):	- m bgl NFGWOWA
Well Depth:	10 m bgl BGL
Screened Interval:	5-10 m bgl BGL
Contaminants/Comments:	-

Bore Volume = casing volume + filter pack volume
 $= \pi h_c d_c^2 / 4 + n(\pi h_f d_f^2 / 4 - \pi h_c d_c^2 / 4)$
 Where: $\pi = 3.14$
 n = porosity (0.3 for most filter pack material)
 h_c = height of water column
 d_c = diameter of annulus
 h_f = length of filter pack
 d_f = diameter of casing
 Bore Vol Normally: $7.2 \times h$

Bore Development Details

Date/Time:	11:30 am 8.1.19
Purged By:	JY
GW Level (pre-purge):	4.41 m bTOC
GW Level (post-purge):	10.01 m bTOC
PSH observed:	Yes / No (interface / visual). Thickness if observed:
Observed Well Depth:	10.95 m bTOC
Estimated Bore Volume:	47 L
Total Volume Purged:	(target: no drill mud, min 3 well vol. or dry) 50 L
Equipment:	Super twister pump

Micropurge and Sampling Details

Date/Time:	10.1.19 8:15 am Gauge
Sampled By:	JY/MH
Weather Conditions:	overcast
GW Level (pre-purge):	4.48 m bTOC
GW Level (post sample):	5.41 m bTOC
PSH observed:	Yes / No (interface / visual). Thickness if observed:
Observed Well Depth:	11.06 m bTOC
Estimated Bore Volume:	47 L
Total Volume Purged:	13 L
Equipment:	Geo control pro, YSI pro control WQM

Water Quality Parameters

Time / Volume	Temp (°C)	DO (mg/L)	EC (µS or mS/cm)	pH	Turbidity	Redox (mV)
Stabilisation Criteria (3 readings)	0.1 °C	+/- 0.3 mg/L	+/- 3%	+/- 0.1	+/- 10%	+/- 10 mV
12:32 / 0						
12:35 / 1	20.7	16.7	9475	5.88		65.7
12:36 / 2	20.6	16.8	9290	5.8		74.8
12:37 / 3	20.6	16.0	9205	5.76		83.8
12:39 / 4	20.7	15.2	9176	5.75		88
12:40 / 5	20.7	15.1	9174	5.75		88.2
12:41 / 6	20.7	14.1	9125	5.74		87.3
12:43 / 7	20.7	14	9070	5.74		85.3
12: / 8	20.8	14	9067	5.75		85.3
Additional Readings Following stabilisation:	DO % Sat	SPC	TDS			

Sample Details

Sampling Depth (rationale):	8 m bgl, Middle of screen
Sample Appearance (e.g. colour, siltiness, odour):	Orange and silty, no odour
Sample ID:	BH104
QA/QC Samples:	None
Sampling Containers and filtration:	As others
Comments / Observations:	

Appendix O

Analytical Results Summary Tables

Sample Location ID ^a	Sample Depth	Sampling Date	Soil Type	Metals								PAH				Phenols	Total Recoverable Hydrocarbons						BTEx				DDT + DDD + DDE	Aldrin and Dieldrin	Organochlorine Pesticides (OCP)								OPP	PCB	Asbestos
				Arsenic	Cadmium	Chromium (VI) ^b	Copper	Lead	Mercury	Nickel	Zinc	Naphthalene	Benz(a) Pyrene (BaP)	BaP TEQ	Total PAH		TRH C ₁₋₁₀	TRH >C ₁₀ -C ₁₅	F1	F2	F3	F4	Benzene	Toluene	Ethylbenzene	Total xylenes			Chlordane	Endosulfen	Endrin	Heptachlor	HCB	Methoxychlor	Chlorpyrifos	PCB			
Practical Quantitation Limit (PQL)				4	0.4	1	1	1	0.1	1	1	0.1	0.05	0.5	0.05	5	25	50	25	50	100	100	0.2	0.5	1	3	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1			
Adopted Site Assessment Criteria (SAC) for Soil																																							
HIL D (Commercial/Industrial)				3,000	900	3,600	240,000	1,500	730/180	6,000	400,000	-	-	40	4,000	660 ^c	-	-	-	-	-	-	-	-	-	3600	45	530	2000	100	50	80	2500	2000	7	-			
HSL D (Commercial/Industrial) - Sand (0 m to <1m)				-	-	-	-	-	-	-	-	NL	-	-	-	-	-	-	260	NL	-	-	3	NL	NL	230	-	-	-	-	-	-	-	-	-	-			
HSL - Intrusive Maintenance Worker - Sand (0 m to <1m)				-	-	-	-	-	-	-	-	NL	-	-	-	-	-	-	NL	NL	-	-	77	NL	NL	NL	-	-	-	-	-	-	-	-	-	-			
EIL (Commercial/Industrial) - Coarse Material				160	-	670	300	1800	-	300	730	370	1.4	-	-	-	-	-	-	-	-	-	-	-	-	640*	-	-	-	-	-	-	-	-	-	-			
ESL (Commercial/Industrial) - Coarse Material				-	-	-	-	-	-	-	-	-	0.7	-	-	-	-	-	215	170	1700	3300	75	135	165	180	-	-	-	-	-	-	-	-	-	-			
Management Limits (Commercial/Industrial) - Coarse Material				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	700	1000	3500	10 000	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
Soil bore/ Testpit Samples																																							
BH101	0.4-0.5	5/12/2018	Fill	<4	<0.4	8	14	12	<0.1	7	29	<0.1	<0.05	<0.5	<0.05	<5	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	NAD		
BH101	2.4-2.5	5/12/2018	Fill	<4	<0.4	41	20	11	<0.1	10	38	<0.1	<0.05	<0.5	<0.05	<5	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	NAD		
BH102	0-0.2	5/12/2018	Fill	<4	<0.4	8	10	12	<0.1	7	29	<0.1	<0.05	<0.5	<0.05	<5	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	NAD		
BH102	3.4-3.5	5/12/2018	Fill	8	<0.4	45	13	20	<0.1	5	9	<0.1	<0.05	<0.5	<0.05	<5	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	NAD		
BH103	0.9-1.0	4/12/2018	Fill	6	<0.4	16	44	26	<0.1	8	34	<0.1	<0.05	<0.5	<0.05	<5	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	NAD		
BH103	1.9-2.0	4/12/2018	Fill	5	<0.4	20	10	13	<0.1	4	10	<0.1	<0.05	<0.5	<0.05	<5	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<													

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Table O2: Groundwater Analytical Results Summary

Monitoring Wells ID #	GME Date	Hardness			Metals											TRH						BTEX					PAHs				Total Phenols	Oil & Grease		
		Calcium	Magnesium	Hardness	Arsenic (Filtered)	Cadmium (Filtered)	Chromium (III+VI) (Filtered)	Copper (Filtered)	Lead (Filtered)	Mercury (Filtered)	Nickel (Filtered)	Zinc (Filtered)	Aluminium (Filtered)	Bromine (Filtered)	Iron (Filtered)	Manganese (Filtered)	TRH C ₆ - C ₁₀	F1 - TRH C ₆ - C ₁₀ less BTEX	TRH >C ₁₀ - C ₁₆	F2 - TRH >C ₁₀ - C ₁₆ less Naphthalene	TRH >C ₁₆ - C ₃₄	TRH >C ₃₄ - C ₄₀	Benzene	Toluene	Ethylbenzene	m + p-xylene	o-xylene	Naphthelene	Benzo(a)pyrene	B(a)P TEQ			Total PAH	
PQL		0.5	0.5	3	1	0.1	1	1	1	0.05	1	1	10	10	10	5	10	10	50	50	100	100	1	1	1	2	1	1	1	5	1	50	5	
Units		mg/L	mg/L	mgCaCO3/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L		
Adopted SAC for Groundwater																																		
HSL D (Sand, GW 2 -<4m)																	6,000		NL				5,000	NL	NL	NL	NL	NL						
HSL D (Clay, GW 4 -<8m)																	NL		NL				30,000	NL	NL	NL	NL	NL						
GIL - Freshwater (95%)					24	0.2	0.4	1.4	3.4	0.6	11	8	55			1900							950	180 ¹	80 ¹	275 ¹	350 ¹	16					320	
Hardness Adjusted GIL						2	3.4	12.6	90.8		99	72																						
Adopted GIL for metals					24	2	3.4	12.6	90.8	0.6	99	72	55			1900																		
Intrusive Maintenance Worker (Sand, GW 2-<4) and (Clay, GW 4-<8m)																	NL		NL				NL	NL	NL	NL	NL							
Sample Results																																		
BH/MW101	10-Jan-19	83	820	3600	<1	1.4	<1	23	3	<0.05	93	170	50	31000	4800	16000	330	230	<50	<50	<100	<100	<1	100	<1	<2	<1	<1	<1	<1	<5	NIL(+) ^{ve}	<50	<5
BH/MW102	10-Jan-19	26	230	1000	<1	0.5	<1	27	2	<0.05	25	85	10	12000	250	3100	12	<10	<50	<50	<100	<100	<1	4	<1	<2	<1	<1	<1	<1	<5	NIL(+) ^{ve}	<50	<5
BH/MW103	10-Jan-19	10	160	670	<1	0.1	<1	17	1	<0.05	8	39	<10	11000	<10	1800	20	13	<50	<50	<100	<100	<1	7	<1	<2	<1	<1	<1	<1	<5	NIL(+) ^{ve}	<50	<5
BH/MW104	10-Jan-19	38	160	770	<1	0.2	<1	30	2	<0.05	21	94	40	8300	4800	2800	14	<10	<50	<50	<100	<100	<1	5	<1	<2	<1	<1	<1	<1	<5	NIL(+) ^{ve}	<50	<5
Notes																																		
#	Monitoring well samples have been identified as BH101 to BH105 in the laboratory report																																	
GIL	ANZG (2018), 95% Freshwater High Reliability Trigger Values.																																	
HSL D	NEPC, 2013, Schedule B1, Table 1A(4), Groundwater HSLs for Vapour Intrusion (Commercial Industrial/sand soil w/ Groundwater at 2m to < 4m bgl and clay soil with Groundwater at- <m))																																	
Intrusive Maintenance Worker	CRC Care Technical Report 10, Appendix A, Table A2 - Intrusive Maintenance Worker.																																	
1	ANZG (2018). Low reliability trigger value for fresh water.																																	
2	Parent sample of replicate sample. The highest concentration between primary and replicate pair has been considered for Tier 1 risk screening.																																	
NL	Assessment Criteria is Non-Limiting																																	
GW	Groundwater																																	
-	Not analysed or measured																																	
*	Specific VOC included in summary only if CoC or concentration above detection limit is reported or assessment criteria are available in the guidelines																																	
Bold/ Colour Coded	Reported concentration exceeds the adopted GAC																																	

Table O3: Groundwater Analytical Results Summary

Monitoring Wells ID #	GME Date	VOCs*																			OCP								OPP							PCB		Nutrients					
		1,1-dichloroethane	1,2-dichloroethane	1,1,2-trichloroethane	Tetrachloroethene (PCE)	Cyclohexane	Styrene	Isopropyl benzene	n-propyl benzene	1,2-dichlorobenzene	1,3-dichlorobenzene	1,4-dichlorobenzene	1,2,3-trichlorobenzene	1,2,4-trichlorobenzene	Chloroform	1,3,5-trimethyl benzene	1,2,4-trimethyl benzene	Sec-butyl benzene	4-isopropyl toluene	Vinyl chloride	n-butyl benzene	Aldrin	Aldrin + Dieldrin	Chlordane	DDT	Dieldrin	Endosulfan	Endrin	g-BHC (Lindane)	Heptachlor	Methoxychlor	Chlorpyrifos	Diazinon	Dimethoate	Fenitrothion	Malathion	Parathion	Ronnel	Arochlor 1242	Arochlor 1254	Ammonia as N in water	Total Nitrogen in water	Phosphate as P in water
PQL		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	10	1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	2	2	0.05	0.1	0.005
Units		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	mg/L	mg/L	
Adopted SAC for Groundwater																																											
HSL D (Sand, 2 ~<4m)																																											
HSL D (Clay, 4 ~<8m)																																											
GIL		90 ¹	1900 ¹	6500	70			30		160	260	60	10	170	370						0.001		0.08	0.006	0.01	0.03	0.01	0.2	0.01	0.005	0.01	0.01	0.15	0.2	0.05	0.004		0.3	0.01	900			
Intrusive Maintenance Worker																																											
Sample Results																																											
BH/MW101	10-Jan-19	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<1	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<2	0.22	0.60	0.006
BH/MW102	10-Jan-19	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<1	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<2	0.053	0.60	0.057
BH/MW103	10-Jan-19	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<1	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<2	<0.005	1.1	0.25
BH/MW104	10-Jan-19	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<1	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<2	0.11	0.3	<0.005	
Notes																																											
#	Monitoring well samples have been identified as BH101 to BH105 in the laboratory report																																										
GIL	ANZG (2018), 95% Freshwater High Reliability Trigger Values.																																										
HSL D	NEPC, 2013, Schedule B1, Table 1A(4), Groundwater HSLs for Vapour Intrusion (Commercial Industrial/sand soil w/ Groundwater at 2m to < 4m bgl and clay soil w Groundwater at- <m))																																										
Intrusive Maintenance Worker	CRC Care Technical Report 10, Appendix A, Table A2 - Intrusive Maintenance Worker.																																										
¹	ANZG (2018), Low reliability trigger value for fresh water.																																										
²	Parent sample of replicate sample. The highest concentration between primary and replicate pair has been considered for Tier 1 risk screening.																																										
∞	Not analysed or measured																																										
NL	Assessment Criteria is Non-Limiting																																										
*	Specific VOC included in summary only if CoC or concentration above detection limit is reported or assessment criteria are available in the guidelines																																										
Bold/ Colour Coded	Reported concentration exceeds the adopted GAC																																										

Appendix P

QA/QC

APPENDIX P - QUALITY ASSURANCE AND QUALITY CONTROL ASSESSMENT

P1. Data Quality Indicator

Field and laboratory procedures were assessed against the following data quality indicators (DQIs):

Table P1: Data Quality Indicators

DQI	Performance Indicator	Acceptable Range
Precision		
Field considerations	SOPs appropriate and complied with	Field staff follow SOPs in the DP <i>Field Procedures Manual</i>
Laboratory considerations	field replicates	Precision average relative percent difference (RPD) result <5 times PQL, no limit; results >5 times PQL, 0% - 30%
	laboratory duplicates	Precision average RPD result <5 times PQL, no limit; results >5 times PQL, 0% - 50%
	laboratory-prepared volatile trip spikes	Recovery of 60-140%
Accuracy (bias)		
Field considerations	SOPs appropriate and complied with	Field staff to follow SOPs in the DP <i>Field Procedures Manual</i>
Laboratory considerations	Analysis of:	
	laboratory-prepared volatile trip spikes	Recovery of 60-140%
	Laboratory-prepared trip blanks (field blanks)	<PQL
	method blanks (laboratory blanks)	Recovery of 60-140%
	matrix spikes	Recovery of 70-130% (inorganics); 60-140% (organics)
	matrix spike duplicates	Recovery of 70-130% (inorganics); 60-140% (organics); Recovery 70 "low" to 130% "high" indicates interference
	surrogate spikes	Recovery of 70-130% (inorganics); 60-140% (organics)
	laboratory control samples	Recovery of 70-130% (inorganics); 60-140% (organics)
Completeness		
Field considerations	All critical locations sampled	All critical locations sampled in accordance with the DQO's (Appendix E)
	SOPs appropriate and complied with	Field staff to follow SOPs in the DP <i>Field Procedures Manual</i>
	Experienced sampler	Experienced DP Environmental Engineer /Scientist to conduct field work and sampling
	Documentation correct	Maintain COC documentation at all times
	Sample holding times complied with	Sample holding times complied with

DQI	Performance Indicator	Acceptable Range
Laboratory considerations	All critical samples analysed according to DQO's	All critical locations analysed in accordance with the DQO's
	Appropriate methods and PQLs	Appropriate methods and PQLs have been used by the contract laboratory
	Sample documentation complete	Maintain COC documentation at all times
Comparability		
Field considerations	Same SOPs used on each occasion	Field staff to follow SOPs in the DP <i>Field Procedures Manual</i>
	Experienced sampler	Experienced DP Environmental Scientist/Engineer to conduct field work and sampling
	Same types of samples collected	Same types of samples collected
Laboratory considerations	Sample analytical methods used (including clean-up)	Methods to be NATA accredited
	Sample PQLs (justify/quantify if different)	Consistent PQLs to be used
	Same laboratories (justify/quantify if different)	Same analytical laboratory for primary samples to be used
Representativeness		
Field considerations	Appropriate media sampled according to DQO's (Appendix D)	Appropriate media sampled according to DQO's (Appendix E)
	All media identified in DQO's sampled	All media identified in DQO's sampled
Laboratory considerations	All samples analysed according to DQO's	All samples analysed according to DQO's

Notes to Table 1: SOP – Standard Operating Procedure
 DQO – Data Quality Objectives (Appendix D)

P2. FIELD QUALITY ASSURANCE AND QUALITY CONTROL (QA/QC)

During this PSI the field QC procedures for sampling as prescribed in the DP *Field Procedures Manual* were generally adopted, with some exceptions outlined below.

P2.1 Field Methodology

DP project manager discussed the fieldwork scope and the sampling methods with the field team prior to fieldwork. Intrusive field investigation and environmental sampling was undertaken by a qualified DP environmental scientist by generally following the procedures outlined in the DP *Field Procedure Manual*. However, during installation of monitoring wells, a small quantity of lead free duct tape was used at the well casing/screen joint and at the base of well screen. This is a non-conformance to the DP field Procedure, as duct tape can contaminate groundwater samples. An online search indicates that duct tape used at the site is rubber based adhesive type polyvinyl chloride PVC tape. Therefore, potential contamination of groundwater samples by duct tape should be considered when evaluating groundwater analytical results. In the event, the groundwater analytical results for volatile and semi-volatile fractions exceed the adopted SAC then further investigation of groundwater may be warranted.

P2.2 Sample Collection

Soil samples were collected from the soil bores at regular depth intervals. Soil samples were also collected from test pit walls, at regular intervals or where a change in soil stratification was observed. Grab samples of sediment were also collected from the sediment detention basin/ pond using a shovel. Soil/sediment samples were collected from the portions of soils/sediments that had not come into contact with auger/backhoe bucket/shovel as relevant.

Groundwater samples were collected using low flow sampling methods.

Further details on field sampling methodology are presented in Section 9 of the report.

It is to be noted that surface water samples for metal analysis were not filtered in the field. As such, Envirolab Services Pty Ltd (Envirolab) filtered the unpreserved samples in the laboratory for metal analysis, which in turn may underestimate the reported metal concentrations. Refer to the comment section of laboratory report 207936-A. Given this sampling non-conformance, DP recommends exercising a caution while interpreting metal analysis results in laboratory report 207936-A.

P2.3 Logs and Field Sheets

Field logs were prepared during soil investigation. Groundwater field data sheet were also prepared recording observations made during GMEs. The individual samples were recorded on the field logs/ field sheets along with the sample identity, depth, replicate sample locations (if collected), and observations. Logs are presented in Appendix M and groundwater field data sheets are provided in Appendix N.

P2.4 Chain-of-Custody

Chain-of-custody information was recorded on the Chain-of-Custody (COC) sheets which accompanied samples to the analytical laboratory. Signed copies of COCs from this investigation are presented in Appendix Q.

The COC documented, *inter alia*, the analytical laboratory, dispatch courier, DP dispatcher, date, sample identifications, sample type and analysis to be performed on each sample.

P2.5 Field Replicate Samples

Intra-laboratory replicate results provides a measure of accuracy, precision and repeatability of the results. A measure of the consistency of results is derived by the calculation of relative percentage differences (RPDs) between primary and replicate samples. A RPD of +/- 30 % is generally considered acceptable for inorganic analytes by the industry, although in general a wider RPD range (50%) may be acceptable for organic analytes.

Groundwater Investigation

One intra-laboratory replicate sample was analysed as an internal check of the reproducibility within the Envirolab and as a measure of consistency of sampling techniques during the GME. The comparative results of analysis between the primary and intra-laboratory replicate samples are summarised in Table P2.

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 calculating RPD for the less than LOR/PQL sample.

The calculated RPD values were within the acceptable range of ± 30 for inorganic analytes and $\pm 50\%$ for organics with the exception of some metal results highlighted in bold in Table P2. The PRD exceedances are associated with the following and therefore is not considered significant:

- Replicate, rather than homogenised duplicate, was collected to minimise risk of possible volatile loss, hence greater variability can be expected;
- The replicate pair being collected was heterogeneous fill soils; and
- The reported concentrations in the primary or replicate sample was at/close to the PQL.

Overall, the intra-laboratory replicate comparisons indicate that the sampling techniques used during the GME were generally consistent and repeatable.

Table P2: Relative Percentage Difference Results – Intra-laboratory Replicates

Sample ID	Sampling Date	Units	Metals											Total Recoverable Hydrocarbons						BTEXN				
			Arsenic	Cadmium	Chromium (VI) ^b	Copper	Lead	Mercury	Nickel	Zinc	Aluminium	Iron	Manganese	TRH C ₆ -C ₁₀	TRH >C ₁₀ -C ₁₆	F1	F2	F3	F4	Benzene	Toluene	Ethylbenzene	Total xylenes	Naphthalene
	PQL		1	0.1	1	1	1	0.05	1	1	10	10	5	10	10	10	50	100	100	1	1	1	3	1
BH/MW105	10/01/2019	µg/L	<1	0.2	<1	35	2	<0.05	7	54	10	15	1100	<10	<10	<10	<50	<100	<100	<1	<1	<1	<3	<1
BD1/20190110	10/01/2019	µg/L	<1	0.2	<1	13	<1	<0.05	4	16	10	<10	850	<10	<10	<10	<50	<100	<100	<1	<1	<1	<3	<1
Difference			0	0	0	22	1	0	3	38	0	5	250%	0	0	0	0	0	0	0	0	0	0	0
RPD			0%	0%	0%	53%	40%	0%	33%	61%	0%	25%	16%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

Table P3: Rinsate Blank Samples

Sample ID	Sampling Date	Units		Metals											Total Recoverable Hydrocarbons						BTEXN					Phenols	OCP	OPP	PCB
			Arsenic	Cadmium	Chromium (VI) ^b	Copper	Lead	Mercury	Nickel	Zinc	Aluminium	Iron	Bromine	Manganese	TRH C ₆ -C ₁₀	TRH >C ₁₀ -C ₁₆	F1	F2	F3	F4	Benzene	Toluene	Ethylbenzene	Total xylenes	Naphthalene	Phenols	OCP	OPP	PCB
	PQL		1	0.1	1	1	1	0.05	1	1	10	10		5	10	10	10	50	100	100	1	1	1	3	1	50	0.2	0.2	0.2
FR	10/01/19	µg/L	<1	0.1	<1	32	4	<0.05	3	71	10	28	<10	<5	<10	<10	<10	<50	<100	<100	<1	<1	<1	<3	<1	<50	<0.2	<0.2	<0.2
FB	10/01/19	µg/L	<1	0.1	<1	<1	<1	<0.05	<1	<1	<10	<10	11	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

P2.7 Field Rinsate Sample

Field rinsate sample provides an indication of if appropriate decontamination procedure was adopted at the site and if there has been any cross contamination during field sampling.

Groundwater Investigation

One field rinsate sample (FR) was collected and analysed at Envirolab during the GME. A field blank (FB) was also collected to assess the quality of rinsate water provided by Envirolab. Field blank comprise laboratory supplied rinsate water poured directly into the laboratory supplied jar.

The results of FR and FB samples are summarised in Table P3. With the exception of metals, the remaining target analytes were not detected in the FR sample. Metals were reported in the FR sample at similar concentrations as the groundwater samples indicating possible cross-contamination during field sampling. A FB sample tested returned concentrations of target analytes below the laboratory PQL. DP considers that metal concentrations observed in groundwater samples are associated background concentrations and therefor does not consider the metal detections in the FR sample to constrain the findings of the investigation.

P2.8 Trip Blank

The purpose of a trip blank is to assess the potential for transfer of contaminants into samples to have occurred between the time of collection and analysis of the sample by the laboratory.

Soil/Sediment Investigation

Laboratory prepared soil trip blanks were not taken out to the field during the soil investigation. In the absence of trip blank samples, the consistency of sampling techniques and a check for external contaminants affecting the samples could not be assessed. However, given that the results of all soil samples analysed were below the adopted SAC, the non-conformance associated with the absence of trip blank is not considered to alter the conclusion of this PSI.

Groundwater Investigation

Laboratory prepared water trip blank was taken out to the field unopened, subjected to the same preservation methods as the field samples, then analysed for the purposes of determining whether transfer of contaminants into the blank sample had occurred prior to reaching the laboratory. The analytical results of the trip blanks are shown in Table P4.

Table P4: Trip Blank Results - Water (~g/L)

Sample ID	Benzene	Toluene	Ethylbenzene	M + P Xylene	O Xylene
Trip Blank	<1	<1	<1	<2	<1

The concentrations of the analytes were all below the laboratory PQL indicating that significant cross contamination had not occurred during field sampling and sample transit to the laboratory.

P2.9 Trip Spike

The purpose of a trip spike is to assess the potential for loss of volatile analytes to have occurred between the time of collection and analysis of the sample by the laboratory. Laboratory preparation of the trip spike involved putting 1mL of BTEX (using a 1500 ppm BTEX trip spike standard) into two jars which were cross referenced and labelled 'trip spike' and 'control'. Both jars are sealed. The trip spike are then taken onto site and subject to the same jar storage and transfer as the field samples. The control is stored by the laboratory in the refrigerator. Following receipt of the trip spike, the laboratory analyse both the trip spike and corresponding control with results of the trip spike being expressed as the % difference from the control sample. The generally acceptance limit for trip spikes is 60% – 140 % in difference compared to the control or standard.

Groundwater Investigation

Laboratory prepared water trip spike were taken out to the field unopened, subjected to the same preservation methods as the field samples, then analysed for the purposes of determining whether there has been any loss or transfer of contaminants into the trip spike sample prior to sample reaching the laboratory. The results of the laboratory analysis for the trip spike sample are shown in Table P5.

Table P5: Trip Spike Results – Water (% Recovery)

Sample ID	Benzene	Toluene	Ethylbenzene	M + P Xylene	O Xylene
Trip Spike	120%	117%	119%	120%	120%

Results indicate that the percentage loss for BTEX during the sampling and sample transit was minimal and therefore appropriate preservation techniques were employed during field sampling.

P3. LABORATORY QUALITY ASSURANCE AND QUALITY CONTROL

P3.1 Chain of Custody

Chain-of-custody procedures are discussed in Section P2.4.

P3.2 Analytical Laboratory

All samples collected during this investigation were submitted to a NATA accredited Envirolab for analysis. Envirolab's accreditation number is 2901 and it is accredited for compliance with ISO/IEC 17025.

P3.3 Holding Times

A review of the laboratory certificates of analysis and chain-of-custody documentation provided in Appendix Q suggests that organic analytes were analysed outside the recommended holding time in samples from the laboratory batches 207936-A and 207928-B. This may result in underreporting of the organic analyte concentrations in the samples. However, DP notes that the results of soil samples analysed from the above two batches are similar with the results of soil samples analysed in batch 207928. Samples in batch 207928 were analysed within the recommended holding time. On this basis, DP considers that the non-conformance associated with samples not being analysed within the recommended holding time is not considered to alter the findings of this PSI.

Groundwater samples were analysed within the recommended holding time.

P3.4 Analytical methods

The laboratory analytical methods are provided on the laboratory certificates of analysis in Appendix Q, along with the PQL.

P3.5 Laboratory Replicate Results

Laboratory replicates are additional portions of a sample which are analysed in the same manner as the other samples. Laboratory replicate samples were generally analysed at a rate of 1 for every 10 samples in a batch. The laboratory QC for laboratory replicate results, were generally within the acceptance criteria indicated in Table P1 above. Any non-conformities with the acceptance criteria are discussed in Section P3.10

P3.6 Laboratory Blank (Reagent Blank) Results

The laboratory blank, sometimes referred to as the method blank or reagent blank is the sample prepared and analysed at the beginning of every analytical run, following calibration of the analytical apparatus. This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, it can be determined by processing solvents and reagents in the same manner as for samples. Laboratory blanks are generally analysed at a frequency of 1 in 20, with a minimum of one per batch. All results should be less than the method PQL or LOR.

The results for the method blanks samples reported by Envirolab were generally within the acceptance criteria. Any non-conformities with the acceptance criteria are discussed in Section P3.10

P3.7 Matrix Spike

The matrix spike is a sample replicate prepared by adding a known amount of analyte prior to analysis, and then treated exactly the same as all other samples. The recovery result indicates the proportion of the known concentration of the analyte that is detected during analysis. The laboratory acceptance criteria for matrix spike recoveries is indicated in Table P1 above:

The laboratory QC for matrix spikes were generally within the acceptance criteria. Any non-conformities with the acceptance criteria are discussed in Section P3.10.

P3.8 Surrogate Spike

The surrogate spike sample is prepared by adding a known amount of surrogate, which behaves similarly to the analyte, prior to analysis of each sample. The recovery result indicates the proportion of the known concentration of the surrogate that is detected during analysis. The laboratory acceptance criteria for surrogate spike recoveries is provided in Table P1 above.

The laboratory QC for surrogate spikes were generally within the acceptance criteria. Any non-conformities with the acceptance criteria are discussed in Section P3.10.

P3.9 Reference/Laboratory Control Sample (LCS)

This sample comprises spiking either a standard reference material or a control matrix (such as a blank of sand or water) with a known concentration of specific analytes. The LCS is then analysed and results compared against each other to determine how the laboratory has performed with regard to sample preparation and analytical procedure. LCSs are generally analysed at a frequency of 1 in 20, with a minimum of one analysed per batch. The laboratory acceptance criteria for LCS recoveries are provided in Table P1 above.

The laboratory QC results for LCSs were generally within the acceptance criteria. Any non-conformities with the acceptance criteria are discussed in Section P3.10.

P3.10 Laboratory Comments

The laboratory QC for laboratory replicate results, reagent blanks, matrix spikes, surrogate spikes and LCS results are reported in the laboratory certificates of analysis provided in Appendix Q. A review of laboratory QC results indicate that the laboratory quality control samples were within the laboratory acceptance criteria with the exception of the following:

- The laboratory RPD acceptance criteria was exceeded for Zn in laboratory sample 207928-B-95 (client sample ID- BH115/0.15-0.2). Therefore, laboratory issued a triplicate result as laboratory sample number 207928-B-113 (BH115- lab triplicate) for consideration. DP notes that concentration of Zn reported in both the primary and laboratory triplicate results samples were below the adopted SAC, as such the observed laboratory RPD exceedance is not considered to alter the findings of this investigation.

Overall, it is considered that an acceptable level of laboratory precision and accuracy was achieved and that surrogate spikes, LCS, laboratory duplicate results, laboratory blanks and matrix spike results were of an acceptable level overall. On the basis of this assessment, the laboratory data set is considered to have complied with the DQIs.

Envirolab also provided the following comments in its reports:

- Organic analytes were analysed outside the recommended holding time in batches 207936-A and 207928-B. Any significance of this non-conformance has been discussed in Section P.3.3 above;
- Metal samples were not filtered through 0.45 micron filter in field during surface water sampling. Therefore, laboratory filtered unpreserved samples through 0.45 micron filter in laboratory for metal analysis. Laboratory indicated a possibility that some elements may be under-estimated. See laboratory report 207936-A. The significance of this non-conformance and corrective action has been discussed in Section P.2.2 above; and
- Excessive sample volumes were provided for asbestos analysis. Therefore, a portion of supplied samples were sub-sampled according to Envirolab procedures. Envirolab could not guarantee that the sub-samples are indicative of the entire sample. See laboratory reports 207928-B and 207928.

P4. QA/QC Data Evaluation

An evaluation of field and laboratory QA/QC information against the stated DQOs has been undertaken. Overall, with some exceptions the SOPs were generally complied with in the field, and the laboratory quality control samples were generally within the laboratory acceptance criteria. The QC non-conformances, where they occurred, are not considered to have significantly impacted the quality of the results overall as they were generally minor in number compared to the overall QC data. On this basis, it is considered that an acceptable level of field and laboratory precision and consistency was achieved and that the field/ laboratory data sets are reliable and useable for this assessment.

Appendix Q

Chain of Custody Documents, Sample Receipt Notification and
Laboratory Certificates of Analysis

Revised COC 18/12/18.



CHAIN OF CUSTODY

Project Name: St Marys - Stage 1 Contamination Assessment		To: Envirolab Services
Project No: 94525.00	Sampler: JY	12 Ashley Street, Chatswood NSW 2067
Project Mgr: Gavin Boyd / Rod Gray	Mob. Phone: 0413 886 053	Attn: Tania Notaras
Email: Gavin.Boyd@douglaspartners.com.au; Rod.Gray@douglaspartners.com.au		Phone: (02) 9910 6200 Fax: (02) 9910 6201
Date Required: Standard TAT		Email: tnotaras@envirolabservices.com.au

Sample ID	Lab ID	Date Sampled	Sample Type	Container Type	Analytes								Notes/preservation
			S - soil W - water	G - glass P - plastic	Combo 8A	On Hold							
BH101/0-0.2	1	05/12/18	S	G & P		X							
BH101/0.4-0.5	2	05/12/18	S	G & P	✓								
BH101/0.9-1.0	3	05/12/18	S	G & P		X							
BH101/1.4-1.5	4	05/12/18	S	G & P		X							
BH101/1.9-2.0	5	05/12/18	S	G & P		X							
BH101/2.4-2.5	6	05/12/18	S	G & P		X							
BH101/2.9-3.0	7	05/12/18	S	G & P		X							
BH101/3.4-3.5	8	05/12/18	S	G & P		X							
BH101/3.9-4.0	9	05/12/18	S	G & P		X							
BH101/5.9-6.0		05/12/18	S	P		X							Not sent to lab.
BH101/7.9-8.0	10	05/12/18	S	P		X							
BH102/0-0.2	11	05/12/18	S	G & P	✓								
BH102/0.4-0.5	12	05/12/18	S	G & P		X							
BH102/0.9-1.0	13	05/12/18	S	G & P		X							

Lab Report No:		Send Results to: Douglas Partners Pty Ltd		Address 43 Hobart Street Riverstone NSW 2765		Phone: (02) 4647 0075 Fax: (02) 4646 1886	
Relinquished by: JY		Transported to laboratory by:					
Signed: JY		Date & Time: 10/12/2018		Received by: LILY NOTT ELS			

7/12/18 14:35
*COC 12/12/18

Project Name: St Marys -Stage 1 Contamination Assessment		To: Envirolab Services	
Project No: 94525.00	Sampler: JY	12 Ashley Street, Chatswood NSW 2067	
Project Mgr: Gavin Boyd / Rod Gray	Mob. Phone: 0413 886 053	Attn: Tania Notaras	
Email: <u>Gavin.Boyd@douglaspartners.com.au; Rod.Gray@douglaspartners.com.au</u> <u>Jeremie.Young@douglaspartners.com.au; yashu.shrestha@douglaspartners.com.au</u>		Phone: (02) 9910 6200 Fax: (02) 9910 6201	
Date Required: Standard TAT		Email: tnotaras@envirolabservices.com.au	

Sample ID	Lab ID	Date Sampled	Sample Type	Container Type	Analytes								Notes/preservation	
			S - soil W - water	G - glass P - plastic	Combo 8A	On Hold								
BH102/1.4-1.5	14	05/12/18	S	G & P		X								
BH102/1.9-2.0	15	05/12/18	S	G & P		X								
BH102/2.4-2.5	16	05/12/18	S	G & P		X								
BH102/2.9-3.0	17	05/12/18	S	G & P		X								
BH102/3.4-3.5	18	05/12/18	S	G & P		X								
BH102/4.9-5.0	19	05/12/18	S	G & P		X								
BH102/6.9-7.0	20	05/12/18	S	P		X								Not sent to lab
BH102/8.9-9.0		05/12/18	S	P		X								" " " "
BH102/9.5-10.0		05/12/18	S	P		X								" " " "
BH103/0.1-0.2	21	04/12/18	S	G & P		X								
BH103/0.4-0.5	22	04/12/18	S	G & P		X								
BH103/0.9-1.0	23	04/12/18	S	G & P	✓									
BH103/1.4-1.5	24	04/12/18	S	G & P		X								

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Relinquished by: JY		Transported to laboratory by:							
Signed: JY		Date & Time: 10/12/2018		Received by: LICH NOTT		7/12/18 14:35		*COC 12/12/18	

207928

Project Name:	St Marys -Stage 1 Contamination Assessment		To:	Envirolab Services	
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Project Mgr:	Gavin Boyd / Rod Gray	Mob. Phone:	0413 886 053	Attn: Tania Notaras	
Email:	Gavin.Boyd@douglaspartners.com.au; Rod.Gray@douglaspartners.com.au Jeremie.Young@douglaspartners.com.au; yashu.shrestha@douglaspartners.com.au			Phone:	(02) 9910 6200 Fax: (02) 9910 6201
Date Required:	Standard TAT			Email:	tnotaras@envirolabservices.com.au

Sample ID	Lab ID	Date Sampled	Sample Type	Container Type	Analytes								Notes/preservation
			S - soil W - water	G - glass P - plastic	Combo 8A	On Hold							
BH103/1.9-2.0	25	04/12/18	S	G & P		X							
BH103/2.4-2.5	26	04/12/18	S	G & P		X							
BH103/2.9-3.0	27	04/12/18	S	G & P		X							
BH103/4.0-4.1	28	04/12/18	S	G & P		X							
BH103/4.9-5.0	29	04/12/18	S	G & P		X							
BH103/5.9-6.0	30	04/12/18	S	G & P		X							
BH104/0-0.1	31	04/12/18	S	G & P		X							
BH104/0.4-0.5	32	04/12/18	S	G & P		X							
BH104/0.9-1.0	33	04/12/18	S	G & P		X							
BH104/1.4-1.5	34	04/12/18	S	G & P		X							
BH104/1.9-2.0	35	04/12/18	S	G & P		X							
BH104/2.4-2.5	36	04/12/18	S	G & P	✓								
BH104/2.9-3.0	37	04/12/18	S	G & P		X							

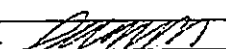
Lab Report No:			Address 43 Hobart Street Riverstone NSW 2765	Phone: (02) 4647 0075	Fax: (02) 4646 1886
Send Results to:	Douglas Partners Pty Ltd	Transported to laboratory by:			
Relinquished by:	JY	Received by: LILY NOTT		7/12/18 14:35	
Signed:	JY	Date & Time:	10/12/2018		

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Email: Gavin.Boyd@douglaspartners.com.au; Rod.Gray@douglaspartners.com.au Jeremie.Young@douglaspartners.com.au; yashu.shrestha@douglaspartners.com.au		Phone: (02) 9910 6200 Fax: (02) 9910 6201	
Date Required: Standard TAT		Email: tnotaras@envirolabservices.com.au	

Sample ID	Lab ID	Date Sampled	Sample Type	Container Type	Analytes										Notes/preservation
			S - soil W - water	G - glass P - plastic	Combo 8A	On Hold									
BH104/3.4-3.5	38	04/12/18	S	G & P		x									
BH104/3.9-4.0	39	04/12/18	S	G & P		x									
BH104/4.4-4.5	40	04/12/18	S	G & P		x									
BH104/4.9-5.0	41	04/12/18	S	G & P		x									
BH104/5.9-6.0	42	04/12/18	S	G & P		x									
BH104/6.9-7.0	43	04/12/18	S	G & P		x									
BH105/0-0.2	44	05/12/18	S	G & P	✓										
BH105/0.4-0.5	45	05/12/18	S	G & P		x									
BH105/0.9-1.0	46	05/12/18	S	G & P		x									
BH105/1.4-1.5	47	05/12/18	S	G & P		x									
BH105/1.9-2.0	48	05/12/18	S	G & P		x									
BH105/2.9-3.0	49	05/12/18	S	G & P		x									
BH105/4.9-5.0	50	05/12/18	S	G & P		x									
BH105/6.9-7.0	51	05/12/18	S	G & P		x									

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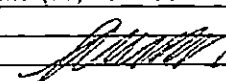
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CHAIN OF CUSTODY

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Email: <u>Gavin.Boyd@douglaspartners.com.au</u> ; <u>Rod.Gray@douglaspartners.com.au</u> <u>Jeremie.Young@douglaspartners.com.au</u> ; <u>yashu.shrestha@douglaspartners.com.au</u>		Phone: (02) 9910 6200 Fax: (02) 9910 6201	
Date Required: Standard TAT		Email: tnotaras@envirolabservices.com.au	

Sample ID	Lab ID	Date Sampled	Sample Type	Container Type	Analytes								Notes/preservation
			S - soil W - water	G - glass P - plastic	Combo BA	On Hold							
BH105/8.9-9.0		05/12/18	S	P		X							Not sent for lab
BH105/9.9-10.0		05/12/18	S	P		X							" " " "
TP106/0-0.2	52	06/12/18	S	G & P	✓								
TP106/0.4-0.5	53	06/12/18	S	G & P		X							
TP106/0.9-1.0	54	06/12/18	S	G & P		X							
TP107/0-0.2	55	06/12/18	S	G & P	✓								
TP107/0.4-0.5	56	06/12/18	S	G & P		X							
TP107/0.9-1.0	57	06/12/18	S	G & P		X							
TP107/1.4-1.5	58	06/12/18	S	G & P		X							
TP108/0-0.2	59	06/12/18	S	G & P		X							
TP108/0.4-0.5	60	06/12/18	S	G & P		X							
TP108/0.9-1.0	61	06/12/18	S	G & P		X							
TP108/1.4-1.5	62	06/12/18	S	G & P	✓								
TP108/2-2.1	63	06/12/18	S	G & P		X							

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Signed: JY		Date & Time: 10/12/2018		Received by: LILY NOTT  7/12/18 15:35			

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Email: Gavin.Boyd@douglaspartners.com.au; Rod.Gray@douglaspartners.com.au Jeremie.Young@douglaspartners.com.au; yashu.shrestha@douglaspartners.com.au		Phone: (02) 9910 6200 Fax: (02) 9910 6201
Date Required: Standard TAT	Email: tnotaras@envirolabservices.com.au	

Sample ID	Lab ID	Date Sampled	Sample Type	Container Type	Analytes								Notes/preservation
			S - soil W - water	G - glass P - plastic	Combo 8A	On Hold							
TP109/0-0.2	64	06/12/18	S	G & P		x							
TP109/0.4-0.5	65	06/12/18	S	G & P		x							
TP109/0.9-1.0	66	06/12/18	S	G & P		x							
TP109/1.4-1.5	67	06/12/18	S	G & P		x							
TP109/1.9-2.0	68	06/12/18	S	G & P		x							
TP109/2.4-2.5	69	06/12/18	S	G & P		x							
TP109/2.9-3.0	70	06/12/18	S	G & P	✓	:							
TP110/0-0.2	71	06/12/18	S	G & P	✓								
TP110/0.4-0.5	72	06/12/18	S	G & P		x							
TP110/0.9-1.0	73	06/12/18	S	G & P		x							
TP110/1.4-1.5	74	06/12/18	S	G & P		x							
TP110/1.9-2.0	75	06/12/18	S	G & P		x							
TP110/2.4-2.5	76	06/12/18	S	G & P		x							
TP110/3.0-3.1	77	06/12/18	S	G & P		x							
TP111/0-0.2	78	06/12/18	S	G & P		x							
TP111/0.4-0.5	79	06/12/18	S	G & P		x							

Lab Report No:			
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Relinquished by: JY	Transported to laboratory by:		
Signed: JY	Date & Time: 10/12/2018	Received by: LILY NOTT	7/12/18 14:35

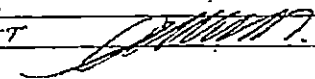
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Email: Gavin.Boyd@douglaspartners.com.au ; Rod.Gray@douglaspartners.com.au Jeremie.Young@douglaspartners.com.au ; yashu.shrestha@douglaspartners.com.au		Phone: (02) 9910 6200 Fax: (02) 9910 6201
Date Required: Standard TAT		Email: tnotaras@envirolabservices.com.au


Sample ID	Lab ID	Date Sampled	Sample Type	Container Type	Analytes								Notes/preservation
			S - soil W - water	G - glass P - plastic	Combo SA	On Hold							
TP111/0.9-1.0	80	06/12/18	S	G & P	✓								
TP111/1.4-1.5	81	06/12/18	S	G & P		x							
TP111/1.9-2.0	82	06/12/18	S	G & P		x							
TP111/2.4-2.5	83	06/12/18	S	G & P		x							
TP112/0-0.2	84	06/12/18	S	G & P		x							
TP112/0.4-0.5	85	06/12/18	S	G & P		x							
TP112/0.9-1.0	86	06/12/18	S	G & P	✓								
TP112/1.4-1.5	87	06/12/18	S	G & P		x							
TP112/1.7-1.8	88	06/12/18	S	G & P		x							
TP113/0-0.2	89	06/12/18	S	G & P	✓								
TP113/0.4-0.5	90	06/12/18	S	G & P		x							
TP113/0.9-1.0	91	06/12/18	S	G & P		x							
TP114/0-0.2	92	06/12/18	S	G & P		x							
TP114/0.4-0.5	93	06/12/18	S	G & P	✓								
TP114/0.9-1.0	94	06/12/18	S	G & P		x							
TP115/0.0-0.05	NR	06/12/18	S	G & P		x							

Lab Report No:		Send Results to: Douglas Partners Pty Ltd		Address 43 Hobart Street Riverstone NSW 2765		Phone: (02) 4647 0075		Fax: (02) 4646 1886	
Relinquished by: JY		Transported to laboratory by:							
Signed: JY		Date & Time: 10/12/2018		Received by: LILY NOTT		 7/12/18 14:35 *COC 12/12/18			

207928

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Email: Gavin.Boyd@douglaspartners.com.au; Rod.Gray@douglaspartners.com.au		Phone: (02) 9910 6200 Fax: (02) 9910 6201	
Email: Jeremie.Young@douglaspartners.com.au; yashu.shrestha@douglaspartners.com.au		Email: tnotaras@envirolabservices.com.au	
Date Required: Standard TAT			

Sample ID	Lab ID	Date Sampled	Sample Type	Container Type	Analytes										Notes/preservation
			S - soil W - water	G - glass P - plastic	Combo BA	On Hold	Asbestos ITD								
TP115/0.15-0.2	95	06/12/18	S	G & P		x									
TP115/0.4-0.5	96	06/12/18	S	G & P		x									
TP115/0.9-1.0	97	06/12/18	S	G & P		x									
TP115/1.4-1.5	98	06/12/18	S	G & P		x									
TP115/1.9-2.0	99	06/12/18	S	G & P	✓										
TP115/2.4-2.5	100	06/12/18	S	G & P		x									
TP115/2.9-3.0	101	06/12/18	S	G & P		x									
SP1	102	06/12/18	S	G&P		x									
SP2	103	06/12/18	S	G&P		x									
SP3	104	06/12/18	S	G&P		x									
SP4	105	06/12/18	S	G&P		x									
SP5	106	06/12/18	S	G&P		x									
SP6	107	06/12/18	S	G&P		x									
Ac-m 1	108	4/12/18	Soil	P			✓								
Ac-m 2	109	4/12/18	Soil	P			✓								

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Relinquished by: JY		Transported to laboratory by:					
Signed: JY		Date & Time: 10/12/2018		Received by: LILY NOTT  14:35 7/12/18			

- 110. BH101 / 10.4 - 10.5 5/12/18
- 111. BH102 / 3.9 - 4.0 5/12/18
- 112. BH103 / 6.9 - 7.0 4/12/18

207928 *COC 12/12/18

SAMPLE RECEIPT ADVICE

Client Details

Client	Douglas Partners Pty Ltd (Riverstone)
Attention	Gavin Boyd

Sample Login Details

Your reference	94525.00, St Marys - Stage 1 Contamination Assessm
Envirolab Reference	207928
Date Sample Received	07/12/2018
Date Instructions Received	21/02/2018
Date Results Expected to be Reported	On Hold

Sample Condition

Samples received in appropriate condition for analysis	YES
No. of Samples Provided	110 Soil, 2 Material
Turnaround Time Requested	Standard
Temperature on Receipt (°C)	7.7
Cooling Method	Ice Pack
Sampling Date Provided	YES

Comments

Nil

Please direct any queries to:

Aileen Hie	Jacinta Hurst
Phone: 02 9910 6200	Phone: 02 9910 6200
Fax: 02 9910 6201	Fax: 02 9910 6201
Email: ahie@envirolab.com.au	Email: jhurst@envirolab.com.au

Analysis Underway, details on the following page:



EnviroLab Services Pty Ltd

ABN 37 112 535 645

12 Ashley St Chatswood NSW 2067

ph 02 9910 6200 fax 02 9910 6201

customerservice@envirolab.com.au

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Sample ID	VTRH(C6-C10)/BTEXN in Soil	svTRH (C10-C40) in Soil	PAHs in Soil	Organochlorine Pesticides in soil	Organophosphorus Pesticides	PCBs in Soil	Acid Extractable metals in soil	Misc Soil - Inorg	Misc Inorg - Soil	Asbestos ID - soils	On Hold
BH101-0-0.2											✓
BH101-0.4-0.5											✓
BH101-0.9-1.0											✓
BH101-1.4-1.5											✓
BH101-1.9-2.0											✓
BH101-2.4-2.5											✓
BH101-2.9-3.0											✓
BH101-3.4-3.5											✓
BH101-3.9-4.0											✓
BH101-7.9-8.0											✓
BH102-0-0.2											✓
BH102-0.4-0.5											✓
BH102-0.9-1.0											✓
BH102-1.4-1.5											✓
BH102-1.9-2.0											✓
BH102-2.4-2.5											✓
BH102-2.9-3.0											✓
BH102-3.4-3.5											✓
BH102-4.9-5.0											✓
BH102-6.9-7.0											✓
BH103-0.1-0.2											✓
BH103-0.4-0.5											✓
BH103-0.9-1.0											✓
BH103-1.4-1.5											✓
BH103-1.9-2.0											✓
BH103-2.4-2.5											✓
BH103-2.9-3.0											✓
BH103-4.0-4.1											✓
BH103-4.9-5.0											✓
BH103-5.9-6.0											✓
BH103-0-0.1											✓
BH103-0.4-0.5											✓



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Sample ID	VTRH(C6-C10)/BTEXN in Soil	svTRH (C10-C40) in Soil	PAHs in Soil	Organochlorine Pesticides in soil	Organophosphorus Pesticides	PCBs in Soil	Acid Extractable metals in soil	Misc Soil - Inorg	Misc Inorg - Soil	Asbestos ID - soils	On Hold
BH103-0.9-1.0											✓
BH103-1.4-1.5											✓
BH103-1.9-2.0											✓
BH103-2.4-2.5											✓
BH103-2.9-3.0											✓
BH103-3.4-3.5											✓
BH103-3.9-4.0											✓
BH103-4.4-4.5											✓
BH104-4.9-5.0											✓
BH104-5.9-6.0											✓
BH104-6.9-7.0											✓
BH105-0-0.2											✓
BH105-0.4-0.5											✓
BH105-0.9-1.0											✓
BH105-1.4-1.5											✓
BH105-1.9-2.0											✓
BH105-2.9-3.0											✓
BH105-4.9-5.0											✓
BH105-6.9-7.0											✓
BH106-0-0.2											✓
BH106-0.4-0.5											✓
BH106-0.9-1.0											✓
BH106-0-0.2											✓
BH106-0.4-0.5											✓
BH107-0.9-1.0											✓
BH107-1.4-1.5											✓
BH108-0-0.2											✓
BH108-0.4-0.5											✓
BH108-0.9-1.0											✓
BH108-1.4-1.5											✓
BH108-2-2.1											✓
BH109-0-0.2											✓



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Sample ID	VTRH(C6-C10)/BTEXN in Soil	svTRH (C10-C40) in Soil	PAHs in Soil	Organochlorine Pesticides in soil	Organophosphorus Pesticides	PCBs in Soil	Acid Extractable metals in soil	Misc Soil - Inorg	Misc Inorg - Soil	Asbestos ID - soils	On Hold
BH109-0.4-0.5											✓
BH109-0.9-1.0											✓
BH109-1.4-1.5											✓
BH109-1.9-2.0											✓
BH109-2.4-2.5											✓
BH109-2.9-3.0											✓
BH110-0-0.2											✓
BH110-0.4-0.5											✓
BH110-0.9-1.0											✓
BH110-1.4-1.5											✓
BH110-1.9-2.0											✓
BH110-2.4-2.5											✓
BH110-3.0-3.1											✓
BH111-0-0.2											✓
BH111-0.4-0.5											✓
BH111-0.9-1.0											✓
BH111-1.4-1.5											✓
BH111-1.9-2.0											✓
BH111-2.4-2.5											✓
BH112-0-0.2											✓
BH112-0.4-0.5											✓
BH112-0.9-1.0											✓
BH112-1.4-1.5											✓
BH112-1.7-1.8											✓
BH113-0-0.2											✓
BH113-0.4-0.5											✓
BH113-0.9-1.0											✓
BH114-0-0.2											✓
BH114-0.4-0.5											✓
BH114-0.9-1.0											✓
BH115-0.15-0.2											✓
BH115-0.4-0.5											✓



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Sample ID	VTRH(C6-C10)/BTEXN in Soil	svTRH (C10-C40) in Soil	PAHs in Soil	Organochlorine Pesticides in soil	Organophosphorus Pesticides	PCBs in Soil	Acid Extractable metals in soil	Misc Soil - Inorg	Misc Inorg - Soil	Asbestos ID - soils	On Hold
BH115-0.9-1.0											✓
BH115-1.4-1.5											✓
BH115-1.9-2.0											✓
BH115-2.4-2.5											✓
BH115-2.9-3.0											✓
SP1											✓
SP2											✓
SP3											✓
SP4											✓
SP5											✓
SP6											✓
ACM1											✓
ACM2											✓
BH101-10.4-10.5											✓
BH102-3.9-4.0											✓
BH103-6.9-7.0											✓

The '✓' indicates the testing you have requested. **THIS IS NOT A REPORT OF THE RESULTS.**

Additional Info

Sample storage - Waters are routinely disposed of approximately 1 month and soils approximately 2 months from receipt.

Requests for longer term sample storage must be received in writing.

CERTIFICATE OF ANALYSIS 207928

Client Details

Client	Douglas Partners Pty Ltd (Riverstone)
Attention	Gavin Boyd
Address	43 Hobart St, Riverstone, NSW, 2765

Sample Details

Your Reference	<u>94525.00, St Marys - Stage 1 Contamination Assessm</u>
Number of Samples	110 Soil, 2 Material
Date samples received	13/12/2018
Date completed instructions received	18/12/2018

Analysis Details

Please refer to the following pages for results, methodology summary and quality control data.
 Samples were analysed as received from the client. Results relate specifically to the samples as received.
 Results are reported on a dry weight basis for solids and on an as received basis for other matrices.
Please refer to the last page of this report for any comments relating to the results.

Report Details

Date results requested by	03/01/2019
Date of Issue	03/01/2019
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Asbestos Approved By

Analysed by Asbestos Approved Identifier: Lucy Zhu
 Authorised by Asbestos Approved Signatory: Lucy Zhu

Results Approved By

Jaimie Loa-Kum-Cheung, Senior Chemist
 Jeremy Faircloth, Organics Supervisor
 Long Pham, Team Leader, Metals
 Lucy Zhu, Asbestos Analyst
 Nick Sarlamis, Inorganics Supervisor

Authorised By



Jacinta Hurst, Laboratory Manager

vTRH(C6-C10)/BTEXN in Soil

Our Reference		207928-2	207928-11	207928-23	207928-36	207928-44
Your Reference	UNITS	BH101	BH102	BH103	BH104	BH105
Depth		0.4-0.5	0-0.2	0.9-1.0	2.4-2.5	0-0.2
Date Sampled		05/12/2018	05/12/2018	04/12/2018	04/12/2018	05/12/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	19/12/2018	19/12/2018	19/12/2018	19/12/2018	19/12/2018
Date analysed	-	20/12/2018	20/12/2018	20/12/2018	20/12/2018	20/12/2018
TRH C ₆ - C ₉	mg/kg	<25	<25	<25	<25	<25
TRH C ₆ - C ₁₀	mg/kg	<25	<25	<25	<25	<25
vTPH C ₆ - C ₁₀ less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
naphthalene	mg/kg	<1	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<1	<1	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	89	84	82	90	89

vTRH(C6-C10)/BTEXN in Soil

Our Reference		207928-52	207928-55	207928-62	207928-70	207928-71
Your Reference	UNITS	BH106	BH107	BH108	BH109	BH110
Depth		0-0.2	0-0.2	1.4-1.5	2.9-3.0	0-0.2
Date Sampled		06/12/2018	06/12/2018	06/12/2018	06/12/2018	06/12/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	19/12/2018	19/12/2018	19/12/2018	19/12/2018	19/12/2018
Date analysed	-	20/12/2018	20/12/2018	20/12/2018	20/12/2018	20/12/2018
TRH C ₆ - C ₉	mg/kg	<25	<25	<25	<25	<25
TRH C ₆ - C ₁₀	mg/kg	<25	<25	<25	<25	<25
vTPH C ₆ - C ₁₀ less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
naphthalene	mg/kg	<1	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<1	<1	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	90	89	88	87	86

vTRH(C6-C10)/BTEXN in Soil

Our Reference		207928-80	207928-86	207928-89	207928-93	207928-99
Your Reference	UNITS	BH111	BH112	BH113	BH114	BH115
Depth		0.9-1.0	0.9-1.0	0-0.2	0.4-0.5	1.9-2.0
Date Sampled		06/12/2018	06/12/2018	06/12/2018	06/12/2018	06/12/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	19/12/2018	19/12/2018	19/12/2018	19/12/2018	19/12/2018
Date analysed	-	20/12/2018	20/12/2018	20/12/2018	20/12/2018	20/12/2018
TRH C ₆ - C ₉	mg/kg	<25	<25	<25	<25	<25
TRH C ₆ - C ₁₀	mg/kg	<25	<25	<25	<25	<25
vTPH C ₆ - C ₁₀ less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
naphthalene	mg/kg	<1	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<1	<1	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	90	91	88	90	92

svTRH (C10-C40) in Soil						
Our Reference		207928-2	207928-11	207928-23	207928-36	207928-44
Your Reference	UNITS	BH101	BH102	BH103	BH104	BH105
Depth		0.4-0.5	0-0.2	0.9-1.0	2.4-2.5	0-0.2
Date Sampled		05/12/2018	05/12/2018	04/12/2018	04/12/2018	05/12/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	19/12/2018	19/12/2018	19/12/2018	19/12/2018	19/12/2018
Date analysed	-	19/12/2018	19/12/2018	19/12/2018	19/12/2018	19/12/2018
TRH C ₁₀ - C ₁₄	mg/kg	<50	<50	<50	<50	<50
TRH C ₁₅ - C ₂₈	mg/kg	<100	<100	<100	<100	<100
TRH C ₂₉ - C ₃₆	mg/kg	<100	<100	<100	<100	<100
TRH >C ₁₀ -C ₁₆	mg/kg	<50	<50	<50	<50	<50
TRH >C ₁₀ - C ₁₆ less Naphthalene (F2)	mg/kg	<50	<50	<50	<50	<50
TRH >C ₁₆ -C ₃₄	mg/kg	<100	<100	<100	<100	<100
TRH >C ₃₄ -C ₄₀	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (>C10-C40)	mg/kg	<50	<50	<50	<50	<50
Surrogate o-Terphenyl	%	90	87	84	95	94

svTRH (C10-C40) in Soil						
Our Reference		207928-52	207928-55	207928-62	207928-70	207928-71
Your Reference	UNITS	BH106	BH107	BH108	BH109	BH110
Depth		0-0.2	0-0.2	1.4-1.5	2.9-3.0	0-0.2
Date Sampled		06/12/2018	06/12/2018	06/12/2018	06/12/2018	06/12/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	19/12/2018	19/12/2018	19/12/2018	19/12/2018	19/12/2018
Date analysed	-	19/12/2018	19/12/2018	19/12/2018	19/12/2018	19/12/2018
TRH C ₁₀ - C ₁₄	mg/kg	<50	<50	<50	<50	<50
TRH C ₁₅ - C ₂₈	mg/kg	<100	<100	<100	<100	<100
TRH C ₂₉ - C ₃₆	mg/kg	<100	<100	<100	<100	<100
TRH >C ₁₀ -C ₁₆	mg/kg	<50	<50	<50	<50	<50
TRH >C ₁₀ - C ₁₆ less Naphthalene (F2)	mg/kg	<50	<50	<50	<50	<50
TRH >C ₁₆ -C ₃₄	mg/kg	<100	<100	<100	<100	<100
TRH >C ₃₄ -C ₄₀	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (>C10-C40)	mg/kg	<50	<50	<50	<50	<50
Surrogate o-Terphenyl	%	82	99	84	96	85

svTRH (C10-C40) in Soil						
Our Reference		207928-80	207928-86	207928-89	207928-93	207928-99
Your Reference	UNITS	BH111	BH112	BH113	BH114	BH115
Depth		0.9-1.0	0.9-1.0	0-0.2	0.4-0.5	1.9-2.0
Date Sampled		06/12/2018	06/12/2018	06/12/2018	06/12/2018	06/12/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	19/12/2018	19/12/2018	19/12/2018	19/12/2018	19/12/2018
Date analysed	-	19/12/2018	20/12/2018	20/12/2018	20/12/2018	20/12/2018
TRH C ₁₀ - C ₁₄	mg/kg	<50	<50	<50	<50	<50
TRH C ₁₅ - C ₂₈	mg/kg	<100	<100	<100	<100	<100
TRH C ₂₉ - C ₃₆	mg/kg	<100	<100	<100	<100	<100
TRH >C ₁₀ -C ₁₆	mg/kg	<50	<50	<50	<50	<50
TRH >C ₁₀ - C ₁₆ less Naphthalene (F2)	mg/kg	<50	<50	<50	<50	<50
TRH >C ₁₆ -C ₃₄	mg/kg	<100	<100	<100	<100	<100
TRH >C ₃₄ -C ₄₀	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (>C10-C40)	mg/kg	<50	<50	<50	<50	<50
Surrogate o-Terphenyl	%	93	85	84	84	91

PAHs in Soil						
Our Reference		207928-2	207928-11	207928-23	207928-36	207928-44
Your Reference	UNITS	BH101	BH102	BH103	BH104	BH105
Depth		0.4-0.5	0-0.2	0.9-1.0	2.4-2.5	0-0.2
Date Sampled		05/12/2018	05/12/2018	04/12/2018	04/12/2018	05/12/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	19/12/2018	19/12/2018	19/12/2018	19/12/2018	19/12/2018
Date analysed	-	20/12/2018	20/12/2018	20/12/2018	20/12/2018	20/12/2018
Naphthalene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PAH's	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Surrogate <i>p</i> -Terphenyl-d14	%	101	108	123	108	103

PAHs in Soil						
Our Reference		207928-52	207928-55	207928-62	207928-70	207928-71
Your Reference	UNITS	BH106	BH107	BH108	BH109	BH110
Depth		0-0.2	0-0.2	1.4-1.5	2.9-3.0	0-0.2
Date Sampled		06/12/2018	06/12/2018	06/12/2018	06/12/2018	06/12/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	19/12/2018	19/12/2018	19/12/2018	19/12/2018	19/12/2018
Date analysed	-	20/12/2018	20/12/2018	20/12/2018	20/12/2018	20/12/2018
Naphthalene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	0.4	0.4	<0.1	<0.1	<0.1
Anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	1.2	0.5	<0.1	<0.1	<0.1
Pyrene	mg/kg	1.2	0.5	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	0.4	0.2	<0.1	<0.1	<0.1
Chrysene	mg/kg	0.5	0.3	<0.1	<0.1	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	0.8	0.4	<0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	0.5	0.2	<0.05	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	0.3	0.1	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	0.5	0.2	<0.1	<0.1	<0.1
Total +ve PAH's	mg/kg	5.9	2.8	<0.05	<0.05	<0.05
Benzo(a)pyrene TEQ calc (zero)	mg/kg	0.6	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	0.7	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	0.7	<0.5	<0.5	<0.5	<0.5
Surrogate p-Terphenyl-d14	%	100	105	96	105	102

PAHs in Soil						
Our Reference		207928-80	207928-86	207928-89	207928-93	207928-99
Your Reference	UNITS	BH111	BH112	BH113	BH114	BH115
Depth		0.9-1.0	0.9-1.0	0-0.2	0.4-0.5	1.9-2.0
Date Sampled		06/12/2018	06/12/2018	06/12/2018	06/12/2018	06/12/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	19/12/2018	19/12/2018	19/12/2018	19/12/2018	19/12/2018
Date analysed	-	20/12/2018	20/12/2018	20/12/2018	20/12/2018	20/12/2018
Naphthalene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	<0.1	0.3	<0.1	0.1	<0.1
Anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	<0.1	0.6	0.2	<0.1	<0.1
Pyrene	mg/kg	<0.1	0.6	0.2	<0.1	<0.1
Benzo(a)anthracene	mg/kg	<0.1	0.2	<0.1	<0.1	<0.1
Chrysene	mg/kg	<0.1	0.3	0.1	<0.1	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	<0.2	0.5	0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	<0.05	0.2	0.1	0.05	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	0.2	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	0.2	0.1	<0.1	<0.1
Total +ve PAH's	mg/kg	<0.05	3.1	0.85	0.2	<0.05
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Surrogate p-Terphenyl-d14	%	101	101	104	103	104

Organochlorine Pesticides in soil						
Our Reference		207928-2	207928-11	207928-23	207928-36	207928-44
Your Reference	UNITS	BH101	BH102	BH103	BH104	BH105
Depth		0.4-0.5	0-0.2	0.9-1.0	2.4-2.5	0-0.2
Date Sampled		05/12/2018	05/12/2018	04/12/2018	04/12/2018	05/12/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	19/12/2018	19/12/2018	19/12/2018	19/12/2018	19/12/2018
Date analysed	-	19/12/2018	19/12/2018	19/12/2018	19/12/2018	19/12/2018
HCB	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
beta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
delta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor Epoxide	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-Chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan I	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDD	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan II	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDT	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan Sulphate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve DDT+DDD+DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	100	100	96	98	98

Organochlorine Pesticides in soil

Our Reference		207928-52	207928-55	207928-62	207928-70	207928-71
Your Reference	UNITS	BH106	BH107	BH108	BH109	BH110
Depth		0-0.2	0-0.2	1.4-1.5	2.9-3.0	0-0.2
Date Sampled		06/12/2018	06/12/2018	06/12/2018	06/12/2018	06/12/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	19/12/2018	19/12/2018	19/12/2018	19/12/2018	19/12/2018
Date analysed	-	19/12/2018	19/12/2018	19/12/2018	19/12/2018	19/12/2018
HCB	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
beta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
delta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor Epoxide	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-Chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan I	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDD	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan II	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDT	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan Sulphate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve DDT+DDD+DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	92	120	96	96	98

Organochlorine Pesticides in soil						
Our Reference		207928-80	207928-86	207928-89	207928-93	207928-99
Your Reference	UNITS	BH111	BH112	BH113	BH114	BH115
Depth		0.9-1.0	0.9-1.0	0-0.2	0.4-0.5	1.9-2.0
Date Sampled		06/12/2018	06/12/2018	06/12/2018	06/12/2018	06/12/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	19/12/2018	19/12/2018	19/12/2018	19/12/2018	19/12/2018
Date analysed	-	19/12/2018	19/12/2018	19/12/2018	20/12/2018	20/12/2018
HCB	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
beta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
delta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor Epoxide	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-Chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan I	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDD	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan II	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDT	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan Sulphate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve DDT+DDD+DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	96	92	96	106	104

Organophosphorus Pesticides						
Our Reference		207928-2	207928-11	207928-23	207928-36	207928-44
Your Reference	UNITS	BH101	BH102	BH103	BH104	BH105
Depth		0.4-0.5	0-0.2	0.9-1.0	2.4-2.5	0-0.2
Date Sampled		05/12/2018	05/12/2018	04/12/2018	04/12/2018	05/12/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	19/12/2018	19/12/2018	19/12/2018	19/12/2018	19/12/2018
Date analysed	-	19/12/2018	19/12/2018	19/12/2018	19/12/2018	19/12/2018
Azinphos-methyl (Guthion)	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Bromophos-ethyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorpyrifos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorpyrifos-methyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Diazinon	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dichlorvos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dimethoate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ethion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fenitrothion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Malathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Parathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ronnel	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	100	100	96	98	98

Organophosphorus Pesticides						
Our Reference		207928-52	207928-55	207928-62	207928-70	207928-71
Your Reference	UNITS	BH106	BH107	BH108	BH109	BH110
Depth		0-0.2	0-0.2	1.4-1.5	2.9-3.0	0-0.2
Date Sampled		06/12/2018	06/12/2018	06/12/2018	06/12/2018	06/12/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	19/12/2018	19/12/2018	19/12/2018	19/12/2018	19/12/2018
Date analysed	-	19/12/2018	19/12/2018	19/12/2018	19/12/2018	19/12/2018
Azinphos-methyl (Guthion)	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Bromophos-ethyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorpyrifos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorpyrifos-methyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Diazinon	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dichlorvos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dimethoate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ethion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fenitrothion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Malathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Parathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ronnel	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	92	120	96	96	98

Organophosphorus Pesticides

Our Reference		207928-80	207928-86	207928-89	207928-93	207928-99
Your Reference	UNITS	BH111	BH112	BH113	BH114	BH115
Depth		0.9-1.0	0.9-1.0	0-0.2	0.4-0.5	1.9-2.0
Date Sampled		06/12/2018	06/12/2018	06/12/2018	06/12/2018	06/12/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	19/12/2018	19/12/2018	19/12/2018	19/12/2018	19/12/2018
Date analysed	-	19/12/2018	19/12/2018	19/12/2018	20/12/2018	20/12/2018
Azinphos-methyl (Guthion)	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Bromophos-ethyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorpyrifos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorpyrifos-methyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Diazinon	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dichlorvos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dimethoate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ethion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fenitrothion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Malathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Parathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ronnel	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	96	92	96	106	104

PCBs in Soil						
Our Reference		207928-2	207928-11	207928-23	207928-36	207928-44
Your Reference	UNITS	BH101	BH102	BH103	BH104	BH105
Depth		0.4-0.5	0-0.2	0.9-1.0	2.4-2.5	0-0.2
Date Sampled		05/12/2018	05/12/2018	04/12/2018	04/12/2018	05/12/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	19/12/2018	19/12/2018	19/12/2018	19/12/2018	19/12/2018
Date analysed	-	19/12/2018	19/12/2018	19/12/2018	19/12/2018	19/12/2018
Aroclor 1016	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1221	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1232	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1242	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1248	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1254	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1260	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PCBs (1016-1260)	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCLMX	%	100	100	96	98	98

PCBs in Soil						
Our Reference		207928-52	207928-55	207928-62	207928-70	207928-71
Your Reference	UNITS	BH106	BH107	BH108	BH109	BH110
Depth		0-0.2	0-0.2	1.4-1.5	2.9-3.0	0-0.2
Date Sampled		06/12/2018	06/12/2018	06/12/2018	06/12/2018	06/12/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	19/12/2018	19/12/2018	19/12/2018	19/12/2018	19/12/2018
Date analysed	-	19/12/2018	19/12/2018	19/12/2018	19/12/2018	19/12/2018
Aroclor 1016	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1221	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1232	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1242	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1248	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1254	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1260	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PCBs (1016-1260)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCLMX	%	92	120	96	96	98

PCBs in Soil						
Our Reference	UNITS	207928-80	207928-86	207928-89	207928-93	207928-99
Your Reference		BH111	BH112	BH113	BH114	BH115
Depth		0.9-1.0	0.9-1.0	0-0.2	0.4-0.5	1.9-2.0
Date Sampled		06/12/2018	06/12/2018	06/12/2018	06/12/2018	06/12/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	19/12/2018	19/12/2018	19/12/2018	19/12/2018	19/12/2018
Date analysed	-	19/12/2018	19/12/2018	19/12/2018	20/12/2018	20/12/2018
Aroclor 1016	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1221	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1232	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1242	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1248	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1254	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1260	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PCBs (1016-1260)	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCLMX	%	96	92	96	106	104

Acid Extractable metals in soil

Our Reference		207928-2	207928-11	207928-23	207928-36	207928-44
Your Reference	UNITS	BH101	BH102	BH103	BH104	BH105
Depth		0.4-0.5	0-0.2	0.9-1.0	2.4-2.5	0-0.2
Date Sampled		05/12/2018	05/12/2018	04/12/2018	04/12/2018	05/12/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	19/12/2018	19/12/2018	19/12/2018	19/12/2018	19/12/2018
Date analysed	-	19/12/2018	19/12/2018	19/12/2018	19/12/2018	19/12/2018
Arsenic	mg/kg	<4	<4	6	<4	<4
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	7	8	16	9	8
Copper	mg/kg	9	10	44	13	11
Lead	mg/kg	11	12	26	14	11
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	7	7	8	5	8
Zinc	mg/kg	24	29	34	22	28

Acid Extractable metals in soil

Our Reference		207928-52	207928-55	207928-62	207928-70	207928-71
Your Reference	UNITS	BH106	BH107	BH108	BH109	BH110
Depth		0-0.2	0-0.2	1.4-1.5	2.9-3.0	0-0.2
Date Sampled		06/12/2018	06/12/2018	06/12/2018	06/12/2018	06/12/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	19/12/2018	19/12/2018	19/12/2018	19/12/2018	19/12/2018
Date analysed	-	19/12/2018	19/12/2018	19/12/2018	19/12/2018	19/12/2018
Arsenic	mg/kg	5	17	<4	<4	<4
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	21	14	7	8	8
Copper	mg/kg	46	48	10	12	8
Lead	mg/kg	21	39	15	12	12
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	11	14	8	8	7
Zinc	mg/kg	50	45	26	28	27

Acid Extractable metals in soil						
Our Reference		207928-80	207928-86	207928-89	207928-93	207928-99
Your Reference	UNITS	BH111	BH112	BH113	BH114	BH115
Depth		0.9-1.0	0.9-1.0	0-0.2	0.4-0.5	1.9-2.0
Date Sampled		06/12/2018	06/12/2018	06/12/2018	06/12/2018	06/12/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	19/12/2018	19/12/2018	19/12/2018	19/12/2018	19/12/2018
Date analysed	-	19/12/2018	19/12/2018	19/12/2018	19/12/2018	19/12/2018
Arsenic	mg/kg	<4	4	4	4	<4
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	8	20	36	6	10
Copper	mg/kg	8	37	33	24	10
Lead	mg/kg	12	44	49	11	11
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	9	18	10	19	9
Zinc	mg/kg	31	130	89	71	31

Misc Soil - Inorg

Our Reference		207928-2	207928-11	207928-23	207928-36	207928-44
Your Reference	UNITS	BH101	BH102	BH103	BH104	BH105
Depth		0.4-0.5	0-0.2	0.9-1.0	2.4-2.5	0-0.2
Date Sampled		05/12/2018	05/12/2018	04/12/2018	04/12/2018	05/12/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	19/12/2018	19/12/2018	19/12/2018	19/12/2018	19/12/2018
Date analysed	-	19/12/2018	19/12/2018	19/12/2018	19/12/2018	19/12/2018
Total Phenolics (as Phenol)	mg/kg	<5	<5	<5	<5	<5

Misc Soil - Inorg

Our Reference		207928-52	207928-55	207928-62	207928-70	207928-71
Your Reference	UNITS	BH106	BH107	BH108	BH109	BH110
Depth		0-0.2	0-0.2	1.4-1.5	2.9-3.0	0-0.2
Date Sampled		06/12/2018	06/12/2018	06/12/2018	06/12/2018	06/12/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	19/12/2018	19/12/2018	19/12/2018	19/12/2018	19/12/2018
Date analysed	-	19/12/2018	19/12/2018	19/12/2018	19/12/2018	19/12/2018
Total Phenolics (as Phenol)	mg/kg	<5	<5	<5	<5	<5

Misc Soil - Inorg

Our Reference		207928-80	207928-86	207928-89	207928-93	207928-99
Your Reference	UNITS	BH111	BH112	BH113	BH114	BH115
Depth		0.9-1.0	0.9-1.0	0-0.2	0.4-0.5	1.9-2.0
Date Sampled		06/12/2018	06/12/2018	06/12/2018	06/12/2018	06/12/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	19/12/2018	19/12/2018	19/12/2018	19/12/2018	19/12/2018
Date analysed	-	19/12/2018	19/12/2018	19/12/2018	19/12/2018	19/12/2018
Total Phenolics (as Phenol)	mg/kg	<5	<5	<5	<5	<5

Moisture						
Our Reference	UNITS	207928-2	207928-11	207928-23	207928-36	207928-44
Your Reference		BH101	BH102	BH103	BH104	BH105
Depth		0.4-0.5	0-0.2	0.9-1.0	2.4-2.5	0-0.2
Date Sampled		05/12/2018	05/12/2018	04/12/2018	04/12/2018	05/12/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	19/12/2018	19/12/2018	19/12/2018	19/12/2018	19/12/2018
Date analysed	-	20/12/2018	20/12/2018	20/12/2018	20/12/2018	20/12/2018
Moisture	%	4.7	2.4	13	7.8	5.2

Moisture						
Our Reference	UNITS	207928-52	207928-55	207928-62	207928-70	207928-71
Your Reference		BH106	BH107	BH108	BH109	BH110
Depth		0-0.2	0-0.2	1.4-1.5	2.9-3.0	0-0.2
Date Sampled		06/12/2018	06/12/2018	06/12/2018	06/12/2018	06/12/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	19/12/2018	19/12/2018	19/12/2018	19/12/2018	19/12/2018
Date analysed	-	20/12/2018	20/12/2018	20/12/2018	20/12/2018	20/12/2018
Moisture	%	7.4	2.6	5.6	5.1	3.6

Moisture						
Our Reference	UNITS	207928-80	207928-86	207928-89	207928-93	207928-99
Your Reference		BH111	BH112	BH113	BH114	BH115
Depth		0.9-1.0	0.9-1.0	0-0.2	0.4-0.5	1.9-2.0
Date Sampled		06/12/2018	06/12/2018	06/12/2018	06/12/2018	06/12/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	19/12/2018	19/12/2018	19/12/2018	19/12/2018	19/12/2018
Date analysed	-	20/12/2018	20/12/2018	20/12/2018	20/12/2018	20/12/2018
Moisture	%	5.2	8.6	7.3	6.1	6.1

Asbestos ID - soils						
Our Reference	UNITS	207928-2	207928-11	207928-23	207928-36	207928-44
Your Reference		BH101	BH102	BH103	BH104	BH105
Depth		0.4-0.5	0-0.2	0.9-1.0	2.4-2.5	0-0.2
Date Sampled		05/12/2018	05/12/2018	04/12/2018	04/12/2018	05/12/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date analysed	-	02/01/2019	02/01/2019	02/01/2019	02/01/2019	02/01/2019
Sample mass tested	g	Approx. 55g	Approx. 40g	Approx. 35g	Approx. 40g	Approx. 55g
Sample Description	-	Beige coarse-grained soil & rocks	Brown coarse-grained soil & rocks	Brown coarse-grained soil & rocks	Beige coarse-grained soil & rocks	Brown coarse-grained soil & rocks
Asbestos ID in soil	-	No asbestos detected at reporting limit of 0.1g/kg	No asbestos detected at reporting limit of 0.1g/kg	No asbestos detected at reporting limit of 0.1g/kg	No asbestos detected at reporting limit of 0.1g/kg	No asbestos detected at reporting limit of 0.1g/kg
		Organic fibres detected	Organic fibres detected	Organic fibres detected	Organic fibres detected	Organic fibres detected
Trace Analysis	-	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected

Asbestos ID - soils

Our Reference	UNITS	207928-52	207928-55	207928-62	207928-70	207928-71
Your Reference		BH106	BH107	BH108	BH109	BH110
Depth		0-0.2	0-0.2	1.4-1.5	2.9-3.0	0-0.2
Date Sampled		06/12/2018	06/12/2018	06/12/2018	06/12/2018	06/12/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date analysed	-	02/01/2019	02/01/2019	02/01/2019	02/01/2019	02/01/2019
Sample mass tested	g	Approx. 55g	Approx. 45g	Approx. 45g	Approx. 50g	Approx. 40g
Sample Description	-	Beige coarse-grained soil & rocks	Brown coarse-grained soil & rocks	Brown coarse-grained soil & rocks	Beige coarse-grained soil & rocks	Beige coarse-grained soil & rocks
Asbestos ID in soil	-	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected
Trace Analysis	-	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected

Asbestos ID - soils

Our Reference	UNITS	207928-80	207928-86	207928-89	207928-93	207928-99
Your Reference		BH111	BH112	BH113	BH114	BH115
Depth		0.9-1.0	0.9-1.0	0-0.2	0.4-0.5	1.9-2.0
Date Sampled		06/12/2018	06/12/2018	06/12/2018	06/12/2018	06/12/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date analysed	-	02/01/2019	02/01/2019	02/01/2019	02/01/2019	02/01/2019
Sample mass tested	g	Approx. 50g	Approx. 40g	Approx. 55g	Approx. 50g	Approx. 45g
Sample Description	-	Brown coarse-grained soil & rocks	Brown coarse-grained soil & rocks	Brown coarse-grained soil & rocks	Brown coarse-grained soil & rocks	Beige coarse-grained soil & rocks
Asbestos ID in soil	-	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected
Trace Analysis	-	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected

Asbestos ID - materials			
Our Reference	UNITS	207928-108	207928-109
Your Reference		ACM1	ACM2
Depth		-	-
Date Sampled		04/12/2018	04/12/2018
Type of sample		Material	Material
Date analysed	-	19/12/2018	19/12/2018
Mass / Dimension of Sample	-	45x17x4mm	85x70x4mm
Sample Description	-	Beige fibre cement material	Beige fibre cement material
Asbestos ID in materials	-	Chrysotile asbestos detected	Chrysotile asbestos detected
		Amosite asbestos detected	Amosite asbestos detected
		Crocidolite asbestos detected	

Method ID	Methodology Summary
ASB-001	Asbestos ID - Qualitative identification of asbestos in bulk samples using Polarised Light Microscopy and Dispersion Staining Techniques including Synthetic Mineral Fibre and Organic Fibre as per Australian Standard 4964-2004.
Inorg-008	Moisture content determined by heating at 105+/-5 °C for a minimum of 12 hours.
Inorg-031	Total Phenolics by segmented flow analyser (in line distillation with colourimetric finish). Solids are extracted in a caustic media prior to analysis.
Metals-020	Determination of various metals by ICP-AES.
Metals-021	Determination of Mercury by Cold Vapour AAS.
Org-003	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis.
Org-003	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis. Note, the Total +ve TRH PQL is reflective of the lowest individual PQL and is therefore "Total +ve TRH" is simply a sum of the positive individual TRH fractions (>C10-C40).
Org-005	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC with dual ECD's.
Org-005	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC with dual ECD's. Note, the Total +ve reported DDD+DDE+DDT PQL is reflective of the lowest individual PQL and is therefore simply a sum of the positive individually report DDD+DDE+DDT.
Org-006	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC-ECD.
Org-006	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC-ECD. Note, the Total +ve PCBs PQL is reflective of the lowest individual PQL and is therefore "Total +ve PCBs" is simply a sum of the positive individual PCBs.
Org-008	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC with dual ECD's.

Method ID	Methodology Summary
Org-012	<p>Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS. Benzo(a)pyrene TEQ as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater - 2013.</p> <p>For soil results:-</p> <ol style="list-style-type: none"> 1. 'EQ PQL' values are assuming all contributing PAHs reported as <PQL are actually at the PQL. This is the most conservative approach and can give false positive TEQs given that PAHs that contribute to the TEQ calculation may not be present. 2. 'EQ zero' values are assuming all contributing PAHs reported as <PQL are zero. This is the least conservative approach and is more susceptible to false negative TEQs when PAHs that contribute to the TEQ calculation are present but below PQL. 3. 'EQ half PQL' values are assuming all contributing PAHs reported as <PQL are half the stipulated PQL. Hence a mid-point between the most and least conservative approaches above. <p>Note, the Total +ve PAHs PQL is reflective of the lowest individual PQL and is therefore "Total +ve PAHs" is simply a sum of the positive individual PAHs.</p>
Org-014	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS.
Org-016	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater.
Org-016	<p>Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater.</p> <p>Note, the Total +ve Xylene PQL is reflective of the lowest individual PQL and is therefore "Total +ve Xylenes" is simply a sum of the positive individual Xylenes.</p>

Client Reference: 94525.00, St Marys - Stage 1 Contamination Assessm

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	207928-11
Date extracted	-			19/12/2018	2	19/12/2018	19/12/2018		19/12/2018	19/12/2018
Date analysed	-			20/12/2018	2	20/12/2018	20/12/2018		20/12/2018	20/12/2018
TRH C ₆ - C ₉	mg/kg	25	Org-016	<25	2	<25	<25	0	85	115
TRH C ₆ - C ₁₀	mg/kg	25	Org-016	<25	2	<25	<25	0	85	115
Benzene	mg/kg	0.2	Org-016	<0.2	2	<0.2	<0.2	0	91	113
Toluene	mg/kg	0.5	Org-016	<0.5	2	<0.5	<0.5	0	79	115
Ethylbenzene	mg/kg	1	Org-016	<1	2	<1	<1	0	86	119
m+p-xylene	mg/kg	2	Org-016	<2	2	<2	<2	0	84	115
o-Xylene	mg/kg	1	Org-016	<1	2	<1	<1	0	87	120
naphthalene	mg/kg	1	Org-014	<1	2	<1	<1	0	[NT]	[NT]
Surrogate aaa-Trifluorotoluene	%		Org-016	94	2	89	93	4	79	111

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Soil						Duplicate		Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	86	19/12/2018	19/12/2018		[NT]	[NT]
Date analysed	-			[NT]	86	20/12/2018	20/12/2018		[NT]	[NT]
TRH C ₆ - C ₉	mg/kg	25	Org-016	[NT]	86	<25	<25	0	[NT]	[NT]
TRH C ₆ - C ₁₀	mg/kg	25	Org-016	[NT]	86	<25	<25	0	[NT]	[NT]
Benzene	mg/kg	0.2	Org-016	[NT]	86	<0.2	<0.2	0	[NT]	[NT]
Toluene	mg/kg	0.5	Org-016	[NT]	86	<0.5	<0.5	0	[NT]	[NT]
Ethylbenzene	mg/kg	1	Org-016	[NT]	86	<1	<1	0	[NT]	[NT]
m+p-xylene	mg/kg	2	Org-016	[NT]	86	<2	<2	0	[NT]	[NT]
o-Xylene	mg/kg	1	Org-016	[NT]	86	<1	<1	0	[NT]	[NT]
naphthalene	mg/kg	1	Org-014	[NT]	86	<1	<1	0	[NT]	[NT]
Surrogate aaa-Trifluorotoluene	%		Org-016	[NT]	86	91	90	1	[NT]	[NT]

Client Reference: 94525.00, St Marys - Stage 1 Contamination Assessm

QUALITY CONTROL: svTRH (C10-C40) in Soil					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	207928-11
Date extracted	-			19/12/2018	2	19/12/2018	19/12/2018		19/12/2018	19/12/2018
Date analysed	-			19/12/2018	2	19/12/2018	19/12/2018		19/12/2018	19/12/2018
TRH C ₁₀ - C ₁₄	mg/kg	50	Org-003	<50	2	<50	<50	0	116	105
TRH C ₁₅ - C ₂₈	mg/kg	100	Org-003	<100	2	<100	<100	0	114	103
TRH C ₂₉ - C ₃₆	mg/kg	100	Org-003	<100	2	<100	<100	0	111	117
TRH >C ₁₀ -C ₁₆	mg/kg	50	Org-003	<50	2	<50	<50	0	116	105
TRH >C ₁₆ -C ₃₄	mg/kg	100	Org-003	<100	2	<100	<100	0	114	103
TRH >C ₃₄ -C ₄₀	mg/kg	100	Org-003	<100	2	<100	<100	0	111	117
Surrogate o-Terphenyl	%		Org-003	112	2	90	86	5	87	87

QUALITY CONTROL: svTRH (C10-C40) in Soil					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	86	19/12/2018	19/12/2018		[NT]	[NT]
Date analysed	-			[NT]	86	20/12/2018	20/12/2018		[NT]	[NT]
TRH C ₁₀ - C ₁₄	mg/kg	50	Org-003	[NT]	86	<50	<50	0	[NT]	[NT]
TRH C ₁₅ - C ₂₈	mg/kg	100	Org-003	[NT]	86	<100	<100	0	[NT]	[NT]
TRH C ₂₉ - C ₃₆	mg/kg	100	Org-003	[NT]	86	<100	<100	0	[NT]	[NT]
TRH >C ₁₀ -C ₁₆	mg/kg	50	Org-003	[NT]	86	<50	<50	0	[NT]	[NT]
TRH >C ₁₆ -C ₃₄	mg/kg	100	Org-003	[NT]	86	<100	<100	0	[NT]	[NT]
TRH >C ₃₄ -C ₄₀	mg/kg	100	Org-003	[NT]	86	<100	<100	0	[NT]	[NT]
Surrogate o-Terphenyl	%		Org-003	[NT]	86	85	92	8	[NT]	[NT]

QUALITY CONTROL: PAHs in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	207928-11
Date extracted	-			19/12/2018	2	19/12/2018	19/12/2018		19/12/2018	19/12/2018
Date analysed	-			20/12/2018	2	20/12/2018	20/12/2018		20/12/2018	20/12/2018
Naphthalene	mg/kg	0.1	Org-012	<0.1	2	<0.1	<0.1	0	96	99
Acenaphthylene	mg/kg	0.1	Org-012	<0.1	2	<0.1	<0.1	0	[NT]	[NT]
Acenaphthene	mg/kg	0.1	Org-012	<0.1	2	<0.1	<0.1	0	[NT]	[NT]
Fluorene	mg/kg	0.1	Org-012	<0.1	2	<0.1	<0.1	0	93	95
Phenanthrene	mg/kg	0.1	Org-012	<0.1	2	<0.1	<0.1	0	97	99
Anthracene	mg/kg	0.1	Org-012	<0.1	2	<0.1	<0.1	0	[NT]	[NT]
Fluoranthene	mg/kg	0.1	Org-012	<0.1	2	<0.1	<0.1	0	99	101
Pyrene	mg/kg	0.1	Org-012	<0.1	2	<0.1	<0.1	0	98	100
Benzo(a)anthracene	mg/kg	0.1	Org-012	<0.1	2	<0.1	<0.1	0	[NT]	[NT]
Chrysene	mg/kg	0.1	Org-012	<0.1	2	<0.1	<0.1	0	105	106
Benzo(b,j+k)fluoranthene	mg/kg	0.2	Org-012	<0.2	2	<0.2	<0.2	0	[NT]	[NT]
Benzo(a)pyrene	mg/kg	0.05	Org-012	<0.05	2	<0.05	<0.05	0	100	101
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-012	<0.1	2	<0.1	<0.1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-012	<0.1	2	<0.1	<0.1	0	[NT]	[NT]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-012	<0.1	2	<0.1	<0.1	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-012	106	2	101	108	7	123	122

QUALITY CONTROL: PAHs in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	86	19/12/2018	19/12/2018		[NT]	[NT]
Date analysed	-			[NT]	86	20/12/2018	20/12/2018		[NT]	[NT]
Naphthalene	mg/kg	0.1	Org-012	[NT]	86	<0.1	<0.1	0	[NT]	[NT]
Acenaphthylene	mg/kg	0.1	Org-012	[NT]	86	<0.1	0.2	67	[NT]	[NT]
Acenaphthene	mg/kg	0.1	Org-012	[NT]	86	<0.1	<0.1	0	[NT]	[NT]
Fluorene	mg/kg	0.1	Org-012	[NT]	86	<0.1	<0.1	0	[NT]	[NT]
Phenanthrene	mg/kg	0.1	Org-012	[NT]	86	0.3	0.8	91	[NT]	[NT]
Anthracene	mg/kg	0.1	Org-012	[NT]	86	<0.1	0.1	0	[NT]	[NT]
Fluoranthene	mg/kg	0.1	Org-012	[NT]	86	0.6	1.1	59	[NT]	[NT]
Pyrene	mg/kg	0.1	Org-012	[NT]	86	0.6	1.5	86	[NT]	[NT]
Benzo(a)anthracene	mg/kg	0.1	Org-012	[NT]	86	0.2	0.5	86	[NT]	[NT]
Chrysene	mg/kg	0.1	Org-012	[NT]	86	0.3	0.7	80	[NT]	[NT]
Benzo(b,j,k)fluoranthene	mg/kg	0.2	Org-012	[NT]	86	0.5	1	67	[NT]	[NT]
Benzo(a)pyrene	mg/kg	0.05	Org-012	[NT]	86	0.2	0.62	102	[NT]	[NT]
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-012	[NT]	86	0.2	0.4	67	[NT]	[NT]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-012	[NT]	86	<0.1	0.1	0	[NT]	[NT]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-012	[NT]	86	0.2	0.6	100	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-012	[NT]	86	101	102	1	[NT]	[NT]

Client Reference: 94525.00, St Marys - Stage 1 Contamination Assessm

QUALITY CONTROL: Organochlorine Pesticides in soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	207928-11
Date extracted	-			19/12/2018	2	19/12/2018	19/12/2018		19/12/2018	19/12/2018
Date analysed	-			20/12/2018	2	19/12/2018	19/12/2018		20/12/2018	19/12/2018
HCB	mg/kg	0.1	Org-005	<0.1	2	<0.1	<0.1	0	[NT]	[NT]
alpha-BHC	mg/kg	0.1	Org-005	<0.1	2	<0.1	<0.1	0	111	115
gamma-BHC	mg/kg	0.1	Org-005	<0.1	2	<0.1	<0.1	0	[NT]	[NT]
beta-BHC	mg/kg	0.1	Org-005	<0.1	2	<0.1	<0.1	0	86	90
Heptachlor	mg/kg	0.1	Org-005	<0.1	2	<0.1	<0.1	0	91	94
delta-BHC	mg/kg	0.1	Org-005	<0.1	2	<0.1	<0.1	0	[NT]	[NT]
Aldrin	mg/kg	0.1	Org-005	<0.1	2	<0.1	<0.1	0	80	82
Heptachlor Epoxide	mg/kg	0.1	Org-005	<0.1	2	<0.1	<0.1	0	84	86
gamma-Chlordane	mg/kg	0.1	Org-005	<0.1	2	<0.1	<0.1	0	[NT]	[NT]
alpha-chlordane	mg/kg	0.1	Org-005	<0.1	2	<0.1	<0.1	0	[NT]	[NT]
Endosulfan I	mg/kg	0.1	Org-005	<0.1	2	<0.1	<0.1	0	[NT]	[NT]
pp-DDE	mg/kg	0.1	Org-005	<0.1	2	<0.1	<0.1	0	88	91
Dieldrin	mg/kg	0.1	Org-005	<0.1	2	<0.1	<0.1	0	94	97
Endrin	mg/kg	0.1	Org-005	<0.1	2	<0.1	<0.1	0	85	89
pp-DDD	mg/kg	0.1	Org-005	<0.1	2	<0.1	<0.1	0	81	84
Endosulfan II	mg/kg	0.1	Org-005	<0.1	2	<0.1	<0.1	0	[NT]	[NT]
pp-DDT	mg/kg	0.1	Org-005	<0.1	2	<0.1	<0.1	0	[NT]	[NT]
Endrin Aldehyde	mg/kg	0.1	Org-005	<0.1	2	<0.1	<0.1	0	[NT]	[NT]
Endosulfan Sulphate	mg/kg	0.1	Org-005	<0.1	2	<0.1	<0.1	0	91	98
Methoxychlor	mg/kg	0.1	Org-005	<0.1	2	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCMX	%		Org-005	102	2	100	100	0	112	124

QUALITY CONTROL: Organochlorine Pesticides in soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	86	19/12/2018	19/12/2018		[NT]	[NT]
Date analysed	-			[NT]	86	19/12/2018	19/12/2018		[NT]	[NT]
HCB	mg/kg	0.1	Org-005	[NT]	86	<0.1	<0.1	0	[NT]	[NT]
alpha-BHC	mg/kg	0.1	Org-005	[NT]	86	<0.1	<0.1	0	[NT]	[NT]
gamma-BHC	mg/kg	0.1	Org-005	[NT]	86	<0.1	<0.1	0	[NT]	[NT]
beta-BHC	mg/kg	0.1	Org-005	[NT]	86	<0.1	<0.1	0	[NT]	[NT]
Heptachlor	mg/kg	0.1	Org-005	[NT]	86	<0.1	<0.1	0	[NT]	[NT]
delta-BHC	mg/kg	0.1	Org-005	[NT]	86	<0.1	<0.1	0	[NT]	[NT]
Aldrin	mg/kg	0.1	Org-005	[NT]	86	<0.1	<0.1	0	[NT]	[NT]
Heptachlor Epoxide	mg/kg	0.1	Org-005	[NT]	86	<0.1	<0.1	0	[NT]	[NT]
gamma-Chlordane	mg/kg	0.1	Org-005	[NT]	86	<0.1	<0.1	0	[NT]	[NT]
alpha-chlordane	mg/kg	0.1	Org-005	[NT]	86	<0.1	<0.1	0	[NT]	[NT]
Endosulfan I	mg/kg	0.1	Org-005	[NT]	86	<0.1	<0.1	0	[NT]	[NT]
pp-DDE	mg/kg	0.1	Org-005	[NT]	86	<0.1	<0.1	0	[NT]	[NT]
Dieldrin	mg/kg	0.1	Org-005	[NT]	86	<0.1	<0.1	0	[NT]	[NT]
Endrin	mg/kg	0.1	Org-005	[NT]	86	<0.1	<0.1	0	[NT]	[NT]
pp-DDD	mg/kg	0.1	Org-005	[NT]	86	<0.1	<0.1	0	[NT]	[NT]
Endosulfan II	mg/kg	0.1	Org-005	[NT]	86	<0.1	<0.1	0	[NT]	[NT]
pp-DDT	mg/kg	0.1	Org-005	[NT]	86	<0.1	<0.1	0	[NT]	[NT]
Endrin Aldehyde	mg/kg	0.1	Org-005	[NT]	86	<0.1	<0.1	0	[NT]	[NT]
Endosulfan Sulphate	mg/kg	0.1	Org-005	[NT]	86	<0.1	<0.1	0	[NT]	[NT]
Methoxychlor	mg/kg	0.1	Org-005	[NT]	86	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCMX	%		Org-005	[NT]	86	92	94	2	[NT]	[NT]

Client Reference: 94525.00, St Marys - Stage 1 Contamination Assessm

QUALITY CONTROL: Organophosphorus Pesticides					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	207928-11
Date extracted	-			19/12/2018	2	19/12/2018	19/12/2018		19/12/2018	19/12/2018
Date analysed	-			20/12/2018	2	19/12/2018	19/12/2018		20/12/2018	19/12/2018
Azinphos-methyl (Guthion)	mg/kg	0.1	Org-008	<0.1	2	<0.1	<0.1	0	[NT]	[NT]
Bromophos-ethyl	mg/kg	0.1	Org-008	<0.1	2	<0.1	<0.1	0	[NT]	[NT]
Chlorpyrifos	mg/kg	0.1	Org-008	<0.1	2	<0.1	<0.1	0	89	90
Chlorpyrifos-methyl	mg/kg	0.1	Org-008	<0.1	2	<0.1	<0.1	0	[NT]	[NT]
Diazinon	mg/kg	0.1	Org-008	<0.1	2	<0.1	<0.1	0	[NT]	[NT]
Dichlorvos	mg/kg	0.1	Org-008	<0.1	2	<0.1	<0.1	0	82	86
Dimethoate	mg/kg	0.1	Org-008	<0.1	2	<0.1	<0.1	0	[NT]	[NT]
Ethion	mg/kg	0.1	Org-008	<0.1	2	<0.1	<0.1	0	106	97
Fenitrothion	mg/kg	0.1	Org-008	<0.1	2	<0.1	<0.1	0	106	108
Malathion	mg/kg	0.1	Org-008	<0.1	2	<0.1	<0.1	0	78	75
Parathion	mg/kg	0.1	Org-008	<0.1	2	<0.1	<0.1	0	90	90
Ronnel	mg/kg	0.1	Org-008	<0.1	2	<0.1	<0.1	0	98	99
Surrogate TCMX	%		Org-008	102	2	100	100	0	98	100

QUALITY CONTROL: Organophosphorus Pesticides					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	86	19/12/2018	19/12/2018		[NT]	[NT]
Date analysed	-			[NT]	86	19/12/2018	19/12/2018		[NT]	[NT]
Azinphos-methyl (Guthion)	mg/kg	0.1	Org-008	[NT]	86	<0.1	<0.1	0	[NT]	[NT]
Bromophos-ethyl	mg/kg	0.1	Org-008	[NT]	86	<0.1	<0.1	0	[NT]	[NT]
Chlorpyrifos	mg/kg	0.1	Org-008	[NT]	86	<0.1	<0.1	0	[NT]	[NT]
Chlorpyrifos-methyl	mg/kg	0.1	Org-008	[NT]	86	<0.1	<0.1	0	[NT]	[NT]
Diazinon	mg/kg	0.1	Org-008	[NT]	86	<0.1	<0.1	0	[NT]	[NT]
Dichlorvos	mg/kg	0.1	Org-008	[NT]	86	<0.1	<0.1	0	[NT]	[NT]
Dimethoate	mg/kg	0.1	Org-008	[NT]	86	<0.1	<0.1	0	[NT]	[NT]
Ethion	mg/kg	0.1	Org-008	[NT]	86	<0.1	<0.1	0	[NT]	[NT]
Fenitrothion	mg/kg	0.1	Org-008	[NT]	86	<0.1	<0.1	0	[NT]	[NT]
Malathion	mg/kg	0.1	Org-008	[NT]	86	<0.1	<0.1	0	[NT]	[NT]
Parathion	mg/kg	0.1	Org-008	[NT]	86	<0.1	<0.1	0	[NT]	[NT]
Ronnel	mg/kg	0.1	Org-008	[NT]	86	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCMX	%		Org-008	[NT]	86	92	94	2	[NT]	[NT]

Client Reference: 94525.00, St Marys - Stage 1 Contamination Assessm

QUALITY CONTROL: PCBs in Soil					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	207928-11
Date extracted	-			19/12/2018	2	19/12/2018	19/12/2018		19/12/2018	19/12/2018
Date analysed	-			20/12/2018	2	19/12/2018	19/12/2018		20/12/2018	19/12/2018
Aroclor 1016	mg/kg	0.1	Org-006	<0.1	2	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1221	mg/kg	0.1	Org-006	<0.1	2	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1232	mg/kg	0.1	Org-006	<0.1	2	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1242	mg/kg	0.1	Org-006	<0.1	2	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1248	mg/kg	0.1	Org-006	<0.1	2	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1254	mg/kg	0.1	Org-006	<0.1	2	<0.1	<0.1	0	102	103
Aroclor 1260	mg/kg	0.1	Org-006	<0.1	2	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCLMX	%		Org-006	102	2	100	100	0	98	100

QUALITY CONTROL: PCBs in Soil					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	52	19/12/2018	19/12/2018		[NT]	[NT]
Date analysed	-			[NT]	52	19/12/2018	19/12/2018		[NT]	[NT]
Aroclor 1016	mg/kg	0.1	Org-006	[NT]	52	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1221	mg/kg	0.1	Org-006	[NT]	52	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1232	mg/kg	0.1	Org-006	[NT]	52	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1242	mg/kg	0.1	Org-006	[NT]	52	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1248	mg/kg	0.1	Org-006	[NT]	52	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1254	mg/kg	0.1	Org-006	[NT]	52	0.1	0.1	0	[NT]	[NT]
Aroclor 1260	mg/kg	0.1	Org-006	[NT]	52	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCLMX	%		Org-006	[NT]	52	92	106	14	[NT]	[NT]

QUALITY CONTROL: PCBs in Soil					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	86	19/12/2018	19/12/2018		[NT]	[NT]
Date analysed	-			[NT]	86	19/12/2018	19/12/2018		[NT]	[NT]
Aroclor 1016	mg/kg	0.1	Org-006	[NT]	86	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1221	mg/kg	0.1	Org-006	[NT]	86	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1232	mg/kg	0.1	Org-006	[NT]	86	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1242	mg/kg	0.1	Org-006	[NT]	86	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1248	mg/kg	0.1	Org-006	[NT]	86	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1254	mg/kg	0.1	Org-006	[NT]	86	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1260	mg/kg	0.1	Org-006	[NT]	86	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCLMX	%		Org-006	[NT]	86	92	94	2	[NT]	[NT]

Client Reference: 94525.00, St Marys - Stage 1 Contamination Assessm

QUALITY CONTROL: Acid Extractable metals in soil						Duplicate		Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	207928-11
Date prepared	-			19/12/2018	2	19/12/2018	19/12/2018		19/12/2018	19/12/2018
Date analysed	-			19/12/2018	2	19/12/2018	19/12/2018		19/12/2018	19/12/2018
Arsenic	mg/kg	4	Metals-020	<4	2	<4	<4	0	118	99
Cadmium	mg/kg	0.4	Metals-020	<0.4	2	<0.4	<0.4	0	108	95
Chromium	mg/kg	1	Metals-020	<1	2	7	8	13	113	98
Copper	mg/kg	1	Metals-020	<1	2	9	14	43	127	119
Lead	mg/kg	1	Metals-020	<1	2	11	12	9	111	95
Mercury	mg/kg	0.1	Metals-021	<0.1	2	<0.1	<0.1	0	118	100
Nickel	mg/kg	1	Metals-020	<1	2	7	7	0	113	99
Zinc	mg/kg	1	Metals-020	<1	2	24	29	19	107	79

QUALITY CONTROL: Acid Extractable metals in soil						Duplicate		Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date prepared	-			[NT]	86	19/12/2018	19/12/2018		[NT]	[NT]
Date analysed	-			[NT]	86	19/12/2018	19/12/2018		[NT]	[NT]
Arsenic	mg/kg	4	Metals-020	[NT]	86	4	5	22	[NT]	[NT]
Cadmium	mg/kg	0.4	Metals-020	[NT]	86	<0.4	<0.4	0	[NT]	[NT]
Chromium	mg/kg	1	Metals-020	[NT]	86	20	24	18	[NT]	[NT]
Copper	mg/kg	1	Metals-020	[NT]	86	37	58	44	[NT]	[NT]
Lead	mg/kg	1	Metals-020	[NT]	86	44	46	4	[NT]	[NT]
Mercury	mg/kg	0.1	Metals-021	[NT]	86	<0.1	<0.1	0	[NT]	[NT]
Nickel	mg/kg	1	Metals-020	[NT]	86	18	19	5	[NT]	[NT]
Zinc	mg/kg	1	Metals-020	[NT]	86	130	130	0	[NT]	[NT]

Client Reference: 94525.00, St Marys - Stage 1 Contamination Assessm

QUALITY CONTROL: Misc Soil - Inorg					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	207928-11
Date prepared	-			19/12/2018	2	19/12/2018	19/12/2018		19/12/2018	19/12/2018
Date analysed	-			19/12/2018	2	19/12/2018	19/12/2018		19/12/2018	19/12/2018
Total Phenolics (as Phenol)	mg/kg	5	Inorg-031	<5	2	<5	<5	0	104	111

QUALITY CONTROL: Misc Soil - Inorg					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-2	[NT]
Date prepared	-			[NT]	86	19/12/2018	19/12/2018		19/12/2018	[NT]
Date analysed	-			[NT]	86	19/12/2018	19/12/2018		19/12/2018	[NT]
Total Phenolics (as Phenol)	mg/kg	5	Inorg-031	[NT]	86	<5	<5	0	101	[NT]

Result Definitions

NT	Not tested
NA	Test not required
INS	Insufficient sample for this test
PQL	Practical Quantitation Limit
<	Less than
>	Greater than
RPD	Relative Percent Difference
LCS	Laboratory Control Sample
NS	Not specified
NEPM	National Environmental Protection Measure
NR	Not Reported

Quality Control Definitions

Blank	This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples.
Duplicate	This is the complete duplicate analysis of a sample from the process batch. If possible, the sample selected should be one where the analyte concentration is easily measurable.
Matrix Spike	A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.
LCS (Laboratory Control Sample)	This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample.
Surrogate Spike	Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.
Australian Drinking Water Guidelines recommend that Thermotolerant Coliform, Faecal Enterococci, & E.Coli levels are less than 1cfu/100mL. The recommended maximums are taken from "Australian Drinking Water Guidelines", published by NHMRC & ARMC 2011.	

Laboratory Acceptance Criteria

Duplicate sample and matrix spike recoveries may not be reported on smaller jobs, however, were analysed at a frequency to meet or exceed NEPM requirements. All samples are tested in batches of 20. The duplicate sample RPD and matrix spike recoveries for the batch were within the laboratory acceptance criteria.

Filters, swabs, wipes, tubes and badges will not have duplicate data as the whole sample is generally extracted during sample extraction.

Spikes for Physical and Aggregate Tests are not applicable.

For VOCs in water samples, three vials are required for duplicate or spike analysis.

Duplicates: >10xPQL - RPD acceptance criteria will vary depending on the analytes and the analytical techniques but is typically in the range 20%-50% – see ELN-P05 QA/QC tables for details; <10xPQL - RPD are higher as the results approach PQL and the estimated measurement uncertainty will statistically increase.

Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals; 60-140% for organics (+/-50% surrogates) and 10-140% for labile SVOCs (including labile surrogates), ultra trace organics and speciated phenols is acceptable.

In circumstances where no duplicate and/or sample spike has been reported at 1 in 10 and/or 1 in 20 samples respectively, the sample volume submitted was insufficient in order to satisfy laboratory QA/QC protocols.

When samples are received where certain analytes are outside of recommended technical holding times (THTs), the analysis has proceeded. Where analytes are on the verge of breaching THTs, every effort will be made to analyse within the THT or as soon as practicable.

Where sampling dates are not provided, Envirolab are not in a position to comment on the validity of the analysis where recommended technical holding times may have been breached.

Measurement Uncertainty estimates are available for most tests upon request.

Report Comments

PAHs in Soil - The RPD for duplicate results is accepted due to the non homogenous nature of the sample/s.

Asbestos: Excessive sample volumes were provided for asbestos analysis.
A portion of the supplied samples were sub-sampled according to Envirolab procedures.

We cannot guarantee that these sub-samples are indicative of the entire sample.

Envirolab recommends supplying 40-50g (50mL) of sample in its own container as per AS4964-2004.

Note: Samples requested for asbestos testing were sub-sampled from bags provided by the client.

SAMPLE RECEIPT ADVICE

Client Details

Client	Douglas Partners Pty Ltd (Riverstone)
Attention	Yashu Shresta

Sample Login Details

Your reference	94525.00, St Marys - Stage 1 Contamination Assessm
Envirolab Reference	207928-A
Date Sample Received	13/12/2018
Date Instructions Received	21/12/2018
Date Results Expected to be Reported	08/01/2019

Sample Condition

Samples received in appropriate condition for analysis	YES
No. of Samples Provided	110 Soil, 2 Material
Turnaround Time Requested	Standard
Temperature on Receipt (°C)	7.7
Cooling Method	Ice Pack
Sampling Date Provided	YES

Comments

Nil

Please direct any queries to:

Aileen Hie

Phone: 02 9910 6200
Fax: 02 9910 6201
Email: ahie@envirolab.com.au

Jacinta Hurst

Phone: 02 9910 6200
Fax: 02 9910 6201
Email: jhurst@envirolab.com.au

Analysis Underway, details on the following page:



Envirolab Services Pty Ltd

ABN 37 112 535 645

12 Ashley St Chatswood NSW 2067

ph 02 9910 6200 fax 02 9910 6201

customerservice@envirolab.com.au

www.envirolab.com.au

Sample ID	Misc Inorg - Soil	CEC	On Hold
BH101-0-0.2			✓
BH101-0.4-0.5	✓	✓	
BH101-0.9-1.0			✓
BH101-1.4-1.5			✓
BH101-1.9-2.0			✓
BH101-2.4-2.5			✓
BH101-2.9-3.0			✓
BH101-3.4-3.5			✓
BH101-3.9-4.0			✓
BH101-7.9-8.0			✓
BH102-0-0.2			✓
BH102-0.4-0.5			✓
BH102-0.9-1.0			✓
BH102-1.4-1.5			✓
BH102-1.9-2.0			✓
BH102-2.4-2.5			✓
BH102-2.9-3.0			✓
BH102-3.4-3.5			✓
BH102-4.9-5.0			✓
BH102-6.9-7.0			✓
BH103-0.1-0.2			✓
BH103-0.4-0.5			✓
BH103-0.9-1.0	✓	✓	
BH103-1.4-1.5			✓
BH103-1.9-2.0			✓
BH103-2.4-2.5			✓
BH103-2.9-3.0			✓
BH103-4.0-4.1			✓
BH103-4.9-5.0			✓
BH103-5.9-6.0			✓
BH104-0-0.1			✓
BH104-0.4-0.5			✓



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12 Ashley St Chatswood NSW 2067

ph 02 9910 6200 fax 02 9910 6201

customerservice@envirolab.com.au

www.envirolab.com.au

Sample ID	Misc Inorg - Soil	CEC	On Hold
BH104-0.9-1.0			✓
BH104-1.4-1.5			✓
BH104-1.9-2.0			✓
BH104-2.4-2.5			✓
BH104-2.9-3.0			✓
BH104-3.4-3.5			✓
BH104-3.9-4.0			✓
BH104-4.4-4.5			✓
BH104-4.9-5.0			✓
BH104-5.9-6.0			✓
BH104-6.9-7.0			✓
BH105-0-0.2			✓
BH105-0.4-0.5			✓
BH105-0.9-1.0			✓
BH105-1.4-1.5			✓
BH105-1.9-2.0			✓
BH105-2.9-3.0			✓
BH105-4.9-5.0			✓
BH105-6.9-7.0			✓
BH106-0-0.2			✓
BH106-0.4-0.5			✓
BH106-0.9-1.0			✓
BH107-0-0.2			✓
BH107-0.4-0.5			✓
BH107-0.9-1.0			✓
BH107-1.4-1.5			✓
BH108-0-0.2			✓
BH108-0.4-0.5			✓
BH108-0.9-1.0			✓
BH108-1.4-1.5			✓
BH108-2-2.1			✓
BH109-0-0.2			✓



Envirolab Services Pty Ltd

ABN 37 112 535 645

12 Ashley St Chatswood NSW 2067

ph 02 9910 6200 fax 02 9910 6201

customerservice@envirolab.com.au

www.envirolab.com.au

Sample ID	Misc Inorg - Soil	CEC	On Hold
BH109-0.4-0.5			✓
BH109-0.9-1.0			✓
BH109-1.4-1.5			✓
BH109-1.9-2.0			✓
BH109-2.4-2.5			✓
BH109-2.9-3.0			✓
BH110-0-0.2			✓
BH110-0.4-0.5			✓
BH110-0.9-1.0			✓
BH110-1.4-1.5			✓
BH110-1.9-2.0			✓
BH110-2.4-2.5			✓
BH110-3.0-3.1			✓
BH111-0-0.2			✓
BH111-0.4-0.5			✓
BH111-0.9-1.0			✓
BH111-1.4-1.5			✓
BH111-1.9-2.0			✓
BH111-2.4-2.5			✓
BH112-0-0.2			✓
BH112-0.4-0.5			✓
BH112-0.9-1.0			✓
BH112-1.4-1.5			✓
BH112-1.7-1.8			✓
BH113-0-0.2			✓
BH113-0.4-0.5			✓
BH113-0.9-1.0			✓
BH114-0-0.2			✓
BH114-0.4-0.5			✓
BH114-0.9-1.0			✓
BH115-0.15-0.2			✓
BH115-0.4-0.5			✓



Sample ID	Misc Inorg - Soil	CEC	On Hold
BH115-0.9-1.0			✓
BH115-1.4-1.5			✓
BH115-1.9-2.0			✓
BH115-2.4-2.5			✓
BH115-2.9-3.0			✓
SP1			✓
SP2			✓
SP3			✓
SP4			✓
SP5			✓
SP6			✓
ACM1			✓
ACM2			✓
BH101-10.4-10.5			✓
BH102-3.9-4.0			✓
BH103-6.9-7.0			✓

The '✓' indicates the testing you have requested. **THIS IS NOT A REPORT OF THE RESULTS.**

Additional Info

Sample storage - Waters are routinely disposed of approximately 1 month and soils approximately 2 months from receipt.

Requests for longer term sample storage must be received in writing.

Andrew Fitzsimons

From: Aileen Hie
Sent: Friday, 21 December 2018 11:27 AM
To: Andrew Fitzsimons
Subject: FW: Sample Receipt for 207928 94525.00, St Marys - Stage 1 Contamination Assessm
Attachments: img-Z18144417.pdf
Follow Up Flag: Follow up
Flag Status: Flagged

ELS: 207928-A
TAT: Std
Due: 8/1/19

Regards,

Fit

Aileen Hie | Sample Receipt Supervisor | Envirolab Services Pty Ltd

Great Science, Great Service.

12 Ashley Street Chatswood NSW 2067
T 612 9910 6200 F 612 9910 6201
E ahie@envirolab.com.au | W www.envirolab.com.au

Please note that all samples submitted to the Envirolab Group laboratories will be analysed under the Envirolab Group Terms and Conditions. The Terms and Conditions are accessible by clicking this link

From: Yashu Shrestha [mailto:Yashu.Shrestha@douglaspartners.com.au]
Sent: Friday, 21 December 2018 9:40 AM
To: Aileen Hie <AHie@envirolab.com.au>; Jacinta Hurst <JHurst@envirolab.com.au>
Subject: FW: Sample Receipt for 207928 94525.00, St Marys - Stage 1 Contamination Assessm

Hi Aileen/Jacinta

Further to my email below, please could you also analyse the following two samples for pH and CEC:

- Sample BH101/0.4-0.5; and - 2
- Sample BH103/0.9-1.0 - 23

Thanks

Kind regards

CERTIFICATE OF ANALYSIS 207928-A

Client Details

Client	Douglas Partners Pty Ltd (Riverstone)
Attention	Yashu Shresta
Address	43 Hobart St, Riverstone, NSW, 2765

Sample Details

Your Reference	<u>94525.00, St Marys - Stage 1 Contamination Assessm</u>
Number of Samples	110 Soil, 2 Material
Date samples received	13/12/2018
Date completed instructions received	21/12/2018

Analysis Details

Please refer to the following pages for results, methodology summary and quality control data.
 Samples were analysed as received from the client. Results relate specifically to the samples as received.
 Results are reported on a dry weight basis for solids and on an as received basis for other matrices.

Report Details

Date results requested by	08/01/2019
Date of Issue	04/01/2019
NATA Accreditation Number 2901. This document shall not be reproduced except in full.	
Accredited for compliance with ISO/IEC 17025 - Testing. Tests not covered by NATA are denoted with *	

Results Approved By

Leon Ow, Chemist
 Nick Sarlamis, Inorganics Supervisor

Authorised By



Jacinta Hurst, Laboratory Manager

Misc Inorg - Soil			
Our Reference		207928-A-2	207928-A-23
Your Reference	UNITS	BH101	BH103
Depth		0.4-0.5	0.9-1.0
Date Sampled		05/12/2018	04/12/2018
Type of sample		Soil	Soil
Date prepared	-	03/01/2019	03/01/2019
Date analysed	-	03/01/2019	03/01/2019
pH 1:5 soil:water	pH Units	8.0	7.7

CEC			
Our Reference		207928-A-2	207928-A-23
Your Reference	UNITS	BH101	BH103
Depth		0.4-0.5	0.9-1.0
Date Sampled		05/12/2018	04/12/2018
Type of sample		Soil	Soil
Date prepared	-	03/01/2019	03/01/2019
Date analysed	-	03/01/2019	03/01/2019
Exchangeable Ca	meq/100g	9.3	4.4
Exchangeable K	meq/100g	0.2	0.3
Exchangeable Mg	meq/100g	3.5	3.2
Exchangeable Na	meq/100g	<0.1	0.33
Cation Exchange Capacity	meq/100g	13	8.2

Method ID	Methodology Summary
Inorg-001	pH - Measured using pH meter and electrode in accordance with APHA latest edition, 4500-H+. Please note that the results for water analyses are indicative only, as analysis outside of the APHA storage times.
Metals-009	Determination of exchangeable cations and cation exchange capacity in soils using 1M Ammonium Chloride exchange and ICP-AES analytical finish.

Client Reference: 94525.00, St Marys - Stage 1 Contamination Assessm

QUALITY CONTROL: Misc Inorg - Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Date prepared	-			03/01/2019	[NT]	[NT]	[NT]	[NT]	03/01/2019	[NT]
Date analysed	-			03/01/2019	[NT]	[NT]	[NT]	[NT]	03/01/2019	[NT]
pH 1:5 soil:water	pH Units		Inorg-001	[NT]	[NT]	[NT]	[NT]	[NT]	101	[NT]

Client Reference: 94525.00, St Marys - Stage 1 Contamination Assessm

QUALITY CONTROL: CEC					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Date prepared	-			03/01/2019	[NT]	[NT]	[NT]	[NT]	03/01/2019	[NT]
Date analysed	-			03/01/2019	[NT]	[NT]	[NT]	[NT]	03/01/2019	[NT]
Exchangeable Ca	meq/100g	0.1	Metals-009	<0.1	[NT]	[NT]	[NT]	[NT]	98	[NT]
Exchangeable K	meq/100g	0.1	Metals-009	<0.1	[NT]	[NT]	[NT]	[NT]	101	[NT]
Exchangeable Mg	meq/100g	0.1	Metals-009	<0.1	[NT]	[NT]	[NT]	[NT]	94	[NT]
Exchangeable Na	meq/100g	0.1	Metals-009	<0.1	[NT]	[NT]	[NT]	[NT]	91	[NT]

Result Definitions

NT	Not tested
NA	Test not required
INS	Insufficient sample for this test
PQL	Practical Quantitation Limit
<	Less than
>	Greater than
RPD	Relative Percent Difference
LCS	Laboratory Control Sample
NS	Not specified
NEPM	National Environmental Protection Measure
NR	Not Reported

Quality Control Definitions

Blank	This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples.
Duplicate	This is the complete duplicate analysis of a sample from the process batch. If possible, the sample selected should be one where the analyte concentration is easily measurable.
Matrix Spike	A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.
LCS (Laboratory Control Sample)	This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample.
Surrogate Spike	Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.
Australian Drinking Water Guidelines recommend that Thermotolerant Coliform, Faecal Enterococci, & E.Coli levels are less than 1cfu/100mL. The recommended maximums are taken from "Australian Drinking Water Guidelines", published by NHMRC & ARMC 2011.	

Laboratory Acceptance Criteria

Duplicate sample and matrix spike recoveries may not be reported on smaller jobs, however, were analysed at a frequency to meet or exceed NEPM requirements. All samples are tested in batches of 20. The duplicate sample RPD and matrix spike recoveries for the batch were within the laboratory acceptance criteria.

Filters, swabs, wipes, tubes and badges will not have duplicate data as the whole sample is generally extracted during sample extraction.

Spikes for Physical and Aggregate Tests are not applicable.

For VOCs in water samples, three vials are required for duplicate or spike analysis.

Duplicates: >10xPQL - RPD acceptance criteria will vary depending on the analytes and the analytical techniques but is typically in the range 20%-50% – see ELN-P05 QA/QC tables for details; <10xPQL - RPD are higher as the results approach PQL and the estimated measurement uncertainty will statistically increase.

Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals; 60-140% for organics (+/-50% surrogates) and 10-140% for labile SVOCs (including labile surrogates), ultra trace organics and speciated phenols is acceptable.

In circumstances where no duplicate and/or sample spike has been reported at 1 in 10 and/or 1 in 20 samples respectively, the sample volume submitted was insufficient in order to satisfy laboratory QA/QC protocols.

When samples are received where certain analytes are outside of recommended technical holding times (THTs), the analysis has proceeded. Where analytes are on the verge of breaching THTs, every effort will be made to analyse within the THT or as soon as practicable.

Where sampling dates are not provided, Envirolab are not in a position to comment on the validity of the analysis where recommended technical holding times may have been breached.

Measurement Uncertainty estimates are available for most tests upon request.



ELS:207928-B

W/AMC of Labor Unit

Project Name: 51 Maple Street 1 Corporation Association
Project No: 94525.02
Project Mgr: Gavin Boyd / Rod Gray
Email: gavin.boyd@douglaspartners.com.au / Rod.Gray@douglaspartners.com.au
Date Required: Standard TAT
Sample: Yashu Shrestha
Phone: 0413 883 353
Alt: 0413 883 353
Email: yashu.shrestha@douglaspartners.com.au

Sample ID	Sample Type	Container	Volume	Op. Info	Analysis	Remarks
EL101010-012	1	0.5L	1.0L	X		
EL101010-015	2	0.5L	1.0L			
EL101010-017	3	0.5L	1.0L			
EL101010-019	4	0.5L	1.0L			
EL101010-020	5	0.5L	1.0L			
EL101010-021	6	0.5L	1.0L			
EL101010-022	7	0.5L	1.0L			
EL101010-023	8	0.5L	1.0L			
EL101010-024	9	0.5L	1.0L			
EL101010-025	10	0.5L	1.0L			
EL101010-026	11	0.5L	1.0L			
EL101010-027	12	0.5L	1.0L			
EL101010-028	13	0.5L	1.0L			
EL101010-029	14	0.5L	1.0L			
EL101010-030	15	0.5L	1.0L			
EL101010-031	16	0.5L	1.0L			
EL101010-032	17	0.5L	1.0L			
EL101010-033	18	0.5L	1.0L			
EL101010-034	19	0.5L	1.0L			
EL101010-035	20	0.5L	1.0L			
EL101010-036	21	0.5L	1.0L			
EL101010-037	22	0.5L	1.0L			
EL101010-038	23	0.5L	1.0L			
EL101010-039	24	0.5L	1.0L			
EL101010-040	25	0.5L	1.0L			
EL101010-041	26	0.5L	1.0L			
EL101010-042	27	0.5L	1.0L			
EL101010-043	28	0.5L	1.0L			
EL101010-044	29	0.5L	1.0L			
EL101010-045	30	0.5L	1.0L			
EL101010-046	31	0.5L	1.0L			
EL101010-047	32	0.5L	1.0L			
EL101010-048	33	0.5L	1.0L			
EL101010-049	34	0.5L	1.0L			
EL101010-050	35	0.5L	1.0L			
EL101010-051	36	0.5L	1.0L			
EL101010-052	37	0.5L	1.0L			
EL101010-053	38	0.5L	1.0L			
EL101010-054	39	0.5L	1.0L			
EL101010-055	40	0.5L	1.0L			
EL101010-056	41	0.5L	1.0L			
EL101010-057	42	0.5L	1.0L			
EL101010-058	43	0.5L	1.0L			
EL101010-059	44	0.5L	1.0L			
EL101010-060	45	0.5L	1.0L			
EL101010-061	46	0.5L	1.0L			
EL101010-062	47	0.5L	1.0L			
EL101010-063	48	0.5L	1.0L			
EL101010-064	49	0.5L	1.0L			
EL101010-065	50	0.5L	1.0L			
EL101010-066	51	0.5L	1.0L			
EL101010-067	52	0.5L	1.0L			
EL101010-068	53	0.5L	1.0L			
EL101010-069	54	0.5L	1.0L			
EL101010-070	55	0.5L	1.0L			
EL101010-071	56	0.5L	1.0L			
EL101010-072	57	0.5L	1.0L			
EL101010-073	58	0.5L	1.0L			
EL101010-074	59	0.5L	1.0L			
EL101010-075	60	0.5L	1.0L			
EL101010-076	61	0.5L	1.0L			
EL101010-077	62	0.5L	1.0L			
EL101010-078	63	0.5L	1.0L			
EL101010-079	64	0.5L	1.0L			
EL101010-080	65	0.5L	1.0L			
EL101010-081	66	0.5L	1.0L			
EL101010-082	67	0.5L	1.0L			
EL101010-083	68	0.5L	1.0L			
EL101010-084	69	0.5L	1.0L			
EL101010-085	70	0.5L	1.0L			
EL101010-086	71	0.5L	1.0L			
EL101010-087	72	0.5L	1.0L			
EL101010-088	73	0.5L	1.0L			
EL101010-089	74	0.5L	1.0L			
EL101010-090	75	0.5L	1.0L			
EL101010-091	76	0.5L	1.0L			
EL101010-092	77	0.5L	1.0L			
EL101010-093	78	0.5L	1.0L			
EL101010-094	79	0.5L	1.0L			
EL101010-095	80	0.5L	1.0L			
EL101010-096	81	0.5L	1.0L			
EL101010-097	82	0.5L	1.0L			
EL101010-098	83	0.5L	1.0L			
EL101010-099	84	0.5L	1.0L			
EL101010-100	85	0.5L	1.0L			
EL101010-101	86	0.5L	1.0L			
EL101010-102	87	0.5L	1.0L			
EL101010-103	88	0.5L	1.0L			
EL101010-104	89	0.5L	1.0L			
EL101010-105	90	0.5L	1.0L			
EL101010-106	91	0.5L	1.0L			
EL101010-107	92	0.5L	1.0L			
EL101010-108	93	0.5L	1.0L			
EL101010-109	94	0.5L	1.0L			
EL101010-110	95	0.5L	1.0L			
EL101010-111	96	0.5L	1.0L			
EL101010-112	97	0.5L	1.0L			
EL101010-113	98	0.5L	1.0L			
EL101010-114	99	0.5L	1.0L			
EL101010-115	100	0.5L	1.0L			



Stewart, R. A., & Smith, J. (1996). *Handbook of research on the development of language*. New York: Guilford Press.

[illegible]

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207928-B

Figure 100C

2076128

207928-B



CHAIN OF CUSTODY

Project Name: St Mary's - Stage 1 Contamination Assessment
Project No: 84325/00
Project Mgr: Gavin Boyd / Rod Gray
Email: Gavin.Boyd@douglaspartners.com.au, Rod.Gray@douglaspartners.com.au
Date Required: Standard TAT

Sample: 17
Type: Soil
Container: 100g
Analysis: 100g

Sample ID	Location	Type	Container	Analysis	Chain of Custody
BH104/3-4-5	3-5	Soil	100g	100g	
BH104/3-9-4-0	3-9	Soil	100g	100g	
BH104/4-4-5	4-0	Soil	100g	100g	
BH104/4-9-0	4-1	Soil	100g	100g	
BH104/5-9-0	4-2	Soil	100g	100g	
BH104/6-9-7-0	4-3	Soil	100g	100g	
BH105/0-0-2	4-4	Soil	100g	100g	
BH105/0-4-0-5	4-5	Soil	100g	100g	
BH105/0-5-1-0	4-6	Soil	100g	100g	
BH105/1-4-1-5	4-7	Soil	100g	100g	
BH105/1-9-2-0	4-8	Soil	100g	100g	
BH105/2-9-3-0	4-9	Soil	100g	100g	
BH105/4-9-5-0	5-0	Soil	100g	100g	
BH105/6-9-7-0	5-1	Soil	100g	100g	

207928

207928



207928-B

CHAIN OF CUSTODY

Project Name: St Marys Stage 1 Contamination Assessment
Project No: 64925.05
Project Mgr: Gavin Boyd / Rod Gray
Email: Gavin.Boyd@douglaspartners.com.au, Rod.Gray@douglaspartners.com.au
Date Received: 10/12/2018
Sample: JV
Mob. Phone: 0413 836 052
To: Mr. Steve Crawford
Address: 101/1 Street, Richmond VIC 3121
Phone: 03 9594 1100
Email: steve.crawford@vic.gov.au

Sample ID	Location	Depth (m)	Sample Type	Container Type	Analysis	Remarks
TP1050-0.1	0.1m	0.1m	S	100ml	✓	
TP1050-0.2	0.2m	0.2m	S	100ml	✓	
TP1050-0.3	0.3m	0.3m	S	100ml	✓	
TP1050-0.4	0.4m	0.4m	S	100ml	✓	
TP1050-0.5	0.5m	0.5m	S	100ml	✓	
TP1050-0.6	0.6m	0.6m	S	100ml	✓	
TP1050-0.7	0.7m	0.7m	S	100ml	✓	
TP1050-0.8	0.8m	0.8m	S	100ml	✓	
TP1050-0.9	0.9m	0.9m	S	100ml	✓	
TP1050-1.0	1.0m	1.0m	S	100ml	✓	
TP1050-1.1	1.1m	1.1m	S	100ml	✓	
TP1050-1.2	1.2m	1.2m	S	100ml	✓	
TP1050-1.3	1.3m	1.3m	S	100ml	✓	
TP1050-1.4	1.4m	1.4m	S	100ml	✓	
TP1050-1.5	1.5m	1.5m	S	100ml	✓	
TP1050-1.6	1.6m	1.6m	S	100ml	✓	
TP1050-1.7	1.7m	1.7m	S	100ml	✓	
TP1050-1.8	1.8m	1.8m	S	100ml	✓	
TP1050-1.9	1.9m	1.9m	S	100ml	✓	
TP1050-2.0	2.0m	2.0m	S	100ml	✓	
TP1050-2.1	2.1m	2.1m	S	100ml	✓	
TP1050-2.2	2.2m	2.2m	S	100ml	✓	
TP1050-2.3	2.3m	2.3m	S	100ml	✓	
TP1050-2.4	2.4m	2.4m	S	100ml	✓	
TP1050-2.5	2.5m	2.5m	S	100ml	✓	
TP1050-2.6	2.6m	2.6m	S	100ml	✓	
TP1050-2.7	2.7m	2.7m	S	100ml	✓	
TP1050-2.8	2.8m	2.8m	S	100ml	✓	
TP1050-2.9	2.9m	2.9m	S	100ml	✓	
TP1050-3.0	3.0m	3.0m	S	100ml	✓	
TP1050-3.1	3.1m	3.1m	S	100ml	✓	
TP1050-3.2	3.2m	3.2m	S	100ml	✓	
TP1050-3.3	3.3m	3.3m	S	100ml	✓	
TP1050-3.4	3.4m	3.4m	S	100ml	✓	
TP1050-3.5	3.5m	3.5m	S	100ml	✓	
TP1050-3.6	3.6m	3.6m	S	100ml	✓	
TP1050-3.7	3.7m	3.7m	S	100ml	✓	
TP1050-3.8	3.8m	3.8m	S	100ml	✓	
TP1050-3.9	3.9m	3.9m	S	100ml	✓	
TP1050-4.0	4.0m	4.0m	S	100ml	✓	
TP1050-4.1	4.1m	4.1m	S	100ml	✓	
TP1050-4.2	4.2m	4.2m	S	100ml	✓	
TP1050-4.3	4.3m	4.3m	S	100ml	✓	
TP1050-4.4	4.4m	4.4m	S	100ml	✓	
TP1050-4.5	4.5m	4.5m	S	100ml	✓	
TP1050-4.6	4.6m	4.6m	S	100ml	✓	
TP1050-4.7	4.7m	4.7m	S	100ml	✓	
TP1050-4.8	4.8m	4.8m	S	100ml	✓	
TP1050-4.9	4.9m	4.9m	S	100ml	✓	
TP1050-5.0	5.0m	5.0m	S	100ml	✓	
TP1050-5.1	5.1m	5.1m	S	100ml	✓	
TP1050-5.2	5.2m	5.2m	S	100ml	✓	
TP1050-5.3	5.3m	5.3m	S	100ml	✓	
TP1050-5.4	5.4m	5.4m	S	100ml	✓	
TP1050-5.5	5.5m	5.5m	S	100ml	✓	
TP1050-5.6	5.6m	5.6m	S	100ml	✓	
TP1050-5.7	5.7m	5.7m	S	100ml	✓	
TP1050-5.8	5.8m	5.8m	S	100ml	✓	
TP1050-5.9	5.9m	5.9m	S	100ml	✓	
TP1050-6.0	6.0m	6.0m	S	100ml	✓	
TP1050-6.1	6.1m	6.1m	S	100ml	✓	
TP1050-6.2	6.2m	6.2m	S	100ml	✓	
TP1050-6.3	6.3m	6.3m	S	100ml	✓	
TP1050-6.4	6.4m	6.4m	S	100ml	✓	
TP1050-6.5	6.5m	6.5m	S	100ml	✓	
TP1050-6.6	6.6m	6.6m	S	100ml	✓	
TP1050-6.7	6.7m	6.7m	S	100ml	✓	
TP1050-6.8	6.8m	6.8m	S	100ml	✓	
TP1050-6.9	6.9m	6.9m	S	100ml	✓	
TP1050-7.0	7.0m	7.0m	S	100ml	✓	
TP1050-7.1	7.1m	7.1m	S	100ml	✓	
TP1050-7.2	7.2m	7.2m	S	100ml	✓	
TP1050-7.3	7.3m	7.3m	S	100ml	✓	
TP1050-7.4	7.4m	7.4m	S	100ml	✓	
TP1050-7.5	7.5m	7.5m	S	100ml	✓	
TP1050-7.6	7.6m	7.6m	S	100ml	✓	
TP1050-7.7	7.7m	7.7m	S	100ml	✓	
TP1050-7.8	7.8m	7.8m	S	100ml	✓	
TP1050-7.9	7.9m	7.9m	S	100ml	✓	
TP1050-8.0	8.0m	8.0m	S	100ml	✓	
TP1050-8.1	8.1m	8.1m	S	100ml	✓	
TP1050-8.2	8.2m	8.2m	S	100ml	✓	
TP1050-8.3	8.3m	8.3m	S	100ml	✓	
TP1050-8.4	8.4m	8.4m	S	100ml	✓	
TP1050-8.5	8.5m	8.5m	S	100ml	✓	
TP1050-8.6	8.6m	8.6m	S	100ml	✓	
TP1050-8.7	8.7m	8.7m	S	100ml	✓	
TP1050-8.8	8.8m	8.8m	S	100ml	✓	
TP1050-8.9	8.9m	8.9m	S	100ml	✓	
TP1050-9.0	9.0m	9.0m	S	100ml	✓	
TP1050-9.1	9.1m	9.1m	S	100ml	✓	
TP1050-9.2	9.2m	9.2m	S	100ml	✓	
TP1050-9.3	9.3m	9.3m	S	100ml	✓	
TP1050-9.4	9.4m	9.4m	S	100ml	✓	
TP1050-9.5	9.5m	9.5m	S	100ml	✓	
TP1050-9.6	9.6m	9.6m	S	100ml	✓	
TP1050-9.7	9.7m	9.7m	S	100ml	✓	
TP1050-9.8	9.8m	9.8m	S	100ml	✓	
TP1050-9.9	9.9m	9.9m	S	100ml	✓	
TP1050-10.0	10.0m	10.0m	S	100ml	✓	

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Form C0C

207928-B



UNITED STATES OF AMERICA

Project Name: St Mary's State 1 Contaminant Assessment
 Project No: 34626-01
 Project Mgr: Gavin Boyd / Rob Gray
 Email: gavin.boyd@douglaspartners.com.au / rob.gray@douglaspartners.com.au
 Date Returned: Saturday 1st
 Sample: N
 Mobile Phone: 0413 585 004
 Phone: 02 9000 0000
 Email: info@douglaspartners.com.au

Sample ID			Sample Type	Sample Location	Sample Date	Sample Status	Sample Notes	Sample Analysis
Sample ID	Sample Type	Sample Location	Sample Date	Sample Status	Sample Notes	Sample Analysis	Sample Notes	Sample Analysis
TP1110-0.0	S0	0.0m	08/12/18	S				
TP1112-1.5	S1	0.0m	08/12/18	S				
TP1112-3.0	S2	0.0m	08/12/18	S				
TP1112-4.5	S3	0.0m	08/12/18	S				
TP1120-0.2	S4	0.0m	08/12/18	S				
TP1120-0.5	S5	0.0m	08/12/18	S				
TP1120-1.0	S6	0.0m	08/12/18	S				
TP1121-1.5	S7	0.0m	08/12/18	S				
TP1121-2.0	S8	0.0m	08/12/18	S				
TP1121-2.5	S9	0.0m	08/12/18	S				
TP1121-3.0	S10	0.0m	08/12/18	S				
TP1121-3.5	S11	0.0m	08/12/18	S				
TP1121-4.0	S12	0.0m	08/12/18	S				
TP1121-4.5	S13	0.0m	08/12/18	S				
TP1121-5.0	S14	0.0m	08/12/18	S				
TP1121-5.5	S15	0.0m	08/12/18	S				
TP1121-6.0	S16	0.0m	08/12/18	S				
TP1121-6.5	S17	0.0m	08/12/18	S				
TP1121-7.0	S18	0.0m	08/12/18	S				
TP1121-7.5	S19	0.0m	08/12/18	S				
TP1121-8.0	S20	0.0m	08/12/18	S				
TP1121-8.5	S21	0.0m	08/12/18	S				
TP1121-9.0	S22	0.0m	08/12/18	S				
TP1121-9.5	S23	0.0m	08/12/18	S				
TP1121-10.0	S24	0.0m	08/12/18	S				
TP1121-10.5	S25	0.0m	08/12/18	S				
TP1121-11.0	S26	0.0m	08/12/18	S				
TP1121-11.5	S27	0.0m	08/12/18	S				
TP1121-12.0	S28	0.0m	08/12/18	S				
TP1121-12.5	S29	0.0m	08/12/18	S				
TP1121-13.0	S30	0.0m	08/12/18	S				
TP1121-13.5	S31	0.0m	08/12/18	S				
TP1121-14.0	S32	0.0m	08/12/18	S				
TP1121-14.5	S33	0.0m	08/12/18	S				
TP1121-15.0	S34	0.0m	08/12/18	S				
TP1121-15.5	S35	0.0m	08/12/18	S				
TP1121-16.0	S36	0.0m	08/12/18	S				
TP1121-16.5	S37	0.0m	08/12/18	S				
TP1121-17.0	S38	0.0m	08/12/18	S				
TP1121-17.5	S39	0.0m	08/12/18	S				
TP1121-18.0	S40	0.0m	08/12/18	S				
TP1121-18.5	S41	0.0m	08/12/18	S				
TP1121-19.0	S42	0.0m	08/12/18	S				
TP1121-19.5	S43	0.0m	08/12/18	S				
TP1121-20.0	S44	0.0m	08/12/18	S				
TP1121-20.5	S45	0.0m	08/12/18	S				
TP1121-21.0	S46	0.0m	08/12/18	S				
TP1121-21.5	S47	0.0m	08/12/18	S				
TP1121-22.0	S48	0.0m	08/12/18	S				
TP1121-22.5	S49	0.0m	08/12/18	S				
TP1121-23.0	S50	0.0m	08/12/18	S				
TP1121-23.5	S51	0.0m	08/12/18	S				
TP1121-24.0	S52	0.0m	08/12/18	S				
TP1121-24.5	S53	0.0m	08/12/18	S				
TP1121-25.0	S54	0.0m	08/12/18	S				
TP1121-25.5	S55	0.0m	08/12/18	S				
TP1121-26.0	S56	0.0m	08/12/18	S				
TP1121-26.5	S57	0.0m	08/12/18	S				
TP1121-27.0	S58	0.0m	08/12/18	S				
TP1121-27.5	S59	0.0m	08/12/18	S				
TP1121-28.0	S60	0.0m	08/12/18	S				
TP1121-28.5	S61	0.0m	08/12/18	S				
TP1121-29.0	S62	0.0m	08/12/18	S				
TP1121-29.5	S63	0.0m	08/12/18	S				
TP1121-30.0	S64	0.0m	08/12/18	S				
TP1121-30.5	S65	0.0m	08/12/18	S				
TP1121-31.0	S66	0.0m	08/12/18	S				
TP1121-31.5	S67	0.0m	08/12/18	S				
TP1121-32.0	S68	0.0m	08/12/18	S				
TP1121-32.5	S69	0.0m	08/12/18	S				
TP1121-33.0	S70	0.0m	08/12/18	S				
TP1121-33.5	S71	0.0m	08/12/18	S				
TP1121-34.0	S72	0.0m	08/12/18	S				
TP1121-34.5	S73	0.0m	08/12/18	S				
TP1121-35.0	S74	0.0m	08/12/18	S				
TP1121-35.5	S75	0.0m	08/12/18	S				
TP1121-36.0	S76	0.0m	08/12/18	S				
TP1121-36.5	S77	0.0m	08/12/18	S				
TP1121-37.0	S78	0.0m	08/12/18	S				
TP1121-37.5	S79	0.0m	08/12/18	S				
TP1121-38.0	S80	0.0m	08/12/18	S				
TP1121-38.5	S81	0.0m	08/12/18	S				
TP1121-39.0	S82	0.0m	08/12/18	S				
TP1121-39.5	S83	0.0m	08/12/18	S				
TP1121-40.0	S84	0.0m	08/12/18	S				
TP1121-40.5	S85	0.0m	08/12/18	S				
TP1121-41.0	S86	0.0m	08/12/18	S				
TP1121-41.5	S87	0.0m	08/12/18	S				
TP1121-42.0	S88	0.0m	08/12/18	S				
TP1121-42.5	S89	0.0m	08/12/18	S				
TP1121-43.0	S90	0.0m	08/12/18	S				
TP1121-43.5	S91	0.0m	08/12/18	S				
TP1121-44.0	S92	0.0m	08/12/18	S				
TP1121-44.5	S93	0.0m	08/12/18	S				
TP1121-45.0	S94	0.0m	08/12/18	S				
TP1121-45.5	S95	0.0m	08/12/18	S				
TP1121-46.0	S96	0.0m	08/12/18	S				
TP1121-46.5	S97	0.0m	08/12/18	S				
TP1121-47.0	S98	0.0m	08/12/18	S				
TP1121-47.5	S99	0.0m	08/12/18	S				
TP1121-48.0	S100	0.0m	08/12/18	S				
TP1121-48.5	S101	0.0m	08/12/18	S				
TP1121-49.0	S102	0.0m	08/12/18	S				
TP1121-49.5	S103	0.0m	08/12/18	S				
TP1121-50.0	S104	0.0m	08/12/18	S				
TP1121-50.5	S105	0.0m	08/12/18	S				
TP1121-51.0	S106	0.0m	08/12/18	S				
TP1121-51.5	S107	0.0m	08/12/18	S				
TP1121-52.0	S108	0.0m	08/12/18	S				
TP1121-52.5	S109	0.0m	08/12/18	S				
TP1121-53.0	S110	0.0m	08/12/18	S				
TP1121-53.5	S111	0.0m	08/12/18	S				
TP1121-54.0	S112	0.0m	08/12/18	S				
TP1121-54.5	S113	0.0m	08/12/18	S				
TP1121-55.0	S114	0.0m	08/12/18	S				
TP1121-55.5	S115	0.0m	08/12/18	S				
TP1121-56.0	S116	0.0m	08/12/18	S				
TP1121-56.5	S117	0.0m	08/12/18	S				
TP1121-57.0	S118	0.0m	08/12/18	S				
TP1121-57.5	S119	0.0m	08/12/18	S				
TP1121-58.0	S120	0.0m	08/12/18	S				
TP1121-58.5	S121	0.0m	08/12/18	S				
TP1121-59.0	S122	0.0m	08/12/18	S				
TP1121-59.5	S123	0.0m	08/12/18	S				
TP1121-60.0	S124	0.0m	08/12/18	S				
TP1121-60.5	S125	0.0m	08/12/18	S				
TP1121-61.0	S126	0.0m	08/12/18	S				
TP1121-61.5	S127	0.0m	08/12/18	S				
TP1121-62.0	S128	0.0m	08/12/18	S				
TP1121-62.5	S129	0.0m	08/12/18	S				
TP1121-63.0	S130	0.0m	08/12/18	S				
TP1121-63.5	S131	0.0m	08/12/18	S				
TP1121-64.0	S132	0.0m	08/12/18	S				
TP1121-64.5	S133	0.0m	08/12/18	S				
TP1121-65.0	S134	0.0m	08/12/18	S				
TP1121-65.5	S135	0.0m	08/12/18	S				
TP1121-66.0	S136	0.0m	08/12/18	S				
TP1121-66.5	S137	0.0m	08/12/18	S				
TP1121-67.0	S138	0.0m	08/12/18	S				
TP1121-67.5	S139	0.0m	08/12/18	S				
TP1121-68.0	S140	0.0m	08/12/18	S				
TP1121-68.5	S141	0.0m	08/12/18	S				
TP1121-69.0	S142	0.0m	08/12/18	S				
TP1121-69.5	S143	0.0m	08/12/18	S				
TP1121-70.0	S144	0.0m	08/12/18	S				
TP1121-70.5	S145	0.0m	08/12/18	S				
TP1121-71.0	S146	0.0m	08/12/18	S				
TP1121-71.5	S147	0.0m	08/12/18	S				
TP1121-72.0	S148	0.0m	08/12/18	S				
TP1121-72.5	S149	0.0m	08/12/18	S				
TP1121-73.0	S150	0.0m	08/12/18	S				
TP1121-73.5	S151	0.0m	08/12/18	S				
TP1121-74.0	S152	0.0m	08/12/18	S				
TP1121-74.5	S153	0.0m	08/12/18	S				
TP1121-75.0	S154	0.0m	08/12/18	S				
TP1121-75.5	S155	0.0m	08/12/18	S				
TP1121-76.0	S156	0.0m	08/12/18	S				
TP1121-76.5	S157	0.0m	08/12/18	S				
TP1121-77.0	S158	0.0m	08/12/18	S				
TP1121-77.5	S159	0.0m	08/12/18	S				
TP1121-78.0	S160	0.0m	08/12/18	S				
TP1121-78.5	S161	0.0m	08/12/18	S				
TP1121-79.0	S162	0.0m	08/12/18	S</				



207928-B

CHAIN OF CUSTODY

Project Name: 31 Heavy Single 1 Contaminated Assessment
Project No: 207928-B
Project Manager: Robert Smith / Robert Smith
Sample: X
Mob. Phone: 74 3 380 375
Fax: 74 3 380 375
Email: robert.smith@douglaspartners.com.au

Client: Saville Environmental Services Pty Ltd
Date Received: 10/12/2011
Sample ID: 109
Phone: 74 3 380 375
Fax: 74 3 380 375
Email: robert.smith@douglaspartners.com.au

Sample ID	Location	Depth	Sample Type	Container	Analysis	Remarks
TP115/0.15-0.2	Q5	0.6/12/18	S	1.5 L	1.5 L	
TP115/0.4-0.5	Q6	0.6/12/18	S	1.5 L	1.5 L	
TP115/0.4-1.0	Q7	0.6/12/18	S	1.5 L	1.5 L	
TP115/1.0-1.5	Q8	0.6/12/18	S	1.5 L	1.5 L	
TP115/1.5-2.0	Q9	0.6/12/18	S	1.5 L	1.5 L	
TP115/2.0-2.5	Q10	0.6/12/18	S	1.5 L	1.5 L	
TP115/2.5-3.0	Q11	0.6/12/18	S	1.5 L	1.5 L	
SP1	Q12	0.6/12/18	S	1.5 L	1.5 L	
SP2	Q13	0.6/12/18	S	1.5 L	1.5 L	
SP3	Q14	0.6/12/18	S	1.5 L	1.5 L	
SP4	Q15	0.6/12/18	S	1.5 L	1.5 L	
SP5	Q16	0.6/12/18	S	1.5 L	1.5 L	
SP6	Q17	0.6/12/18	S	1.5 L	1.5 L	
SP7	Q18	0.6/12/18	S	1.5 L	1.5 L	
SP8	Q19	0.6/12/18	S	1.5 L	1.5 L	

Lab Report No: 109
Sent Results to: Douglas Partners Pty Ltd
Relinquished by: Robert Smith
Signed: Robert Smith
Date & Time: 10/12/2011
Transported to laboratory by: Robert Smith
Phone: 74 3 380 375
Fax: 74 3 380 375
Email: robert.smith@douglaspartners.com.au

SAMPLE RECEIPT ADVICE

Client Details

Client	Douglas Partners Pty Ltd (Riverstone)
Attention	Gavin Boyd

Sample Login Details

Your reference	94525.00, St Marys - Stage 1 Contamination Assessm
Envirolab Reference	207928-B
Date Sample Received	13/12/2018
Date Instructions Received	21/12/2018
Date Results Expected to be Reported	08/01/2019

Sample Condition

Samples received in appropriate condition for analysis	YES
No. of Samples Provided	110 Soil, 2 Material
Turnaround Time Requested	Standard
Temperature on Receipt (°C)	7.7
Cooling Method	Ice Pack
Sampling Date Provided	YES

Comments

Nil

Please direct any queries to:

Aileen Hie	Jacinta Hurst
Phone: 02 9910 6200	Phone: 02 9910 6200
Fax: 02 9910 6201	Fax: 02 9910 6201
Email: ahie@envirolab.com.au	Email: jhurst@envirolab.com.au

Analysis Underway, details on the following page:



Envirolab Services Pty Ltd

ABN 37 112 535 645

12 Ashley St Chatswood NSW 2067

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customerservice@envirolab.com.au

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Sample ID	VTRH(C6-C10)/BTEXN in Soil	svTRH (C10-C40) in Soil	PAHs in Soil	Organochlorine Pesticides in soil	Organophosphorus Pesticides	PCBs in Soil	Acid Extractable metals in soil	Misc Soil - Inorg	Asbestos ID - soils	On Hold
BH101-0-0.2										✓
BH101-0.4-0.5										✓
BH101-0.9-1.0										✓
BH101-1.4-1.5										✓
BH101-1.9-2.0										✓
BH101-2.4-2.5	✓	✓	✓	✓	✓	✓	✓	✓	✓	
BH101-2.9-3.0										✓
BH101-3.4-3.5										✓
BH101-3.9-4.0										✓
BH101-7.9-8.0										✓
BH102-0-0.2										✓
BH102-0.4-0.5										✓
BH102-0.9-1.0										✓
BH102-1.4-1.5										✓
BH102-1.9-2.0										✓
BH102-2.4-2.5										✓
BH102-2.9-3.0										✓
BH102-3.4-3.5	✓	✓	✓	✓	✓	✓	✓	✓	✓	
BH102-4.9-5.0										✓
BH102-6.9-7.0										✓
BH103-0.1-0.2										✓
BH103-0.4-0.5										✓
BH103-0.9-1.0										✓
BH103-1.4-1.5										✓
BH103-1.9-2.0	✓	✓	✓	✓	✓	✓	✓	✓	✓	
BH103-2.4-2.5										✓
BH103-2.9-3.0										✓
BH103-4.0-4.1										✓
BH103-4.9-5.0										✓
BH103-5.9-6.0										✓
BH104-0-0.1										✓
BH104-0.4-0.5	✓	✓	✓	✓	✓	✓	✓	✓	✓	



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Sample ID	VTRH(C6-C10)/BTEXN in Soil	svTRH (C10-C40) in Soil	PAHs in Soil	Organochlorine Pesticides in soil	Organophosphorus Pesticides	PCBs in Soil	Acid Extractable metals in soil	Misc Soil - Inorg	Asbestos ID - soils	On Hold
BH104-0.9-1.0										✓
BH104-1.4-1.5										✓
BH104-1.9-2.0										✓
BH104-2.4-2.5										✓
BH104-2.9-3.0										✓
BH104-3.4-3.5										✓
BH104-3.9-4.0										✓
BH104-4.4-4.5										✓
BH104-4.9-5.0										✓
BH104-5.9-6.0										✓
BH104-6.9-7.0										✓
BH105-0-0.2										✓
BH105-0.4-0.5										✓
BH105-0.9-1.0										✓
BH105-1.4-1.5	✓	✓	✓	✓	✓	✓	✓	✓	✓	
BH105-1.9-2.0										✓
BH105-2.9-3.0										✓
BH105-4.9-5.0										✓
BH105-6.9-7.0										✓
BH106-0-0.2										✓
BH106-0.4-0.5										✓
BH106-0.9-1.0										✓
BH107-0-0.2										✓
BH107-0.4-0.5	✓	✓	✓	✓	✓	✓	✓	✓	✓	
BH107-0.9-1.0	✓	✓	✓	✓	✓	✓	✓	✓	✓	
BH107-1.4-1.5										✓
BH108-0-0.2										✓
BH108-0.4-0.5										✓
BH108-0.9-1.0										✓
BH108-1.4-1.5										✓
BH108-2-2.1										✓
BH109-0-0.2										✓



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Sample ID	VTRH(C6-C10)/BTEXN in Soil	svTRH (C10-C40) in Soil	PAHs in Soil	Organochlorine Pesticides in soil	Organophosphorus Pesticides	PCBs in Soil	Acid Extractable metals in soil	Misc Soil - Inorg	Asbestos ID - soils	On Hold
BH109-0.4-0.5										✓
BH109-0.9-1.0										✓
BH109-1.4-1.5										✓
BH109-1.9-2.0										✓
BH109-2.4-2.5										✓
BH109-2.9-3.0										✓
BH110-0-0.2										✓
BH110-0.4-0.5										✓
BH110-0.9-1.0										✓
BH110-1.4-1.5										✓
BH110-1.9-2.0										✓
BH110-2.4-2.5										✓
BH110-3.0-3.1										✓
BH111-0-0.2										✓
BH111-0.4-0.5										✓
BH111-0.9-1.0										✓
BH111-1.4-1.5										✓
BH111-1.9-2.0										✓
BH111-2.4-2.5	✓	✓	✓	✓	✓	✓	✓	✓	✓	
BH112-0-0.2	✓	✓	✓	✓	✓	✓	✓	✓	✓	
BH112-0.4-0.5										✓
BH112-0.9-1.0										✓
BH112-1.4-1.5										✓
BH112-1.7-1.8										✓
BH113-0-0.2										✓
BH113-0.4-0.5	✓	✓	✓	✓	✓	✓	✓	✓	✓	
BH113-0.9-1.0										✓
BH114-0-0.2	✓	✓	✓	✓	✓	✓	✓	✓	✓	
BH114-0.4-0.5										✓
BH114-0.9-1.0	✓	✓	✓	✓	✓	✓	✓	✓	✓	
BH115-0.15-0.2	✓	✓	✓	✓	✓	✓	✓	✓	✓	
BH115-0.4-0.5										✓



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Sample ID	VTRH(C6-C10)/BTEXN in Soil	svTRH (C10-C40) in Soil	PAHs in Soil	Organochlorine Pesticides in soil	Organophosphorus Pesticides	PCBs in Soil	Acid Extractable metals in soil	Misc Soil - Inorg	Asbestos ID - soils	On Hold
BH115-0.9-1.0										✓
BH115-1.4-1.5										✓
BH115-1.9-2.0										✓
BH115-2.4-2.5										✓
BH115-2.9-3.0										✓
SP1										✓
SP2										✓
SP3										✓
SP4										✓
SP5										✓
SP6										✓
ACM1										✓
ACM2										✓
BH101-10.4-10.5										✓
BH102-3.9-4.0										✓
BH103-6.9-7.0										✓

The '✓' indicates the testing you have requested. **THIS IS NOT A REPORT OF THE RESULTS.**

Additional Info

Sample storage - Waters are routinely disposed of approximately 1 month and soils approximately 2 months from receipt.

Requests for longer term sample storage must be received in writing.

CERTIFICATE OF ANALYSIS 207928-B

Client Details

Client	Douglas Partners Pty Ltd (Riverstone)
Attention	Gavin Boyd
Address	43 Hobart St, Riverstone, NSW, 2765

Sample Details

Your Reference	<u>94525.00, St Marys - Stage 1 Contamination Assessm</u>
Number of Samples	110 Soil, 2 Material
Date samples received	13/12/2018
Date completed instructions received	21/12/2018

Analysis Details

Please refer to the following pages for results, methodology summary and quality control data.
 Samples were analysed as received from the client. Results relate specifically to the samples as received.
 Results are reported on a dry weight basis for solids and on an as received basis for other matrices.
Please refer to the last page of this report for any comments relating to the results.

Report Details

Date results requested by	08/01/2019
Date of Issue	07/01/2019
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Asbestos Approved By

Analysed by Asbestos Approved Identifier: Aida Marner
 Authorised by Asbestos Approved Signatory: Lucy Zhu

Results Approved By

Jeremy Faircloth, Organics Supervisor
 Leon Ow, Chemist
 Lucy Zhu, Asbestos Analyst
 Nancy Zhang, Assistant Lab Manager

Authorised By



Jacinta Hurst, Laboratory Manager

vTRH(C6-C10)/BTEXN in Soil

Our Reference		207928-B-6	207928-B-18	207928-B-25	207928-B-32	207928-B-47
Your Reference	UNITS	BH101	BH102	BH103	BH104	BH105
Depth		2.4-2.5	3.4-3.5	1.9-2.0	0.4-0.5	1.4-1.5
Date Sampled		05/12/2018	05/12/2018	04/12/2018	04/12/2018	05/12/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	27/12/2018	27/12/2018	27/12/2018	27/12/2018	27/12/2018
Date analysed	-	28/12/2018	28/12/2018	28/12/2018	28/12/2018	28/12/2018
TRH C ₆ - C ₉	mg/kg	<25	<25	<25	<25	<25
TRH C ₆ - C ₁₀	mg/kg	<25	<25	<25	<25	<25
vTPH C ₆ - C ₁₀ less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
naphthalene	mg/kg	<1	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<1	<1	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	92	90	92	90	88

vTRH(C6-C10)/BTEXN in Soil

Our Reference		207928-B-56	207928-B-57	207928-B-83	207928-B-84	207928-B-90
Your Reference	UNITS	BH107	BH107	BH111	BH112	BH113
Depth		0.4-0.5	0.9-1.0	2.4-2.5	0-0.2	0.4-0.5
Date Sampled		06/12/2018	06/12/2018	06/12/2018	06/12/2018	06/12/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	27/12/2018	27/12/2018	27/12/2018	27/12/2018	27/12/2018
Date analysed	-	28/12/2018	28/12/2018	28/12/2018	28/12/2018	28/12/2018
TRH C ₆ - C ₉	mg/kg	<25	<25	<25	<25	<25
TRH C ₆ - C ₁₀	mg/kg	<25	<25	<25	<25	<25
vTPH C ₆ - C ₁₀ less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
naphthalene	mg/kg	<1	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<1	<1	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	94	91	90	91	94

vTRH(C6-C10)/BTEXN in Soil				
Our Reference		207928-B-92	207928-B-94	207928-B-95
Your Reference	UNITS	BH114	BH114	BH115
Depth		0-0.2	0.9-1.0	0.15-0.2
Date Sampled		06/12/2018	06/12/2018	06/12/2018
Type of sample		Soil	Soil	Soil
Date extracted	-	27/12/2018	27/12/2018	27/12/2018
Date analysed	-	28/12/2018	28/12/2018	28/12/2018
TRH C ₆ - C ₉	mg/kg	<25	<25	<25
TRH C ₆ - C ₁₀	mg/kg	<25	<25	<25
vTPH C ₆ - C ₁₀ less BTEX (F1)	mg/kg	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1
naphthalene	mg/kg	<1	<1	<1
Total +ve Xylenes	mg/kg	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	89	85	93

svTRH (C10-C40) in Soil						
Our Reference		207928-B-6	207928-B-18	207928-B-25	207928-B-32	207928-B-47
Your Reference	UNITS	BH101	BH102	BH103	BH104	BH105
Depth		2.4-2.5	3.4-3.5	1.9-2.0	0.4-0.5	1.4-1.5
Date Sampled		05/12/2018	05/12/2018	04/12/2018	04/12/2018	05/12/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	27/12/2018	27/12/2018	27/12/2018	27/12/2018	27/12/2018
Date analysed	-	27/12/2018	27/12/2018	27/12/2018	28/12/2018	28/12/2018
TRH C ₁₀ - C ₁₄	mg/kg	<50	<50	<50	<50	<50
TRH C ₁₅ - C ₂₈	mg/kg	<100	<100	<100	<100	<100
TRH C ₂₉ - C ₃₆	mg/kg	<100	<100	<100	<100	<100
TRH >C ₁₀ -C ₁₆	mg/kg	<50	<50	<50	<50	<50
TRH >C ₁₀ - C ₁₆ less Naphthalene (F2)	mg/kg	<50	<50	<50	<50	<50
TRH >C ₁₆ -C ₃₄	mg/kg	<100	<100	<100	<100	<100
TRH >C ₃₄ -C ₄₀	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (>C10-C40)	mg/kg	<50	<50	<50	<50	<50
Surrogate o-Terphenyl	%	91	89	90	101	93

svTRH (C10-C40) in Soil						
Our Reference		207928-B-56	207928-B-57	207928-B-83	207928-B-84	207928-B-90
Your Reference	UNITS	BH107	BH107	BH111	BH112	BH113
Depth		0.4-0.5	0.9-1.0	2.4-2.5	0-0.2	0.4-0.5
Date Sampled		06/12/2018	06/12/2018	06/12/2018	06/12/2018	06/12/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	27/12/2018	27/12/2018	27/12/2018	27/12/2018	27/12/2018
Date analysed	-	28/12/2018	28/12/2018	28/12/2018	28/12/2018	28/12/2018
TRH C ₁₀ - C ₁₄	mg/kg	<50	<50	<50	<50	<50
TRH C ₁₅ - C ₂₈	mg/kg	<100	<100	<100	<100	<100
TRH C ₂₉ - C ₃₆	mg/kg	<100	<100	<100	<100	<100
TRH >C ₁₀ -C ₁₆	mg/kg	<50	<50	<50	<50	<50
TRH >C ₁₀ - C ₁₆ less Naphthalene (F2)	mg/kg	<50	<50	<50	<50	<50
TRH >C ₁₆ -C ₃₄	mg/kg	<100	<100	<100	<100	<100
TRH >C ₃₄ -C ₄₀	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (>C10-C40)	mg/kg	<50	<50	<50	<50	<50
Surrogate o-Terphenyl	%	89	88	86	100	87

svTRH (C10-C40) in Soil				
Our Reference		207928-B-92	207928-B-94	207928-B-95
Your Reference	UNITS	BH114	BH114	BH115
Depth		0-0.2	0.9-1.0	0.15-0.2
Date Sampled		06/12/2018	06/12/2018	06/12/2018
Type of sample		Soil	Soil	Soil
Date extracted	-	27/12/2018	27/12/2018	27/12/2018
Date analysed	-	28/12/2018	28/12/2018	28/12/2018
TRH C ₁₀ - C ₁₄	mg/kg	<50	<50	<50
TRH C ₁₅ - C ₂₈	mg/kg	<100	<100	<100
TRH C ₂₉ - C ₃₆	mg/kg	<100	<100	<100
TRH >C ₁₀ -C ₁₆	mg/kg	<50	<50	<50
TRH >C ₁₀ - C ₁₆ less Naphthalene (F2)	mg/kg	<50	<50	<50
TRH >C ₁₆ -C ₃₄	mg/kg	<100	<100	<100
TRH >C ₃₄ -C ₄₀	mg/kg	<100	<100	<100
Total +ve TRH (>C10-C40)	mg/kg	<50	<50	<50
Surrogate o-Terphenyl	%	91	86	91

PAHs in Soil						
Our Reference		207928-B-6	207928-B-18	207928-B-25	207928-B-32	207928-B-47
Your Reference	UNITS	BH101	BH102	BH103	BH104	BH105
Depth		2.4-2.5	3.4-3.5	1.9-2.0	0.4-0.5	1.4-1.5
Date Sampled		05/12/2018	05/12/2018	04/12/2018	04/12/2018	05/12/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	27/12/2018	27/12/2018	27/12/2018	27/12/2018	27/12/2018
Date analysed	-	28/12/2018	28/12/2018	28/12/2018	28/12/2018	28/12/2018
Naphthalene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PAH's	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Surrogate <i>p</i> -Terphenyl-d14	%	87	93	93	93	95

PAHs in Soil						
Our Reference		207928-B-56	207928-B-57	207928-B-83	207928-B-84	207928-B-90
Your Reference	UNITS	BH107	BH107	BH111	BH112	BH113
Depth		0.4-0.5	0.9-1.0	2.4-2.5	0-0.2	0.4-0.5
Date Sampled		06/12/2018	06/12/2018	06/12/2018	06/12/2018	06/12/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	27/12/2018	27/12/2018	27/12/2018	27/12/2018	27/12/2018
Date analysed	-	28/12/2018	28/12/2018	28/12/2018	28/12/2018	28/12/2018
Naphthalene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	<0.1	<0.1	<0.1	<0.1	0.2
Anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	0.3
Pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	0.3
Benzo(a)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	0.1
Chrysene	mg/kg	<0.1	<0.1	<0.1	<0.1	0.1
Benzo(b,j+k)fluoranthene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	<0.05	<0.05	<0.05	<0.05	0.1
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PAH's	mg/kg	0.2	<0.05	<0.05	<0.05	1.2
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Surrogate p-Terphenyl-d14	%	93	91	96	97	95

PAHs in Soil				
Our Reference		207928-B-92	207928-B-94	207928-B-95
Your Reference	UNITS	BH114	BH114	BH115
Depth		0-0.2	0.9-1.0	0.15-0.2
Date Sampled		06/12/2018	06/12/2018	06/12/2018
Type of sample		Soil	Soil	Soil
Date extracted	-	27/12/2018	27/12/2018	27/12/2018
Date analysed	-	28/12/2018	28/12/2018	28/12/2018
Naphthalene	mg/kg	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	0.1	<0.1	<0.1
Anthracene	mg/kg	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	<0.1	<0.1	<0.1
Pyrene	mg/kg	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	<0.1	<0.1	<0.1
Chrysene	mg/kg	<0.1	<0.1	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	<0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	<0.05	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1	<0.1
Total +ve PAH's	mg/kg	0.1	<0.05	<0.05
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	<0.5	<0.5
Surrogate p-Terphenyl-d14	%	94	93	99

Organochlorine Pesticides in soil						
Our Reference		207928-B-6	207928-B-18	207928-B-25	207928-B-32	207928-B-47
Your Reference	UNITS	BH101	BH102	BH103	BH104	BH105
Depth		2.4-2.5	3.4-3.5	1.9-2.0	0.4-0.5	1.4-1.5
Date Sampled		05/12/2018	05/12/2018	04/12/2018	04/12/2018	05/12/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	27/12/2018	27/12/2018	27/12/2018	27/12/2018	27/12/2018
Date analysed	-	27/12/2018	27/12/2018	27/12/2018	27/12/2018	27/12/2018
HCB	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
beta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
delta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor Epoxide	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-Chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan I	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDD	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan II	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDT	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan Sulphate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve DDT+DDD+DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	85	85	84	86	84

Organochlorine Pesticides in soil						
Our Reference		207928-B-56	207928-B-57	207928-B-83	207928-B-84	207928-B-90
Your Reference	UNITS	BH107	BH107	BH111	BH112	BH113
Depth		0.4-0.5	0.9-1.0	2.4-2.5	0-0.2	0.4-0.5
Date Sampled		06/12/2018	06/12/2018	06/12/2018	06/12/2018	06/12/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	27/12/2018	27/12/2018	27/12/2018	27/12/2018	27/12/2018
Date analysed	-	27/12/2018	27/12/2018	27/12/2018	27/12/2018	27/12/2018
HCB	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
beta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
delta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor Epoxide	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-Chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan I	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDD	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan II	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDT	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan Sulphate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve DDT+DDD+DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	85	84	85	87	86

Organochlorine Pesticides in soil				
Our Reference		207928-B-92	207928-B-94	207928-B-95
Your Reference	UNITS	BH114	BH114	BH115
Depth		0-0.2	0.9-1.0	0.15-0.2
Date Sampled		06/12/2018	06/12/2018	06/12/2018
Type of sample		Soil	Soil	Soil
Date extracted	-	27/12/2018	27/12/2018	27/12/2018
Date analysed	-	27/12/2018	27/12/2018	27/12/2018
HCB	mg/kg	<0.1	<0.1	<0.1
alpha-BHC	mg/kg	<0.1	<0.1	<0.1
gamma-BHC	mg/kg	<0.1	<0.1	<0.1
beta-BHC	mg/kg	<0.1	<0.1	<0.1
Heptachlor	mg/kg	<0.1	<0.1	<0.1
delta-BHC	mg/kg	<0.1	<0.1	<0.1
Aldrin	mg/kg	<0.1	<0.1	<0.1
Heptachlor Epoxide	mg/kg	<0.1	<0.1	<0.1
gamma-Chlordane	mg/kg	<0.1	<0.1	<0.1
alpha-chlordane	mg/kg	<0.1	<0.1	<0.1
Endosulfan I	mg/kg	<0.1	<0.1	<0.1
pp-DDE	mg/kg	<0.1	<0.1	<0.1
Dieldrin	mg/kg	<0.1	<0.1	<0.1
Endrin	mg/kg	<0.1	<0.1	<0.1
pp-DDD	mg/kg	<0.1	<0.1	<0.1
Endosulfan II	mg/kg	<0.1	<0.1	<0.1
pp-DDT	mg/kg	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	<0.1	<0.1	<0.1
Endosulfan Sulphate	mg/kg	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	<0.1	<0.1	<0.1
Total +ve DDT+DDD+DDE	mg/kg	<0.1	<0.1	<0.1
Surrogate TCMX	%	87	82	92

Organophosphorus Pesticides

Our Reference		207928-B-6	207928-B-18	207928-B-25	207928-B-32	207928-B-47
Your Reference	UNITS	BH101	BH102	BH103	BH104	BH105
Depth		2.4-2.5	3.4-3.5	1.9-2.0	0.4-0.5	1.4-1.5
Date Sampled		05/12/2018	05/12/2018	04/12/2018	04/12/2018	05/12/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	27/12/2018	27/12/2018	27/12/2018	27/12/2018	27/12/2018
Date analysed	-	27/12/2018	27/12/2018	27/12/2018	27/12/2018	27/12/2018
Azinphos-methyl (Guthion)	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Bromophos-ethyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorpyrifos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorpyrifos-methyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Diazinon	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dichlorvos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dimethoate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ethion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fenitrothion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Malathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Parathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ronnel	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	85	85	84	86	84

Organophosphorus Pesticides

Our Reference		207928-B-56	207928-B-57	207928-B-83	207928-B-84	207928-B-90
Your Reference	UNITS	BH107	BH107	BH111	BH112	BH113
Depth		0.4-0.5	0.9-1.0	2.4-2.5	0-0.2	0.4-0.5
Date Sampled		06/12/2018	06/12/2018	06/12/2018	06/12/2018	06/12/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	27/12/2018	27/12/2018	27/12/2018	27/12/2018	27/12/2018
Date analysed	-	27/12/2018	27/12/2018	27/12/2018	27/12/2018	27/12/2018
Azinphos-methyl (Guthion)	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Bromophos-ethyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorpyrifos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorpyrifos-methyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Diazinon	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dichlorvos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dimethoate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ethion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fenitrothion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Malathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Parathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ronnel	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	85	84	85	87	86

Organophosphorus Pesticides				
Our Reference		207928-B-92	207928-B-94	207928-B-95
Your Reference	UNITS	BH114	BH114	BH115
Depth		0-0.2	0.9-1.0	0.15-0.2
Date Sampled		06/12/2018	06/12/2018	06/12/2018
Type of sample		Soil	Soil	Soil
Date extracted	-	27/12/2018	27/12/2018	27/12/2018
Date analysed	-	27/12/2018	27/12/2018	27/12/2018
Azinphos-methyl (Guthion)	mg/kg	<0.1	<0.1	<0.1
Bromophos-ethyl	mg/kg	<0.1	<0.1	<0.1
Chlorpyrifos	mg/kg	<0.1	<0.1	<0.1
Chlorpyrifos-methyl	mg/kg	<0.1	<0.1	<0.1
Diazinon	mg/kg	<0.1	<0.1	<0.1
Dichlorvos	mg/kg	<0.1	<0.1	<0.1
Dimethoate	mg/kg	<0.1	<0.1	<0.1
Ethion	mg/kg	<0.1	<0.1	<0.1
Fenitrothion	mg/kg	<0.1	<0.1	<0.1
Malathion	mg/kg	<0.1	<0.1	<0.1
Parathion	mg/kg	<0.1	<0.1	<0.1
Ronnel	mg/kg	<0.1	<0.1	<0.1
Surrogate TCMX	%	87	82	92

PCBs in Soil						
Our Reference	UNITS	207928-B-6	207928-B-18	207928-B-25	207928-B-32	207928-B-47
Your Reference		BH101	BH102	BH103	BH104	BH105
Depth		2.4-2.5	3.4-3.5	1.9-2.0	0.4-0.5	1.4-1.5
Date Sampled		05/12/2018	05/12/2018	04/12/2018	04/12/2018	05/12/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	27/12/2018	27/12/2018	27/12/2018	27/12/2018	27/12/2018
Date analysed	-	27/12/2018	27/12/2018	27/12/2018	27/12/2018	27/12/2018
Aroclor 1016	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1221	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1232	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1242	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1248	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1254	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1260	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PCBs (1016-1260)	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCLMX	%	85	85	84	86	84

PCBs in Soil						
Our Reference	UNITS	207928-B-56	207928-B-57	207928-B-83	207928-B-84	207928-B-90
Your Reference		BH107	BH107	BH111	BH112	BH113
Depth		0.4-0.5	0.9-1.0	2.4-2.5	0-0.2	0.4-0.5
Date Sampled		06/12/2018	06/12/2018	06/12/2018	06/12/2018	06/12/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	27/12/2018	27/12/2018	27/12/2018	27/12/2018	27/12/2018
Date analysed	-	27/12/2018	27/12/2018	27/12/2018	27/12/2018	27/12/2018
Aroclor 1016	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1221	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1232	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1242	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1248	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1254	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1260	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PCBs (1016-1260)	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCLMX	%	85	84	85	87	86

PCBs in Soil				
Our Reference		207928-B-92	207928-B-94	207928-B-95
Your Reference	UNITS	BH114	BH114	BH115
Depth		0-0.2	0.9-1.0	0.15-0.2
Date Sampled		06/12/2018	06/12/2018	06/12/2018
Type of sample		Soil	Soil	Soil
Date extracted	-	27/12/2018	27/12/2018	27/12/2018
Date analysed	-	27/12/2018	27/12/2018	27/12/2018
Aroclor 1016	mg/kg	<0.1	<0.1	<0.1
Aroclor 1221	mg/kg	<0.1	<0.1	<0.1
Aroclor 1232	mg/kg	<0.1	<0.1	<0.1
Aroclor 1242	mg/kg	<0.1	<0.1	<0.1
Aroclor 1248	mg/kg	<0.1	<0.1	<0.1
Aroclor 1254	mg/kg	<0.1	<0.1	<0.1
Aroclor 1260	mg/kg	<0.1	<0.1	<0.1
Total +ve PCBs (1016-1260)	mg/kg	<0.1	<0.1	<0.1
Surrogate TCLMX	%	87	82	92

Acid Extractable metals in soil

Our Reference		207928-B-6	207928-B-18	207928-B-25	207928-B-32	207928-B-47
Your Reference	UNITS	BH101	BH102	BH103	BH104	BH105
Depth		2.4-2.5	3.4-3.5	1.9-2.0	0.4-0.5	1.4-1.5
Date Sampled		05/12/2018	05/12/2018	04/12/2018	04/12/2018	05/12/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	27/12/2018	27/12/2018	27/12/2018	27/12/2018	27/12/2018
Date analysed	-	27/12/2018	27/12/2018	27/12/2018	27/12/2018	27/12/2018
Arsenic	mg/kg	4	8	5	<4	4
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	26	45	20	8	15
Copper	mg/kg	19	13	10	12	10
Lead	mg/kg	9	20	13	14	11
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	9	5	4	5	5
Zinc	mg/kg	33	9	10	25	16

Acid Extractable metals in soil

Our Reference		207928-B-56	207928-B-57	207928-B-83	207928-B-84	207928-B-90
Your Reference	UNITS	BH107	BH107	BH111	BH112	BH113
Depth		0.4-0.5	0.9-1.0	2.4-2.5	0-0.2	0.4-0.5
Date Sampled		06/12/2018	06/12/2018	06/12/2018	06/12/2018	06/12/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	27/12/2018	27/12/2018	27/12/2018	27/12/2018	27/12/2018
Date analysed	-	27/12/2018	27/12/2018	27/12/2018	27/12/2018	27/12/2018
Arsenic	mg/kg	12	10	16	5	5
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	56	66	49	6	19
Copper	mg/kg	6	4	15	37	12
Lead	mg/kg	16	11	28	16	16
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	4	5	8	15	7
Zinc	mg/kg	7	4	20	85	29

Acid Extractable metals in soil					
Our Reference		207928-B-92	207928-B-94	207928-B-95	207928-B-113
Your Reference	UNITS	BH114	BH114	BH115	BH115 - [TRIPLICATE]
Depth		0-0.2	0.9-1.0	0.15-0.2	0.15-0.2
Date Sampled		06/12/2018	06/12/2018	06/12/2018	06/12/2018
Type of sample		Soil	Soil	Soil	Soil
Date prepared	-	27/12/2018	27/12/2018	27/12/2018	27/12/2018
Date analysed	-	27/12/2018	27/12/2018	27/12/2018	27/12/2018
Arsenic	mg/kg	6	5	<4	<4
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	8	6	2	2
Copper	mg/kg	31	24	2	1
Lead	mg/kg	19	13	2	2
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	18	23	1	<1
Zinc	mg/kg	130	90	7	7

Misc Soil - Inorg						
Our Reference	UNITS	207928-B-6	207928-B-18	207928-B-25	207928-B-32	207928-B-47
Your Reference		BH101	BH102	BH103	BH104	BH105
Depth		2.4-2.5	3.4-3.5	1.9-2.0	0.4-0.5	1.4-1.5
Date Sampled		05/12/2018	05/12/2018	04/12/2018	04/12/2018	05/12/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	27/12/2018	27/12/2018	27/12/2018	27/12/2018	27/12/2018
Date analysed	-	02/01/2019	02/01/2019	02/01/2019	02/01/2019	02/01/2019
Total Phenolics (as Phenol)	mg/kg	<5	<5	<5	<5	<5

Misc Soil - Inorg						
Our Reference	UNITS	207928-B-56	207928-B-57	207928-B-83	207928-B-84	207928-B-90
Your Reference		BH107	BH107	BH111	BH112	BH113
Depth		0.4-0.5	0.9-1.0	2.4-2.5	0-0.2	0.4-0.5
Date Sampled		06/12/2018	06/12/2018	06/12/2018	06/12/2018	06/12/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	27/12/2018	27/12/2018	27/12/2018	27/12/2018	27/12/2018
Date analysed	-	02/01/2019	02/01/2019	02/01/2019	02/01/2019	02/01/2019
Total Phenolics (as Phenol)	mg/kg	<5	<5	<5	<5	<5

Misc Soil - Inorg				
Our Reference	UNITS	207928-B-92	207928-B-94	207928-B-95
Your Reference		BH114	BH114	BH115
Depth		0-0.2	0.9-1.0	0.15-0.2
Date Sampled		06/12/2018	06/12/2018	06/12/2018
Type of sample		Soil	Soil	Soil
Date prepared	-	27/12/2018	27/12/2018	27/12/2018
Date analysed	-	02/01/2019	02/01/2019	02/01/2019
Total Phenolics (as Phenol)	mg/kg	<5	<5	<5

Moisture						
Our Reference	UNITS	207928-B-6	207928-B-18	207928-B-25	207928-B-32	207928-B-47
Your Reference		BH101	BH102	BH103	BH104	BH105
Depth		2.4-2.5	3.4-3.5	1.9-2.0	0.4-0.5	1.4-1.5
Date Sampled		05/12/2018	05/12/2018	04/12/2018	04/12/2018	05/12/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	27/12/2018	27/12/2018	27/12/2018	27/12/2018	27/12/2018
Date analysed	-	28/12/2018	28/12/2018	28/12/2018	28/12/2018	28/12/2018
Moisture	%	5.9	13	13	5.1	9.7

Moisture						
Our Reference	UNITS	207928-B-56	207928-B-57	207928-B-83	207928-B-84	207928-B-90
Your Reference		BH107	BH107	BH111	BH112	BH113
Depth		0.4-0.5	0.9-1.0	2.4-2.5	0-0.2	0.4-0.5
Date Sampled		06/12/2018	06/12/2018	06/12/2018	06/12/2018	06/12/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	27/12/2018	27/12/2018	27/12/2018	27/12/2018	27/12/2018
Date analysed	-	28/12/2018	28/12/2018	28/12/2018	28/12/2018	28/12/2018
Moisture	%	13	17	14	5.6	10

Moisture				
Our Reference	UNITS	207928-B-92	207928-B-94	207928-B-95
Your Reference		BH114	BH114	BH115
Depth		0-0.2	0.9-1.0	0.15-0.2
Date Sampled		06/12/2018	06/12/2018	06/12/2018
Type of sample		Soil	Soil	Soil
Date prepared	-	27/12/2018	27/12/2018	27/12/2018
Date analysed	-	28/12/2018	28/12/2018	28/12/2018
Moisture	%	4.3	13	4.7

Asbestos ID - soils						
Our Reference	UNITS	207928-B-6	207928-B-18	207928-B-25	207928-B-32	207928-B-47
Your Reference		BH101	BH102	BH103	BH104	BH105
Depth		2.4-2.5	3.4-3.5	1.9-2.0	0.4-0.5	1.4-1.5
Date Sampled		05/12/2018	05/12/2018	04/12/2018	04/12/2018	05/12/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date analysed	-	03/01/2019	03/01/2019	03/01/2019	03/01/2019	03/01/2019
Sample mass tested	g	Approx. 40g	Approx. 45g	Approx. 40g	Approx. 30g	Approx. 35g
Sample Description	-	Brown clayey soil & rocks	Brown clayey soil & rocks	Brown clayey soil & rocks	Brown clayey soil & rocks	Brown clayey soil & rocks
Asbestos ID in soil	-	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected
Trace Analysis	-	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected

Asbestos ID - soils

Our Reference		207928-B-56	207928-B-57	207928-B-83	207928-B-84	207928-B-90
Your Reference	UNITS	BH107	BH107	BH111	BH112	BH113
Depth		0.4-0.5	0.9-1.0	2.4-2.5	0-0.2	0.4-0.5
Date Sampled		06/12/2018	06/12/2018	06/12/2018	06/12/2018	06/12/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date analysed	-	03/01/2019	03/01/2019	03/01/2019	03/01/2019	03/01/2019
Sample mass tested	g	Approx. 50g	Approx. 30g	Approx. 110g	Approx. 40g	Approx. 45g
Sample Description	-	Brown clayey soil & rocks	Brown clayey soil & rocks	Brown clayey soil & rocks	Brown clayey soil & rocks	Brown clayey soil & rocks
Asbestos ID in soil	-	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected
Trace Analysis	-	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected

Asbestos ID - soils

Our Reference		207928-B-92	207928-B-94	207928-B-95
Your Reference	UNITS	BH114	BH114	BH115
Depth		0-0.2	0.9-1.0	0.15-0.2
Date Sampled		06/12/2018	06/12/2018	06/12/2018
Type of sample		Soil	Soil	Soil
Date analysed	-	03/01/2019	03/01/2019	03/01/2019
Sample mass tested	g	Approx. 60g	Approx. 85g	Approx. 50g
Sample Description	-	Brown clayey soil & rocks	Brown clayey soil & rocks	Brown clayey soil & rocks
Asbestos ID in soil	-	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected
Trace Analysis	-	No asbestos detected	No asbestos detected	No asbestos detected

Method ID	Methodology Summary
ASB-001	Asbestos ID - Qualitative identification of asbestos in bulk samples using Polarised Light Microscopy and Dispersion Staining Techniques including Synthetic Mineral Fibre and Organic Fibre as per Australian Standard 4964-2004.
Inorg-008	Moisture content determined by heating at 105+/-5 °C for a minimum of 12 hours.
Inorg-031	Total Phenolics by segmented flow analyser (in line distillation with colourimetric finish). Solids are extracted in a caustic media prior to analysis.
Metals-020	Determination of various metals by ICP-AES.
Metals-021	Determination of Mercury by Cold Vapour AAS.
Org-003	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis.
Org-003	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis. Note, the Total +ve TRH PQL is reflective of the lowest individual PQL and is therefore "Total +ve TRH" is simply a sum of the positive individual TRH fractions (>C10-C40).
Org-005	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC with dual ECD's.
Org-005	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC with dual ECD's. Note, the Total +ve reported DDD+DDE+DDT PQL is reflective of the lowest individual PQL and is therefore simply a sum of the positive individually report DDD+DDE+DDT.
Org-006	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC-ECD.
Org-006	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC-ECD. Note, the Total +ve PCBs PQL is reflective of the lowest individual PQL and is therefore "Total +ve PCBs" is simply a sum of the positive individual PCBs.
Org-008	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC with dual ECD's.

Method ID	Methodology Summary
Org-012	<p>Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS. Benzo(a)pyrene TEQ as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater - 2013.</p> <p>For soil results:-</p> <ol style="list-style-type: none"> 1. 'EQ PQL' values are assuming all contributing PAHs reported as <PQL are actually at the PQL. This is the most conservative approach and can give false positive TEQs given that PAHs that contribute to the TEQ calculation may not be present. 2. 'EQ zero' values are assuming all contributing PAHs reported as <PQL are zero. This is the least conservative approach and is more susceptible to false negative TEQs when PAHs that contribute to the TEQ calculation are present but below PQL. 3. 'EQ half PQL' values are assuming all contributing PAHs reported as <PQL are half the stipulated PQL. Hence a mid-point between the most and least conservative approaches above. <p>Note, the Total +ve PAHs PQL is reflective of the lowest individual PQL and is therefore "Total +ve PAHs" is simply a sum of the positive individual PAHs.</p>
Org-014	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS.
Org-016	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater.
Org-016	<p>Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater.</p> <p>Note, the Total +ve Xylene PQL is reflective of the lowest individual PQL and is therefore "Total +ve Xylenes" is simply a sum of the positive individual Xylenes.</p>

Client Reference: 94525.00, St Marys - Stage 1 Contamination Assessm

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-3	207928-B-18
Date extracted	-			27/12/2018	6	27/12/2018	27/12/2018		27/12/2018	27/12/2018
Date analysed	-			28/12/2018	6	28/12/2018	28/12/2018		28/12/2018	28/12/2018
TRH C ₆ - C ₉	mg/kg	25	Org-016	<25	6	<25	<25	0	103	97
TRH C ₆ - C ₁₀	mg/kg	25	Org-016	<25	6	<25	<25	0	103	97
Benzene	mg/kg	0.2	Org-016	<0.2	6	<0.2	<0.2	0	114	108
Toluene	mg/kg	0.5	Org-016	<0.5	6	<0.5	<0.5	0	101	95
Ethylbenzene	mg/kg	1	Org-016	<1	6	<1	<1	0	101	96
m+p-xylene	mg/kg	2	Org-016	<2	6	<2	<2	0	99	92
o-Xylene	mg/kg	1	Org-016	<1	6	<1	<1	0	102	95
naphthalene	mg/kg	1	Org-014	<1	6	<1	<1	0	[NT]	[NT]
Surrogate aaa-Trifluorotoluene	%		Org-016	97	6	92	96	4	104	95

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Soil						Duplicate		Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	95	27/12/2018	27/12/2018		[NT]	[NT]
Date analysed	-			[NT]	95	28/12/2018	28/12/2018		[NT]	[NT]
TRH C ₆ - C ₉	mg/kg	25	Org-016	[NT]	95	<25	<25	0	[NT]	[NT]
TRH C ₆ - C ₁₀	mg/kg	25	Org-016	[NT]	95	<25	<25	0	[NT]	[NT]
Benzene	mg/kg	0.2	Org-016	[NT]	95	<0.2	<0.2	0	[NT]	[NT]
Toluene	mg/kg	0.5	Org-016	[NT]	95	<0.5	<0.5	0	[NT]	[NT]
Ethylbenzene	mg/kg	1	Org-016	[NT]	95	<1	<1	0	[NT]	[NT]
m+p-xylene	mg/kg	2	Org-016	[NT]	95	<2	<2	0	[NT]	[NT]
o-Xylene	mg/kg	1	Org-016	[NT]	95	<1	<1	0	[NT]	[NT]
naphthalene	mg/kg	1	Org-014	[NT]	95	<1	<1	0	[NT]	[NT]
Surrogate aaa-Trifluorotoluene	%		Org-016	[NT]	95	93	84	10	[NT]	[NT]

Client Reference: 94525.00, St Marys - Stage 1 Contamination Assessm

QUALITY CONTROL: svTRH (C10-C40) in Soil					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-3	207928-B-18
Date extracted	-			27/12/2018	6	27/12/2018	27/12/2018		27/12/2018	27/12/2018
Date analysed	-			27/12/2018	6	27/12/2018	27/12/2018		27/12/2018	27/12/2018
TRH C ₁₀ - C ₁₄	mg/kg	50	Org-003	<50	6	<50	<50	0	109	105
TRH C ₁₅ - C ₂₈	mg/kg	100	Org-003	<100	6	<100	<100	0	104	102
TRH C ₂₉ - C ₃₆	mg/kg	100	Org-003	<100	6	<100	<100	0	98	89
TRH >C ₁₀ -C ₁₆	mg/kg	50	Org-003	<50	6	<50	<50	0	109	105
TRH >C ₁₆ -C ₃₄	mg/kg	100	Org-003	<100	6	<100	<100	0	104	102
TRH >C ₃₄ -C ₄₀	mg/kg	100	Org-003	<100	6	<100	<100	0	98	89
Surrogate o-Terphenyl	%		Org-003	91	6	91	90	1	94	89

QUALITY CONTROL: svTRH (C10-C40) in Soil					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	95	27/12/2018	27/12/2018		[NT]	[NT]
Date analysed	-			[NT]	95	28/12/2018	28/12/2018		[NT]	[NT]
TRH C ₁₀ - C ₁₄	mg/kg	50	Org-003	[NT]	95	<50	<50	0	[NT]	[NT]
TRH C ₁₅ - C ₂₈	mg/kg	100	Org-003	[NT]	95	<100	<100	0	[NT]	[NT]
TRH C ₂₉ - C ₃₆	mg/kg	100	Org-003	[NT]	95	<100	<100	0	[NT]	[NT]
TRH >C ₁₀ -C ₁₆	mg/kg	50	Org-003	[NT]	95	<50	<50	0	[NT]	[NT]
TRH >C ₁₆ -C ₃₄	mg/kg	100	Org-003	[NT]	95	<100	<100	0	[NT]	[NT]
TRH >C ₃₄ -C ₄₀	mg/kg	100	Org-003	[NT]	95	<100	<100	0	[NT]	[NT]
Surrogate o-Terphenyl	%		Org-003	[NT]	95	91	89	2	[NT]	[NT]

Client Reference: 94525.00, St Marys - Stage 1 Contamination Assessm

QUALITY CONTROL: PAHs in Soil					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-3	207928-B-18
Date extracted	-			27/12/2018	6	27/12/2018	27/12/2018		27/12/2018	27/12/2018
Date analysed	-			28/12/2018	6	28/12/2018	28/12/2018		28/12/2018	28/12/2018
Naphthalene	mg/kg	0.1	Org-012	<0.1	6	<0.1	<0.1	0	90	89
Acenaphthylene	mg/kg	0.1	Org-012	<0.1	6	<0.1	<0.1	0	[NT]	[NT]
Acenaphthene	mg/kg	0.1	Org-012	<0.1	6	<0.1	<0.1	0	[NT]	[NT]
Fluorene	mg/kg	0.1	Org-012	<0.1	6	<0.1	<0.1	0	87	87
Phenanthrene	mg/kg	0.1	Org-012	<0.1	6	<0.1	<0.1	0	88	89
Anthracene	mg/kg	0.1	Org-012	<0.1	6	<0.1	<0.1	0	[NT]	[NT]
Fluoranthene	mg/kg	0.1	Org-012	<0.1	6	<0.1	<0.1	0	91	91
Pyrene	mg/kg	0.1	Org-012	<0.1	6	<0.1	<0.1	0	88	90
Benzo(a)anthracene	mg/kg	0.1	Org-012	<0.1	6	<0.1	<0.1	0	[NT]	[NT]
Chrysene	mg/kg	0.1	Org-012	<0.1	6	<0.1	<0.1	0	102	102
Benzo(b,j+k)fluoranthene	mg/kg	0.2	Org-012	<0.2	6	<0.2	<0.2	0	[NT]	[NT]
Benzo(a)pyrene	mg/kg	0.05	Org-012	<0.05	6	<0.05	<0.05	0	100	98
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-012	<0.1	6	<0.1	<0.1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-012	<0.1	6	<0.1	<0.1	0	[NT]	[NT]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-012	<0.1	6	<0.1	<0.1	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-012	94	6	87	100	14	88	89

QUALITY CONTROL: PAHs in Soil					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	95	27/12/2018	27/12/2018		[NT]	[NT]
Date analysed	-			[NT]	95	28/12/2018	28/12/2018		[NT]	[NT]
Naphthalene	mg/kg	0.1	Org-012	[NT]	95	<0.1	<0.1	0	[NT]	[NT]
Acenaphthylene	mg/kg	0.1	Org-012	[NT]	95	<0.1	<0.1	0	[NT]	[NT]
Acenaphthene	mg/kg	0.1	Org-012	[NT]	95	<0.1	<0.1	0	[NT]	[NT]
Fluorene	mg/kg	0.1	Org-012	[NT]	95	<0.1	<0.1	0	[NT]	[NT]
Phenanthrene	mg/kg	0.1	Org-012	[NT]	95	<0.1	<0.1	0	[NT]	[NT]
Anthracene	mg/kg	0.1	Org-012	[NT]	95	<0.1	<0.1	0	[NT]	[NT]
Fluoranthene	mg/kg	0.1	Org-012	[NT]	95	<0.1	<0.1	0	[NT]	[NT]
Pyrene	mg/kg	0.1	Org-012	[NT]	95	<0.1	<0.1	0	[NT]	[NT]
Benzo(a)anthracene	mg/kg	0.1	Org-012	[NT]	95	<0.1	<0.1	0	[NT]	[NT]
Chrysene	mg/kg	0.1	Org-012	[NT]	95	<0.1	<0.1	0	[NT]	[NT]
Benzo(b,j+k)fluoranthene	mg/kg	0.2	Org-012	[NT]	95	<0.2	<0.2	0	[NT]	[NT]
Benzo(a)pyrene	mg/kg	0.05	Org-012	[NT]	95	<0.05	<0.05	0	[NT]	[NT]
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-012	[NT]	95	<0.1	<0.1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-012	[NT]	95	<0.1	<0.1	0	[NT]	[NT]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-012	[NT]	95	<0.1	<0.1	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-012	[NT]	95	99	95	4	[NT]	[NT]

QUALITY CONTROL: Organochlorine Pesticides in soil					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-3	207928-B-18
Date extracted	-			27/12/2018	6	27/12/2018	27/12/2018		27/12/2018	27/12/2018
Date analysed	-			27/12/2018	6	27/12/2018	27/12/2018		27/12/2018	27/12/2018
HCB	mg/kg	0.1	Org-005	<0.1	6	<0.1	<0.1	0	[NT]	[NT]
alpha-BHC	mg/kg	0.1	Org-005	<0.1	6	<0.1	<0.1	0	110	112
gamma-BHC	mg/kg	0.1	Org-005	<0.1	6	<0.1	<0.1	0	[NT]	[NT]
beta-BHC	mg/kg	0.1	Org-005	<0.1	6	<0.1	<0.1	0	89	90
Heptachlor	mg/kg	0.1	Org-005	<0.1	6	<0.1	<0.1	0	92	93
delta-BHC	mg/kg	0.1	Org-005	<0.1	6	<0.1	<0.1	0	[NT]	[NT]
Aldrin	mg/kg	0.1	Org-005	<0.1	6	<0.1	<0.1	0	82	82
Heptachlor Epoxide	mg/kg	0.1	Org-005	<0.1	6	<0.1	<0.1	0	85	86
gamma-Chlordane	mg/kg	0.1	Org-005	<0.1	6	<0.1	<0.1	0	[NT]	[NT]
alpha-chlordane	mg/kg	0.1	Org-005	<0.1	6	<0.1	<0.1	0	[NT]	[NT]
Endosulfan I	mg/kg	0.1	Org-005	<0.1	6	<0.1	<0.1	0	[NT]	[NT]
pp-DDE	mg/kg	0.1	Org-005	<0.1	6	<0.1	<0.1	0	92	93
Dieldrin	mg/kg	0.1	Org-005	<0.1	6	<0.1	<0.1	0	97	99
Endrin	mg/kg	0.1	Org-005	<0.1	6	<0.1	<0.1	0	86	88
pp-DDD	mg/kg	0.1	Org-005	<0.1	6	<0.1	<0.1	0	81	82
Endosulfan II	mg/kg	0.1	Org-005	<0.1	6	<0.1	<0.1	0	[NT]	[NT]
pp-DDT	mg/kg	0.1	Org-005	<0.1	6	<0.1	<0.1	0	[NT]	[NT]
Endrin Aldehyde	mg/kg	0.1	Org-005	<0.1	6	<0.1	<0.1	0	[NT]	[NT]
Endosulfan Sulphate	mg/kg	0.1	Org-005	<0.1	6	<0.1	<0.1	0	97	99
Methoxychlor	mg/kg	0.1	Org-005	<0.1	6	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCMX	%		Org-005	84	6	85	87	2	97	97

QUALITY CONTROL: Organochlorine Pesticides in soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	95	27/12/2018	27/12/2018		[NT]	[NT]
Date analysed	-			[NT]	95	27/12/2018	27/12/2018		[NT]	[NT]
HCB	mg/kg	0.1	Org-005	[NT]	95	<0.1	<0.1	0	[NT]	[NT]
alpha-BHC	mg/kg	0.1	Org-005	[NT]	95	<0.1	<0.1	0	[NT]	[NT]
gamma-BHC	mg/kg	0.1	Org-005	[NT]	95	<0.1	<0.1	0	[NT]	[NT]
beta-BHC	mg/kg	0.1	Org-005	[NT]	95	<0.1	<0.1	0	[NT]	[NT]
Heptachlor	mg/kg	0.1	Org-005	[NT]	95	<0.1	<0.1	0	[NT]	[NT]
delta-BHC	mg/kg	0.1	Org-005	[NT]	95	<0.1	<0.1	0	[NT]	[NT]
Aldrin	mg/kg	0.1	Org-005	[NT]	95	<0.1	<0.1	0	[NT]	[NT]
Heptachlor Epoxide	mg/kg	0.1	Org-005	[NT]	95	<0.1	<0.1	0	[NT]	[NT]
gamma-Chlordane	mg/kg	0.1	Org-005	[NT]	95	<0.1	<0.1	0	[NT]	[NT]
alpha-chlordane	mg/kg	0.1	Org-005	[NT]	95	<0.1	<0.1	0	[NT]	[NT]
Endosulfan I	mg/kg	0.1	Org-005	[NT]	95	<0.1	<0.1	0	[NT]	[NT]
pp-DDE	mg/kg	0.1	Org-005	[NT]	95	<0.1	<0.1	0	[NT]	[NT]
Dieldrin	mg/kg	0.1	Org-005	[NT]	95	<0.1	<0.1	0	[NT]	[NT]
Endrin	mg/kg	0.1	Org-005	[NT]	95	<0.1	<0.1	0	[NT]	[NT]
pp-DDD	mg/kg	0.1	Org-005	[NT]	95	<0.1	<0.1	0	[NT]	[NT]
Endosulfan II	mg/kg	0.1	Org-005	[NT]	95	<0.1	<0.1	0	[NT]	[NT]
pp-DDT	mg/kg	0.1	Org-005	[NT]	95	<0.1	<0.1	0	[NT]	[NT]
Endrin Aldehyde	mg/kg	0.1	Org-005	[NT]	95	<0.1	<0.1	0	[NT]	[NT]
Endosulfan Sulphate	mg/kg	0.1	Org-005	[NT]	95	<0.1	<0.1	0	[NT]	[NT]
Methoxychlor	mg/kg	0.1	Org-005	[NT]	95	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCMX	%		Org-005	[NT]	95	92	88	4	[NT]	[NT]

QUALITY CONTROL: Organophosphorus Pesticides					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-3	207928-B-18
Date extracted	-			27/12/2018	6	27/12/2018	27/12/2018		27/12/2018	27/12/2018
Date analysed	-			27/12/2018	6	27/12/2018	27/12/2018		27/12/2018	27/12/2018
Azinphos-methyl (Guthion)	mg/kg	0.1	Org-008	<0.1	6	<0.1	<0.1	0	[NT]	[NT]
Bromophos-ethyl	mg/kg	0.1	Org-008	<0.1	6	<0.1	<0.1	0	[NT]	[NT]
Chlorpyrifos	mg/kg	0.1	Org-008	<0.1	6	<0.1	<0.1	0	85	85
Chlorpyrifos-methyl	mg/kg	0.1	Org-008	<0.1	6	<0.1	<0.1	0	[NT]	[NT]
Diazinon	mg/kg	0.1	Org-008	<0.1	6	<0.1	<0.1	0	[NT]	[NT]
Dichlorvos	mg/kg	0.1	Org-008	<0.1	6	<0.1	<0.1	0	99	101
Dimethoate	mg/kg	0.1	Org-008	<0.1	6	<0.1	<0.1	0	[NT]	[NT]
Ethion	mg/kg	0.1	Org-008	<0.1	6	<0.1	<0.1	0	95	88
Fenitrothion	mg/kg	0.1	Org-008	<0.1	6	<0.1	<0.1	0	98	99
Malathion	mg/kg	0.1	Org-008	<0.1	6	<0.1	<0.1	0	88	84
Parathion	mg/kg	0.1	Org-008	<0.1	6	<0.1	<0.1	0	91	91
Ronnel	mg/kg	0.1	Org-008	<0.1	6	<0.1	<0.1	0	94	93
Surrogate TCMX	%		Org-008	84	6	85	87	2	85	84

QUALITY CONTROL: Organophosphorus Pesticides					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	95	27/12/2018	27/12/2018		[NT]	[NT]
Date analysed	-			[NT]	95	27/12/2018	27/12/2018		[NT]	[NT]
Azinphos-methyl (Guthion)	mg/kg	0.1	Org-008	[NT]	95	<0.1	<0.1	0	[NT]	[NT]
Bromophos-ethyl	mg/kg	0.1	Org-008	[NT]	95	<0.1	<0.1	0	[NT]	[NT]
Chlorpyrifos	mg/kg	0.1	Org-008	[NT]	95	<0.1	<0.1	0	[NT]	[NT]
Chlorpyrifos-methyl	mg/kg	0.1	Org-008	[NT]	95	<0.1	<0.1	0	[NT]	[NT]
Diazinon	mg/kg	0.1	Org-008	[NT]	95	<0.1	<0.1	0	[NT]	[NT]
Dichlorvos	mg/kg	0.1	Org-008	[NT]	95	<0.1	<0.1	0	[NT]	[NT]
Dimethoate	mg/kg	0.1	Org-008	[NT]	95	<0.1	<0.1	0	[NT]	[NT]
Ethion	mg/kg	0.1	Org-008	[NT]	95	<0.1	<0.1	0	[NT]	[NT]
Fenitrothion	mg/kg	0.1	Org-008	[NT]	95	<0.1	<0.1	0	[NT]	[NT]
Malathion	mg/kg	0.1	Org-008	[NT]	95	<0.1	<0.1	0	[NT]	[NT]
Parathion	mg/kg	0.1	Org-008	[NT]	95	<0.1	<0.1	0	[NT]	[NT]
Ronnel	mg/kg	0.1	Org-008	[NT]	95	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCMX	%		Org-008	[NT]	95	92	88	4	[NT]	[NT]

Client Reference: 94525.00, St Marys - Stage 1 Contamination Assessm

QUALITY CONTROL: PCBs in Soil					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-3	207928-B-18
Date extracted	-			27/12/2018	6	27/12/2018	27/12/2018		27/12/2018	27/12/2018
Date analysed	-			27/12/2018	6	27/12/2018	27/12/2018		27/12/2018	27/12/2018
Aroclor 1016	mg/kg	0.1	Org-006	<0.1	6	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1221	mg/kg	0.1	Org-006	<0.1	6	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1232	mg/kg	0.1	Org-006	<0.1	6	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1242	mg/kg	0.1	Org-006	<0.1	6	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1248	mg/kg	0.1	Org-006	<0.1	6	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1254	mg/kg	0.1	Org-006	<0.1	6	<0.1	<0.1	0	100	101
Aroclor 1260	mg/kg	0.1	Org-006	<0.1	6	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCLMX	%		Org-006	84	6	85	87	2	85	84

QUALITY CONTROL: PCBs in Soil					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	95	27/12/2018	27/12/2018		[NT]	[NT]
Date analysed	-			[NT]	95	27/12/2018	27/12/2018		[NT]	[NT]
Aroclor 1016	mg/kg	0.1	Org-006	[NT]	95	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1221	mg/kg	0.1	Org-006	[NT]	95	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1232	mg/kg	0.1	Org-006	[NT]	95	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1242	mg/kg	0.1	Org-006	[NT]	95	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1248	mg/kg	0.1	Org-006	[NT]	95	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1254	mg/kg	0.1	Org-006	[NT]	95	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1260	mg/kg	0.1	Org-006	[NT]	95	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCLMX	%		Org-006	[NT]	95	92	88	4	[NT]	[NT]

Client Reference: 94525.00, St Marys - Stage 1 Contamination Assessm

QUALITY CONTROL: Acid Extractable metals in soil						Duplicate		Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-3	207928-B-18
Date prepared	-			27/12/2018	6	27/12/2018	27/12/2018		27/12/2018	27/12/2018
Date analysed	-			27/12/2018	6	27/12/2018	27/12/2018		27/12/2018	27/12/2018
Arsenic	mg/kg	4	Metals-020	<4	6	4	<4	0	112	76
Cadmium	mg/kg	0.4	Metals-020	<0.4	6	<0.4	<0.4	0	102	71
Chromium	mg/kg	1	Metals-020	<1	6	26	41	45	108	85
Copper	mg/kg	1	Metals-020	<1	6	19	20	5	106	86
Lead	mg/kg	1	Metals-020	<1	6	9	11	20	105	71
Mercury	mg/kg	0.1	Metals-021	<0.1	6	<0.1	<0.1	0	94	91
Nickel	mg/kg	1	Metals-020	<1	6	9	10	11	101	71
Zinc	mg/kg	1	Metals-020	<1	6	33	38	14	102	79

QUALITY CONTROL: Acid Extractable metals in soil						Duplicate		Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date prepared	-			[NT]	95	27/12/2018	27/12/2018		[NT]	[NT]
Date analysed	-			[NT]	95	27/12/2018	27/12/2018		[NT]	[NT]
Arsenic	mg/kg	4	Metals-020	[NT]	95	<4	<4	0	[NT]	[NT]
Cadmium	mg/kg	0.4	Metals-020	[NT]	95	<0.4	<0.4	0	[NT]	[NT]
Chromium	mg/kg	1	Metals-020	[NT]	95	2	2	0	[NT]	[NT]
Copper	mg/kg	1	Metals-020	[NT]	95	2	<1	67	[NT]	[NT]
Lead	mg/kg	1	Metals-020	[NT]	95	2	<1	67	[NT]	[NT]
Mercury	mg/kg	0.1	Metals-021	[NT]	95	<0.1	<0.1	0	[NT]	[NT]
Nickel	mg/kg	1	Metals-020	[NT]	95	1	<1	0	[NT]	[NT]
Zinc	mg/kg	1	Metals-020	[NT]	95	7	4	55	[NT]	[NT]

Client Reference: 94525.00, St Marys - Stage 1 Contamination Assessm

QUALITY CONTROL: Misc Soil - Inorg					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-3	207928-B-18
Date prepared	-			02/01/2019	6	27/12/2018	27/12/2018		02/01/2019	02/01/2019
Date analysed	-			02/01/2019	6	02/01/2019	02/01/2019		02/01/2019	02/01/2019
Total Phenolics (as Phenol)	mg/kg	5	Inorg-031	<5	6	<5	<5	0	102	103

QUALITY CONTROL: Misc Soil - Inorg					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date prepared	-			[NT]	95	27/12/2018	27/12/2018		[NT]	[NT]
Date analysed	-			[NT]	95	02/01/2019	02/01/2019		[NT]	[NT]
Total Phenolics (as Phenol)	mg/kg	5	Inorg-031	[NT]	95	<5	<5	0	[NT]	[NT]

Result Definitions

NT	Not tested
NA	Test not required
INS	Insufficient sample for this test
PQL	Practical Quantitation Limit
<	Less than
>	Greater than
RPD	Relative Percent Difference
LCS	Laboratory Control Sample
NS	Not specified
NEPM	National Environmental Protection Measure
NR	Not Reported

Quality Control Definitions

Blank	This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples.
Duplicate	This is the complete duplicate analysis of a sample from the process batch. If possible, the sample selected should be one where the analyte concentration is easily measurable.
Matrix Spike	A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.
LCS (Laboratory Control Sample)	This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample.
Surrogate Spike	Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.
Australian Drinking Water Guidelines recommend that Thermotolerant Coliform, Faecal Enterococci, & E.Coli levels are less than 1cfu/100mL. The recommended maximums are taken from "Australian Drinking Water Guidelines", published by NHMRC & ARMC 2011.	

Laboratory Acceptance Criteria

Duplicate sample and matrix spike recoveries may not be reported on smaller jobs, however, were analysed at a frequency to meet or exceed NEPM requirements. All samples are tested in batches of 20. The duplicate sample RPD and matrix spike recoveries for the batch were within the laboratory acceptance criteria.

Filters, swabs, wipes, tubes and badges will not have duplicate data as the whole sample is generally extracted during sample extraction.

Spikes for Physical and Aggregate Tests are not applicable.

For VOCs in water samples, three vials are required for duplicate or spike analysis.

Duplicates: >10xPQL - RPD acceptance criteria will vary depending on the analytes and the analytical techniques but is typically in the range 20%-50% – see ELN-P05 QA/QC tables for details; <10xPQL - RPD are higher as the results approach PQL and the estimated measurement uncertainty will statistically increase.

Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals; 60-140% for organics (+/-50% surrogates) and 10-140% for labile SVOCs (including labile surrogates), ultra trace organics and speciated phenols is acceptable.

In circumstances where no duplicate and/or sample spike has been reported at 1 in 10 and/or 1 in 20 samples respectively, the sample volume submitted was insufficient in order to satisfy laboratory QA/QC protocols.

When samples are received where certain analytes are outside of recommended technical holding times (THTs), the analysis has proceeded. Where analytes are on the verge of breaching THTs, every effort will be made to analyse within the THT or as soon as practicable.

Where sampling dates are not provided, Envirolab are not in a position to comment on the validity of the analysis where recommended technical holding times may have been breached.

Measurement Uncertainty estimates are available for most tests upon request.

Report Comments

Acid Extractable Metals in Soil: The laboratory RPD acceptance criteria has been exceeded for 207928-B-95 for Zn. Therefore a triplicate result has been issued as laboratory sample number 207928-B-113.

organics analysed outside of holding times

Asbestos: Excessive sample volumes were provided for asbestos analysis. A portion of the supplied samples were sub-sampled according to Envirolab procedures.

We cannot guarantee that these sub-samples are indicative of the entire sample. Envirolab recommends supplying 40-50g (50mL) of sample in its own container as per AS4964-2004.

Note: Samples requested for asbestos testing were sub-sampled from bags provided by the client.

207936-A

CHAIN OF CUSTODY

Project Name: St Marys -Stage 1 Contamination Assessment		To: EnviroLab Services	
Project No: 94525.00		12 Ashley Street, Chatswood NSW 2067	
Project Mgr: Gavin Boyd / Rod Gray		Attn: Tania Notaras	
Email: Gavin.Boyd@douglaspartners.com.au; Rod.Gray@douglaspartners.com.au; Jeremie.Young@douglaspartners.com.au; Xashu.shrestha@douglaspartners.com.au		Phone: (02) 9910 6200 Fax: (02) 9910 6201	
Date Required: Standard TAT DUE: 8/1/19		Email: tnotaras@envirolabservices.com.au	

Sample ID	Lab ID	Date Sampled	Sample Type		Container Type		Combo 8A	VOCs	Oil & Grease	Hardness	Ammonia, Nitrogen & Phosphate	Metals (Al, Br, Fe, Mn)	On Hold	Notes/preservation
			S - soil W - water	G - glass P - plastic										
BH101	1	10/12/18	W	G & P	X	X	X	X	X	X	X	X		
BH102	2	10/12/18	W	G & P	X	X	X	X	X	X	X	X		
BH103	3	10/12/18	W	G & P	X	X	X	X	X	X	X	X		
BH104	4	10/12/18	W	G & P	X	X	X	X	X	X	X	X		
BH105	5	10/12/18	W	G & P	X	X	X	X	X	X	X	X		
WS1	6	10/12/18	W	G & P										
WS2	7	10/12/18	W	G & P										
SS1	8	07/12/18	S	G & P										
SS2	9	07/12/18	S	G & P										
SS3	10	07/12/18	S	G & P										
SS4	11	07/12/18	S	G & P										
SS5	12	07/12/18	S	G & P										
DS1	13	07/12/18	S	G & P										
DS2	14	07/12/18	S	G & P										

Lab Report No: Douglas Partners Pty Ltd **Address** 43 Hobart Street Riverstone NSW 2765 **Phone:** (02) 4647 0075 **Fax:** (02) 4646 1886

Send Results to: JYYS **Reinquished by:** JYYS **Date & Time:** 12/12/2018 **Received by:** ELS. TNGUYEN **12/12/18 16:51**

Signed: *[Signature]* **Date & Time:** 12/12/2018 **Received by:** ELS. TNGUYEN **12/12/18 16:51**

SAMPLE RECEIPT ADVICE

Client Details

Client	Douglas Partners Pty Ltd (Riverstone)
Attention	Gavin Boyd

Sample Login Details

Your reference	94525.00, St Marys - Stage 1 Contam. Assessment
Envirolab Reference	207936-A
Date Sample Received	12/12/2018
Date Instructions Received	21/12/2018
Date Results Expected to be Reported	08/01/2019

Sample Condition

Samples received in appropriate condition for analysis	YES
No. of Samples Provided	7 Water, 7 Soil
Turnaround Time Requested	Standard
Temperature on Receipt (°C)	16.2
Cooling Method	Ice Pack
Sampling Date Provided	YES

Comments

Nil

Please direct any queries to:

Aileen Hie	Jacinta Hurst
Phone: 02 9910 6200	Phone: 02 9910 6200
Fax: 02 9910 6201	Fax: 02 9910 6201
Email: ahie@envirolab.com.au	Email: jhurst@envirolab.com.au

Analysis Underway, details on the following page:



Envirolab Services Pty Ltd

ABN 37 112 535 645

12 Ashley St Chatswood NSW 2067

ph 02 9910 6200 fax 02 9910 6201

customerservice@envirolab.com.au

www.envirolab.com.au

Sample ID	VOCs in water	vTRH(C6-C10)/BTEXN in Water	svTRH (C10-C40) in Water	PAHsin Water	OCP in water	OP Pesticides in water	PCBs in Water	Total Phenolicsin Water	HM in water - dissolved	Ammonia as N in water	Total Nitrogen in water	Phosphate as P in water	Oil & Grease (LLE)	vTRH(C6-C10)/BTEXN in Soil	svTRH (C10-C40) in Soil	PAHs in Soil	Organochlorine Pesticidesin soil	Organophosphorus Pesticides	PCBs in Soil	Acid Extractable metalsin soil	Misc Soil - Inorg	On Hold
BH101																						✓
BH102																						✓
BH103																						✓
BH104																						✓
BH105																						✓
WS1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓									
WS2	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓									
SS1																						✓
SS2																						✓
SS3																						✓
SS4																						✓
SS5																						✓
DS1														✓	✓	✓	✓	✓	✓	✓	✓	
DS2														✓	✓	✓	✓	✓	✓	✓	✓	

The '✓' indicates the testing you have requested. **THIS IS NOT A REPORT OF THE RESULTS.**

Additional Info

Sample storage - Waters are routinely disposed of approximately 1 month and soils approximately 2 months from receipt.

Requests for longer term sample storage must be received in writing.

CERTIFICATE OF ANALYSIS 207936-A

Client Details

Client	Douglas Partners Pty Ltd (Riverstone)
Attention	Gavin Boyd
Address	43 Hobart St, Riverstone, NSW, 2765

Sample Details

Your Reference	<u>94525.00, St Marys - Stage 1 Contam. Assessment</u>
Number of Samples	7 Water, 7 Soil
Date samples received	12/12/2018
Date completed instructions received	21/12/2018

Analysis Details

Please refer to the following pages for results, methodology summary and quality control data.
 Samples were analysed as received from the client. Results relate specifically to the samples as received.
 Results are reported on a dry weight basis for solids and on an as received basis for other matrices.
Please refer to the last page of this report for any comments relating to the results.

Report Details

Date results requested by	08/01/2019
Date of Issue	08/01/2019
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VOCs in water			
Our Reference		207936-A-6	207936-A-7
Your Reference	UNITS	WS1	WS2
Date Sampled		10/12/2018	10/12/2018
Type of sample		Water	Water
Date extracted	-	28/12/2018	28/12/2018
Date analysed	-	02/01/2019	02/01/2019
Dichlorodifluoromethane	µg/L	<10	<10
Chloromethane	µg/L	<10	<10
Vinyl Chloride	µg/L	<10	<10
Bromomethane	µg/L	<10	<10
Chloroethane	µg/L	<10	<10
Trichlorofluoromethane	µg/L	<10	<10
1,1-Dichloroethene	µg/L	<1	<1
Trans-1,2-dichloroethene	µg/L	<1	<1
1,1-dichloroethane	µg/L	<1	<1
Cis-1,2-dichloroethene	µg/L	<1	<1
Bromochloromethane	µg/L	<1	<1
Chloroform	µg/L	<1	2
2,2-dichloropropane	µg/L	<1	<1
1,2-dichloroethane	µg/L	<1	<1
1,1,1-trichloroethane	µg/L	<1	<1
1,1-dichloropropene	µg/L	<1	<1
Cyclohexane	µg/L	<1	<1
Carbon tetrachloride	µg/L	<1	<1
Benzene	µg/L	<1	<1
Dibromomethane	µg/L	<1	<1
1,2-dichloropropane	µg/L	<1	<1
Trichloroethene	µg/L	<1	<1
Bromodichloromethane	µg/L	<1	<1
trans-1,3-dichloropropene	µg/L	<1	<1
cis-1,3-dichloropropene	µg/L	<1	<1
1,1,2-trichloroethane	µg/L	<1	<1
Toluene	µg/L	<1	<1
1,3-dichloropropane	µg/L	<1	<1
Dibromochloromethane	µg/L	<1	<1
1,2-dibromoethane	µg/L	<1	<1
Tetrachloroethene	µg/L	<1	<1
1,1,1,2-tetrachloroethane	µg/L	<1	<1
Chlorobenzene	µg/L	<1	<1
Ethylbenzene	µg/L	<1	<1
Bromoform	µg/L	<1	<1

VOCs in water			
Our Reference		207936-A-6	207936-A-7
Your Reference	UNITS	WS1	WS2
Date Sampled		10/12/2018	10/12/2018
Type of sample		Water	Water
m+p-xylene	µg/L	<2	<2
Styrene	µg/L	<1	<1
1,1,2,2-tetrachloroethane	µg/L	<1	<1
o-xylene	µg/L	<1	<1
1,2,3-trichloropropane	µg/L	<1	<1
Isopropylbenzene	µg/L	<1	<1
Bromobenzene	µg/L	<1	<1
n-propyl benzene	µg/L	<1	<1
2-chlorotoluene	µg/L	<1	<1
4-chlorotoluene	µg/L	<1	<1
1,3,5-trimethyl benzene	µg/L	<1	<1
Tert-butyl benzene	µg/L	<1	<1
1,2,4-trimethyl benzene	µg/L	<1	<1
1,3-dichlorobenzene	µg/L	<1	<1
Sec-butyl benzene	µg/L	<1	<1
1,4-dichlorobenzene	µg/L	<1	<1
4-isopropyl toluene	µg/L	<1	<1
1,2-dichlorobenzene	µg/L	<1	<1
n-butyl benzene	µg/L	<1	<1
1,2-dibromo-3-chloropropane	µg/L	<1	<1
1,2,4-trichlorobenzene	µg/L	<1	<1
Hexachlorobutadiene	µg/L	<1	<1
1,2,3-trichlorobenzene	µg/L	<1	<1
Surrogate Dibromofluoromethane	%	113	113
Surrogate toluene-d8	%	99	99
Surrogate 4-BFB	%	102	102

vTRH(C6-C10)/BTEXN in Water			
Our Reference	UNITS	207936-A-6	207936-A-7
Your Reference		WS1	WS2
Date Sampled		10/12/2018	10/12/2018
Type of sample		Water	Water
Date extracted	-	28/12/2018	28/12/2018
Date analysed	-	02/01/2019	02/01/2019
TRH C ₆ - C ₉	µg/L	<10	<10
TRH C ₆ - C ₁₀	µg/L	<10	<10
TRH C ₆ - C ₁₀ less BTEX (F1)	µg/L	<10	<10
Benzene	µg/L	<1	<1
Toluene	µg/L	<1	<1
Ethylbenzene	µg/L	<1	<1
m+p-xylene	µg/L	<2	<2
o-xylene	µg/L	<1	<1
Naphthalene	µg/L	<1	<1
Surrogate Dibromofluoromethane	%	113	113
Surrogate toluene-d8	%	99	99
Surrogate 4-BFB	%	102	102

svTRH (C10-C40) in Water			
Our Reference		207936-A-6	207936-A-7
Your Reference	UNITS	WS1	WS2
Date Sampled		10/12/2018	10/12/2018
Type of sample		Water	Water
Date extracted	-	28/12/2018	28/12/2018
Date analysed	-	29/12/2018	29/12/2018
TRH C ₁₀ - C ₁₄	µg/L	<50	<50
TRH C ₁₅ - C ₂₈	µg/L	<100	<100
TRH C ₂₉ - C ₃₆	µg/L	<100	<100
TRH >C ₁₀ - C ₁₆	µg/L	<50	<50
TRH >C ₁₀ - C ₁₆ less Naphthalene (F2)	µg/L	<50	<50
TRH >C ₁₆ - C ₃₄	µg/L	<100	<100
TRH >C ₃₄ - C ₄₀	µg/L	<100	<100
Surrogate o-Terphenyl	%	100	96

PAHs in Water			
Our Reference		207936-A-6	207936-A-7
Your Reference	UNITS	WS1	WS2
Date Sampled		10/12/2018	10/12/2018
Type of sample		Water	Water
Date extracted	-	28/12/2018	28/12/2018
Date analysed	-	28/12/2018	28/12/2018
Naphthalene	µg/L	<1	<1
Acenaphthylene	µg/L	<1	<1
Acenaphthene	µg/L	<1	<1
Fluorene	µg/L	<1	<1
Phenanthrene	µg/L	<1	<1
Anthracene	µg/L	<1	<1
Fluoranthene	µg/L	<1	<1
Pyrene	µg/L	<1	<1
Benzo(a)anthracene	µg/L	<1	<1
Chrysene	µg/L	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	<2	<2
Benzo(a)pyrene	µg/L	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1	<1
Dibenzo(a,h)anthracene	µg/L	<1	<1
Benzo(g,h,i)perylene	µg/L	<1	<1
Benzo(a)pyrene TEQ	µg/L	<5	<5
Total +ve PAH's	µg/L	NIL (+)VE	NIL (+)VE
Surrogate <i>p</i> -Terphenyl-d14	%	90	102

OCP in water			
Our Reference		207936-A-6	207936-A-7
Your Reference	UNITS	WS1	WS2
Date Sampled		10/12/2018	10/12/2018
Type of sample		Water	Water
Date extracted	-	28/12/2018	28/12/2018
Date analysed	-	02/01/2019	02/01/2019
HCB	µg/L	<0.2	<0.2
alpha-BHC	µg/L	<0.2	<0.2
gamma-BHC	µg/L	<0.2	<0.2
beta-BHC	µg/L	<0.2	<0.2
Heptachlor	µg/L	<0.2	<0.2
delta-BHC	µg/L	<0.2	<0.2
Aldrin	µg/L	<0.2	<0.2
Heptachlor Epoxide	µg/L	<0.2	<0.2
gamma-Chlordane	µg/L	<0.2	<0.2
alpha-Chlordane	µg/L	<0.2	<0.2
Endosulfan I	µg/L	<0.2	<0.2
pp-DDE	µg/L	<0.2	<0.2
Dieldrin	µg/L	<0.2	<0.2
Endrin	µg/L	<0.2	<0.2
pp-DDD	µg/L	<0.2	<0.2
Endosulfan II	µg/L	<0.2	<0.2
pp-DDT	µg/L	<0.2	<0.2
Endrin Aldehyde	µg/L	<0.2	<0.2
Endosulfan Sulphate	µg/L	<0.2	<0.2
Methoxychlor	µg/L	<0.2	<0.2
Surrogate TCMX	%	125	128

OP Pesticides in water			
Our Reference		207936-A-6	207936-A-7
Your Reference	UNITS	WS1	WS2
Date Sampled		10/12/2018	10/12/2018
Type of sample		Water	Water
Date extracted	-	28/12/2018	28/12/2018
Date analysed	-	02/01/2019	02/01/2019
Azinphos-methyl (Guthion)	µg/L	<0.2	<0.2
Bromophos ethyl	µg/L	<0.2	<0.2
Chlorpyrifos	µg/L	<0.2	<0.2
Chlorpyrifos-methyl	µg/L	<0.2	<0.2
Diazinon	µg/L	<0.2	<0.2
Dichlorvos	µg/L	<0.2	<0.2
Dimethoate	µg/L	<0.2	<0.2
Ethion	µg/L	<0.2	<0.2
Fenitrothion	µg/L	<0.2	<0.2
Malathion	µg/L	<0.2	<0.2
Parathion	µg/L	<0.2	<0.2
Ronnel	µg/L	<0.2	<0.2
Surrogate TCMX	%	125	128

PCBs in Water			
Our Reference		207936-A-6	207936-A-7
Your Reference	UNITS	WS1	WS2
Date Sampled		10/12/2018	10/12/2018
Type of sample		Water	Water
Date extracted	-	28/12/2018	28/12/2018
Date analysed	-	02/01/2019	02/01/2019
Aroclor 1016	µg/L	<2	<2
Aroclor 1221	µg/L	<2	<2
Aroclor 1232	µg/L	<2	<2
Aroclor 1242	µg/L	<2	<2
Aroclor 1248	µg/L	<2	<2
Aroclor 1254	µg/L	<2	<2
Aroclor 1260	µg/L	<2	<2
Surrogate TCLMX	%	125	128

Total Phenolics in Water			
Our Reference		207936-A-6	207936-A-7
Your Reference	UNITS	WS1	WS2
Date Sampled		10/12/2018	10/12/2018
Type of sample		Water	Water
Date extracted	-	02/01/2019	02/01/2019
Date analysed	-	02/01/2019	02/01/2019
Total Phenolics (as Phenol)	mg/L	<0.05	<0.05

HM in water - dissolved			
Our Reference		207936-A-6	207936-A-7
Your Reference	UNITS	WS1	WS2
Date Sampled		10/12/2018	10/12/2018
Type of sample		Water	Water
Date prepared	-	28/12/2018	28/12/2018
Date analysed	-	28/12/2018	28/12/2018
Arsenic-Dissolved	µg/L	1	1
Cadmium-Dissolved	µg/L	<0.1	<0.1
Chromium-Dissolved	µg/L	<1	<1
Copper-Dissolved	µg/L	<1	2
Lead-Dissolved	µg/L	<1	<1
Mercury-Dissolved	µg/L	<0.05	<0.05
Nickel-Dissolved	µg/L	<1	3
Zinc-Dissolved	µg/L	5	5

Miscellaneous Inorganics			
Our Reference		207936-A-6	207936-A-7
Your Reference	UNITS	WS1	WS2
Date Sampled		10/12/2018	10/12/2018
Type of sample		Water	Water
Date prepared	-	02/01/2019	02/01/2019
Date analysed	-	02/01/2019	02/01/2019
Ammonia as N in water	mg/L	<0.005	0.041
Total Nitrogen in water	mg/L	0.6	1.4
Phosphate as P in water	mg/L	0.006	<0.005
Oil & Grease (LLE)	mg/L	<5	<5

vTRH(C6-C10)/BTEXN in Soil			
Our Reference		207936-A-13	207936-A-14
Your Reference	UNITS	DS1	DS2
Date Sampled		07/12/2018	07/12/2018
Type of sample		Soil	Soil
Date extracted	-	27/12/2018	27/12/2018
Date analysed	-	28/12/2018	28/12/2018
TRH C ₆ - C ₉	mg/kg	<25	<25
TRH C ₆ - C ₁₀	mg/kg	<25	<25
vTPH C ₆ - C ₁₀ less BTEX (F1)	mg/kg	<25	<25
Benzene	mg/kg	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1
m+p-xylene	mg/kg	<2	<2
o-Xylene	mg/kg	<1	<1
naphthalene	mg/kg	<1	<1
Total +ve Xylenes	mg/kg	<1	<1
Surrogate aaa-Trifluorotoluene	%	79	82

svTRH (C10-C40) in Soil			
Our Reference		207936-A-13	207936-A-14
Your Reference	UNITS	DS1	DS2
Date Sampled		07/12/2018	07/12/2018
Type of sample		Soil	Soil
Date extracted	-	27/12/2018	27/12/2018
Date analysed	-	27/12/2018	27/12/2018
TRH C ₁₀ - C ₁₄	mg/kg	<50	<50
TRH C ₁₅ - C ₂₈	mg/kg	<100	<100
TRH C ₂₉ - C ₃₆	mg/kg	<100	<100
TRH >C ₁₀ -C ₁₆	mg/kg	<50	<50
TRH >C ₁₀ - C ₁₆ less Naphthalene (F2)	mg/kg	<50	<50
TRH >C ₁₆ -C ₃₄	mg/kg	<100	<100
TRH >C ₃₄ -C ₄₀	mg/kg	<100	<100
Total +ve TRH (>C10-C40)	mg/kg	<50	<50
Surrogate o-Terphenyl	%	90	89

PAHs in Soil			
Our Reference		207936-A-13	207936-A-14
Your Reference	UNITS	DS1	DS2
Date Sampled		07/12/2018	07/12/2018
Type of sample		Soil	Soil
Date extracted	-	27/12/2018	27/12/2018
Date analysed	-	28/12/2018	28/12/2018
Naphthalene	mg/kg	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1
Phenanthrene	mg/kg	<0.1	<0.1
Anthracene	mg/kg	<0.1	<0.1
Fluoranthene	mg/kg	<0.1	<0.1
Pyrene	mg/kg	<0.1	<0.1
Benzo(a)anthracene	mg/kg	<0.1	<0.1
Chrysene	mg/kg	<0.1	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	<0.2	<0.2
Benzo(a)pyrene	mg/kg	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1
Total +ve PAH's	mg/kg	<0.05	<0.05
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	<0.5
Surrogate <i>p</i> -Terphenyl-d14	%	96	96

Organochlorine Pesticides in soil			
Our Reference		207936-A-13	207936-A-14
Your Reference	UNITS	DS1	DS2
Date Sampled		07/12/2018	07/12/2018
Type of sample		Soil	Soil
Date extracted	-	27/12/2018	27/12/2018
Date analysed	-	27/12/2018	27/12/2018
HCB	mg/kg	<0.1	<0.1
alpha-BHC	mg/kg	<0.1	<0.1
gamma-BHC	mg/kg	<0.1	<0.1
beta-BHC	mg/kg	<0.1	<0.1
Heptachlor	mg/kg	<0.1	<0.1
delta-BHC	mg/kg	<0.1	<0.1
Aldrin	mg/kg	<0.1	<0.1
Heptachlor Epoxide	mg/kg	<0.1	<0.1
gamma-Chlordane	mg/kg	<0.1	<0.1
alpha-chlordane	mg/kg	<0.1	<0.1
Endosulfan I	mg/kg	<0.1	<0.1
pp-DDE	mg/kg	<0.1	<0.1
Dieldrin	mg/kg	<0.1	<0.1
Endrin	mg/kg	<0.1	<0.1
pp-DDD	mg/kg	<0.1	<0.1
Endosulfan II	mg/kg	<0.1	<0.1
pp-DDT	mg/kg	<0.1	<0.1
Endrin Aldehyde	mg/kg	<0.1	<0.1
Endosulfan Sulphate	mg/kg	<0.1	<0.1
Methoxychlor	mg/kg	<0.1	<0.1
Total +ve DDT+DDD+DDE	mg/kg	<0.1	<0.1
Surrogate TCMX	%	85	85

Organophosphorus Pesticides			
Our Reference		207936-A-13	207936-A-14
Your Reference	UNITS	DS1	DS2
Date Sampled		07/12/2018	07/12/2018
Type of sample		Soil	Soil
Date extracted	-	27/12/2018	27/12/2018
Date analysed	-	27/12/2018	27/12/2018
Azinphos-methyl (Guthion)	mg/kg	<0.1	<0.1
Bromophos-ethyl	mg/kg	<0.1	<0.1
Chlorpyrifos	mg/kg	<0.1	<0.1
Chlorpyrifos-methyl	mg/kg	<0.1	<0.1
Diazinon	mg/kg	<0.1	<0.1
Dichlorvos	mg/kg	<0.1	<0.1
Dimethoate	mg/kg	<0.1	<0.1
Ethion	mg/kg	<0.1	<0.1
Fenitrothion	mg/kg	<0.1	<0.1
Malathion	mg/kg	<0.1	<0.1
Parathion	mg/kg	<0.1	<0.1
Ronnel	mg/kg	<0.1	<0.1
Surrogate TCMX	%	85	85

PCBs in Soil			
Our Reference		207936-A-13	207936-A-14
Your Reference	UNITS	DS1	DS2
Date Sampled		07/12/2018	07/12/2018
Type of sample		Soil	Soil
Date extracted	-	27/12/2018	27/12/2018
Date analysed	-	27/12/2018	27/12/2018
Aroclor 1016	mg/kg	<0.1	<0.1
Aroclor 1221	mg/kg	<0.1	<0.1
Aroclor 1232	mg/kg	<0.1	<0.1
Aroclor 1242	mg/kg	<0.1	<0.1
Aroclor 1248	mg/kg	<0.1	<0.1
Aroclor 1254	mg/kg	<0.1	<0.1
Aroclor 1260	mg/kg	<0.1	<0.1
Total +ve PCBs (1016-1260)	mg/kg	<0.1	<0.1
Surrogate TCLMX	%	85	85

Acid Extractable metals in soil			
Our Reference		207936-A-13	207936-A-14
Your Reference	UNITS	DS1	DS2
Date Sampled		07/12/2018	07/12/2018
Type of sample		Soil	Soil
Date prepared	-	27/12/2018	27/12/2018
Date analysed	-	27/12/2018	27/12/2018
Arsenic	mg/kg	<4	8
Cadmium	mg/kg	<0.4	<0.4
Chromium	mg/kg	8	22
Copper	mg/kg	9	15
Lead	mg/kg	14	18
Mercury	mg/kg	<0.1	<0.1
Nickel	mg/kg	5	10
Zinc	mg/kg	96	32

Misc Soil - Inorg			
Our Reference		207936-A-13	207936-A-14
Your Reference	UNITS	DS1	DS2
Date Sampled		07/12/2018	07/12/2018
Type of sample		Soil	Soil
Date prepared	-	27/12/2018	27/12/2018
Date analysed	-	02/01/2019	02/01/2019
Total Phenolics (as Phenol)	mg/kg	<5	<5

Moisture			
Our Reference		207936-A-13	207936-A-14
Your Reference	UNITS	DS1	DS2
Date Sampled		07/12/2018	07/12/2018
Type of sample		Soil	Soil
Date prepared	-	27/12/2018	27/12/2018
Date analysed	-	28/12/2018	28/12/2018
Moisture	%	22	19

Method ID	Methodology Summary
Inorg-003	Oil & Grease - determine gravimetrically following extraction with Hexane, in accordance with APHA latest edition, 5520-B.
Inorg-008	Moisture content determined by heating at 105+/-5 °C for a minimum of 12 hours.
Inorg-031	Total Phenolics by segmented flow analyser (in line distillation with colourimetric finish). Solids are extracted in a caustic media prior to analysis.
Inorg-055/062	Total Nitrogen - Calculation sum of TKN and oxidised Nitrogen.
Inorg-057	Ammonia - determined colourimetrically, based on APHA latest edition 4500-NH3 F. Soils are analysed following a KCl extraction.
Inorg-060	Phosphate determined colourimetrically based on EPA365.1 and APHA latest edition 4500 P E. Soils are analysed following a water extraction.
Metals-020	Determination of various metals by ICP-AES.
Metals-021	Determination of Mercury by Cold Vapour AAS.
Metals-022	Determination of various metals by ICP-MS.
Org-003	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis.
Org-003	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis. Note, the Total +ve TRH PQL is reflective of the lowest individual PQL and is therefore "Total +ve TRH" is simply a sum of the positive individual TRH fractions (>C10-C40).
Org-005	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC with dual ECD's.
Org-005	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC with dual ECD's. Note, the Total +ve reported DDD+DDE+DDT PQL is reflective of the lowest individual PQL and is therefore simply a sum of the positive individually report DDD+DDE+DDT.
Org-006	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC-ECD.
Org-006	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC-ECD. Note, the Total +ve PCBs PQL is reflective of the lowest individual PQL and is therefore "Total +ve PCBs" is simply a sum of the positive individual PCBs.

Method ID	Methodology Summary
Org-008	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC with dual ECD's.
Org-012	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS. Benzo(a)pyrene TEQ as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater - 2013.
Org-012	<p>Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS. Benzo(a)pyrene TEQ as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater - 2013.</p> <p>For soil results:-</p> <ol style="list-style-type: none"> 1. 'EQ PQL' values are assuming all contributing PAHs reported as <PQL are actually at the PQL. This is the most conservative approach and can give false positive TEQs given that PAHs that contribute to the TEQ calculation may not be present. 2. 'EQ zero' values are assuming all contributing PAHs reported as <PQL are zero. This is the least conservative approach and is more susceptible to false negative TEQs when PAHs that contribute to the TEQ calculation are present but below PQL. 3. 'EQ half PQL' values are assuming all contributing PAHs reported as <PQL are half the stipulated PQL. Hence a mid-point between the most and least conservative approaches above. <p>Note, the Total +ve PAHs PQL is reflective of the lowest individual PQL and is therefore "Total +ve PAHs" is simply a sum of the positive individual PAHs.</p>
Org-013	Water samples are analysed directly by purge and trap GC-MS.
Org-014	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS.
Org-016	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater.
Org-016	<p>Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater.</p> <p>Note, the Total +ve Xylene PQL is reflective of the lowest individual PQL and is therefore "Total +ve Xylenes" is simply a sum of the positive individual Xylenes.</p>

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QUALITY CONTROL: VOCs in water					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Date extracted	-			28/12/2018	[NT]	[NT]	[NT]	[NT]	28/12/2018	[NT]
Date analysed	-			02/01/2019	[NT]	[NT]	[NT]	[NT]	02/01/2019	[NT]
Dichlorodifluoromethane	µg/L	10	Org-013	<10	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Chloromethane	µg/L	10	Org-013	<10	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Vinyl Chloride	µg/L	10	Org-013	<10	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Bromomethane	µg/L	10	Org-013	<10	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Chloroethane	µg/L	10	Org-013	<10	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Trichlorofluoromethane	µg/L	10	Org-013	<10	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,1-Dichloroethene	µg/L	1	Org-013	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Trans-1,2-dichloroethene	µg/L	1	Org-013	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,1-dichloroethane	µg/L	1	Org-013	<1	[NT]	[NT]	[NT]	[NT]	97	[NT]
Cis-1,2-dichloroethene	µg/L	1	Org-013	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Bromochloromethane	µg/L	1	Org-013	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Chloroform	µg/L	1	Org-013	<1	[NT]	[NT]	[NT]	[NT]	97	[NT]
2,2-dichloropropane	µg/L	1	Org-013	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,2-dichloroethane	µg/L	1	Org-013	<1	[NT]	[NT]	[NT]	[NT]	97	[NT]
1,1,1-trichloroethane	µg/L	1	Org-013	<1	[NT]	[NT]	[NT]	[NT]	95	[NT]
1,1-dichloropropene	µg/L	1	Org-013	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Cyclohexane	µg/L	1	Org-013	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Carbon tetrachloride	µg/L	1	Org-013	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Benzene	µg/L	1	Org-013	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Dibromomethane	µg/L	1	Org-013	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,2-dichloropropane	µg/L	1	Org-013	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Trichloroethene	µg/L	1	Org-013	<1	[NT]	[NT]	[NT]	[NT]	97	[NT]
Bromodichloromethane	µg/L	1	Org-013	<1	[NT]	[NT]	[NT]	[NT]	97	[NT]
trans-1,3-dichloropropene	µg/L	1	Org-013	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
cis-1,3-dichloropropene	µg/L	1	Org-013	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,1,2-trichloroethane	µg/L	1	Org-013	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Toluene	µg/L	1	Org-013	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,3-dichloropropane	µg/L	1	Org-013	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Dibromochloromethane	µg/L	1	Org-013	<1	[NT]	[NT]	[NT]	[NT]	95	[NT]
1,2-dibromoethane	µg/L	1	Org-013	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Tetrachloroethene	µg/L	1	Org-013	<1	[NT]	[NT]	[NT]	[NT]	96	[NT]
1,1,1,2-tetrachloroethane	µg/L	1	Org-013	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Chlorobenzene	µg/L	1	Org-013	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Ethylbenzene	µg/L	1	Org-013	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Bromoform	µg/L	1	Org-013	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
m+p-xylene	µg/L	2	Org-013	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Styrene	µg/L	1	Org-013	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,1,2,2-tetrachloroethane	µg/L	1	Org-013	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
o-xylene	µg/L	1	Org-013	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]

QUALITY CONTROL: VOCs in water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
1,2,3-trichloropropane	µg/L	1	Org-013	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Isopropylbenzene	µg/L	1	Org-013	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Bromobenzene	µg/L	1	Org-013	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
n-propyl benzene	µg/L	1	Org-013	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2-chlorotoluene	µg/L	1	Org-013	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
4-chlorotoluene	µg/L	1	Org-013	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,3,5-trimethyl benzene	µg/L	1	Org-013	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Tert-butyl benzene	µg/L	1	Org-013	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,2,4-trimethyl benzene	µg/L	1	Org-013	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,3-dichlorobenzene	µg/L	1	Org-013	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Sec-butyl benzene	µg/L	1	Org-013	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,4-dichlorobenzene	µg/L	1	Org-013	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
4-isopropyl toluene	µg/L	1	Org-013	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,2-dichlorobenzene	µg/L	1	Org-013	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
n-butyl benzene	µg/L	1	Org-013	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,2-dibromo-3-chloropropane	µg/L	1	Org-013	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,2,4-trichlorobenzene	µg/L	1	Org-013	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Hexachlorobutadiene	µg/L	1	Org-013	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,2,3-trichlorobenzene	µg/L	1	Org-013	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate Dibromofluoromethane	%		Org-013	108	[NT]	[NT]	[NT]	[NT]	109	[NT]
Surrogate toluene-d8	%		Org-013	100	[NT]	[NT]	[NT]	[NT]	100	[NT]
Surrogate 4-BFB	%		Org-013	100	[NT]	[NT]	[NT]	[NT]	101	[NT]

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QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W3	[NT]
Date extracted	-			28/12/2018	[NT]	[NT]	[NT]	[NT]	28/12/2018	[NT]
Date analysed	-			02/01/2019	[NT]	[NT]	[NT]	[NT]	28/12/2018	[NT]
TRH C ₆ - C ₉	µg/L	10	Org-016	<10	[NT]	[NT]	[NT]	[NT]	107	[NT]
TRH C ₆ - C ₁₀	µg/L	10	Org-016	<10	[NT]	[NT]	[NT]	[NT]	107	[NT]
Benzene	µg/L	1	Org-016	<1	[NT]	[NT]	[NT]	[NT]	112	[NT]
Toluene	µg/L	1	Org-016	<1	[NT]	[NT]	[NT]	[NT]	116	[NT]
Ethylbenzene	µg/L	1	Org-016	<1	[NT]	[NT]	[NT]	[NT]	103	[NT]
m+p-xylene	µg/L	2	Org-016	<2	[NT]	[NT]	[NT]	[NT]	103	[NT]
o-xylene	µg/L	1	Org-016	<1	[NT]	[NT]	[NT]	[NT]	102	[NT]
Naphthalene	µg/L	1	Org-013	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate Dibromofluoromethane	%		Org-016	108	[NT]	[NT]	[NT]	[NT]	97	[NT]
Surrogate toluene-d8	%		Org-016	100	[NT]	[NT]	[NT]	[NT]	104	[NT]
Surrogate 4-BFB	%		Org-016	100	[NT]	[NT]	[NT]	[NT]	103	[NT]

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QUALITY CONTROL: svTRH (C10-C40) in Water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	207936-A-7
Date extracted	-			28/12/2018	6	28/12/2018	28/12/2018		28/12/2018	28/12/2018
Date analysed	-			29/12/2018	6	29/12/2018	29/12/2018		29/12/2018	29/12/2018
TRH C ₁₀ - C ₁₄	µg/L	50	Org-003	<50	6	<50	<50	0	110	108
TRH C ₁₅ - C ₂₈	µg/L	100	Org-003	<100	6	<100	<100	0	85	84
TRH C ₂₉ - C ₃₆	µg/L	100	Org-003	<100	6	<100	<100	0	130	130
TRH >C ₁₀ - C ₁₆	µg/L	50	Org-003	<50	6	<50	<50	0	110	108
TRH >C ₁₆ - C ₃₄	µg/L	100	Org-003	<100	6	<100	<100	0	85	84
TRH >C ₃₄ - C ₄₀	µg/L	100	Org-003	<100	6	<100	<100	0	130	130
Surrogate o-Terphenyl	%		Org-003	94	6	100	98	2	116	96

QUALITY CONTROL: PAHs in Water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	207936-A-7
Date extracted	-			28/12/2018	6	28/12/2018	28/12/2018		28/12/2018	28/12/2018
Date analysed	-			28/12/2018	6	28/12/2018	28/12/2018		28/12/2018	28/12/2018
Naphthalene	µg/L	1	Org-012	<1	6	<1	<1	0	72	74
Acenaphthylene	µg/L	1	Org-012	<1	6	<1	<1	0	[NT]	[NT]
Acenaphthene	µg/L	1	Org-012	<1	6	<1	<1	0	[NT]	[NT]
Fluorene	µg/L	1	Org-012	<1	6	<1	<1	0	79	78
Phenanthrene	µg/L	1	Org-012	<1	6	<1	<1	0	79	77
Anthracene	µg/L	1	Org-012	<1	6	<1	<1	0	[NT]	[NT]
Fluoranthene	µg/L	1	Org-012	<1	6	<1	<1	0	83	82
Pyrene	µg/L	1	Org-012	<1	6	<1	<1	0	81	80
Benzo(a)anthracene	µg/L	1	Org-012	<1	6	<1	<1	0	[NT]	[NT]
Chrysene	µg/L	1	Org-012	<1	6	<1	<1	0	82	82
Benzo(b,j+k)fluoranthene	µg/L	2	Org-012	<2	6	<2	<2	0	[NT]	[NT]
Benzo(a)pyrene	µg/L	1	Org-012	<1	6	<1	<1	0	81	80
Indeno(1,2,3-c,d)pyrene	µg/L	1	Org-012	<1	6	<1	<1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	µg/L	1	Org-012	<1	6	<1	<1	0	[NT]	[NT]
Benzo(g,h,i)perylene	µg/L	1	Org-012	<1	6	<1	<1	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-012	106	6	90	103	13	99	91

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QUALITY CONTROL: OCP in water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	207936-A-7
Date extracted	-			28/12/2018	6	28/12/2018	28/12/2018		28/12/2018	28/12/2018
Date analysed	-			28/12/2018	6	02/01/2019	02/01/2019		28/12/2018	28/12/2018
HCB	µg/L	0.2	Org-005	<0.2	6	<0.2	<0.2	0	[NT]	[NT]
alpha-BHC	µg/L	0.2	Org-005	<0.2	6	<0.2	<0.2	0	104	122
gamma-BHC	µg/L	0.2	Org-005	<0.2	6	<0.2	<0.2	0	[NT]	[NT]
beta-BHC	µg/L	0.2	Org-005	<0.2	6	<0.2	<0.2	0	80	91
Heptachlor	µg/L	0.2	Org-005	<0.2	6	<0.2	<0.2	0	84	96
delta-BHC	µg/L	0.2	Org-005	<0.2	6	<0.2	<0.2	0	[NT]	[NT]
Aldrin	µg/L	0.2	Org-005	<0.2	6	<0.2	<0.2	0	74	85
Heptachlor Epoxide	µg/L	0.2	Org-005	<0.2	6	<0.2	<0.2	0	79	89
gamma-Chlordane	µg/L	0.2	Org-005	<0.2	6	<0.2	<0.2	0	[NT]	[NT]
alpha-Chlordane	µg/L	0.2	Org-005	<0.2	6	<0.2	<0.2	0	[NT]	[NT]
Endosulfan I	µg/L	0.2	Org-005	<0.2	6	<0.2	<0.2	0	[NT]	[NT]
pp-DDE	µg/L	0.2	Org-005	<0.2	6	<0.2	<0.2	0	86	97
Dieldrin	µg/L	0.2	Org-005	<0.2	6	<0.2	<0.2	0	92	104
Endrin	µg/L	0.2	Org-005	<0.2	6	<0.2	<0.2	0	87	104
pp-DDD	µg/L	0.2	Org-005	<0.2	6	<0.2	<0.2	0	83	94
Endosulfan II	µg/L	0.2	Org-005	<0.2	6	<0.2	<0.2	0	[NT]	[NT]
pp-DDT	µg/L	0.2	Org-005	<0.2	6	<0.2	<0.2	0	[NT]	[NT]
Endrin Aldehyde	µg/L	0.2	Org-005	<0.2	6	<0.2	<0.2	0	[NT]	[NT]
Endosulfan Sulphate	µg/L	0.2	Org-005	<0.2	6	<0.2	<0.2	0	87	98
Methoxychlor	µg/L	0.2	Org-005	<0.2	6	<0.2	<0.2	0	[NT]	[NT]
Surrogate TCMX	%		Org-005	123	6	125	127	2	125	131

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QUALITY CONTROL: OP Pesticides in water					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Date extracted	-			28/12/2018	6	28/12/2018	28/12/2018		28/12/2018	[NT]
Date analysed	-			28/12/2018	6	02/01/2019	02/01/2019		28/12/2018	[NT]
Azinphos-methyl (Guthion)	µg/L	0.2	Org-008	<0.2	6	<0.2	<0.2	0	[NT]	[NT]
Bromophos ethyl	µg/L	0.2	Org-008	<0.2	6	<0.2	<0.2	0	[NT]	[NT]
Chlorpyrifos	µg/L	0.2	Org-008	<0.2	6	<0.2	<0.2	0	93	[NT]
Chlorpyrifos-methyl	µg/L	0.2	Org-008	<0.2	6	<0.2	<0.2	0	[NT]	[NT]
Diazinon	µg/L	0.2	Org-008	<0.2	6	<0.2	<0.2	0	[NT]	[NT]
Dichlorvos	µg/L	0.2	Org-008	<0.2	6	<0.2	<0.2	0	85	[NT]
Dimethoate	µg/L	0.2	Org-008	<0.2	6	<0.2	<0.2	0	[NT]	[NT]
Ethion	µg/L	0.2	Org-008	<0.2	6	<0.2	<0.2	0	87	[NT]
Fenitrothion	µg/L	0.2	Org-008	<0.2	6	<0.2	<0.2	0	122	[NT]
Malathion	µg/L	0.2	Org-008	<0.2	6	<0.2	<0.2	0	113	[NT]
Parathion	µg/L	0.2	Org-008	<0.2	6	<0.2	<0.2	0	88	[NT]
Ronnel	µg/L	0.2	Org-008	<0.2	6	<0.2	<0.2	0	72	[NT]
Surrogate TCMX	%		Org-008	123	6	125	127	2	127	[NT]

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QUALITY CONTROL: PCBs in Water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Date extracted	-			28/12/2018	6	28/12/2018	28/12/2018		28/12/2018	[NT]
Date analysed	-			28/12/2018	6	02/01/2019	02/01/2019		28/12/2018	[NT]
Aroclor 1016	µg/L	2	Org-006	<2	6	<2	<2	0	[NT]	[NT]
Aroclor 1221	µg/L	2	Org-006	<2	6	<2	<2	0	[NT]	[NT]
Aroclor 1232	µg/L	2	Org-006	<2	6	<2	<2	0	[NT]	[NT]
Aroclor 1242	µg/L	2	Org-006	<2	6	<2	<2	0	[NT]	[NT]
Aroclor 1248	µg/L	2	Org-006	<2	6	<2	<2	0	[NT]	[NT]
Aroclor 1254	µg/L	2	Org-006	<2	6	<2	<2	0	99	[NT]
Aroclor 1260	µg/L	2	Org-006	<2	6	<2	<2	0	[NT]	[NT]
Surrogate TCLMX	%		Org-006	123	6	125	127	2	127	[NT]

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QUALITY CONTROL: Total Phenolics in Water					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W3	[NT]
Date extracted	-			02/01/2019	[NT]	[NT]	[NT]	[NT]	02/01/2019	[NT]
Date analysed	-			02/01/2019	[NT]	[NT]	[NT]	[NT]	02/01/2019	[NT]
Total Phenolics (as Phenol)	mg/L	0.05	Inorg-031	<0.05	[NT]	[NT]	[NT]	[NT]	101	[NT]

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QUALITY CONTROL: HM in water - dissolved					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Date prepared	-			28/12/2018	[NT]	[NT]	[NT]	[NT]	28/12/2018	[NT]
Date analysed	-			28/12/2018	[NT]	[NT]	[NT]	[NT]	28/12/2018	[NT]
Arsenic-Dissolved	µg/L	1	Metals-022	<1	[NT]	[NT]	[NT]	[NT]	104	[NT]
Cadmium-Dissolved	µg/L	0.1	Metals-022	<0.1	[NT]	[NT]	[NT]	[NT]	104	[NT]
Chromium-Dissolved	µg/L	1	Metals-022	<1	[NT]	[NT]	[NT]	[NT]	105	[NT]
Copper-Dissolved	µg/L	1	Metals-022	<1	[NT]	[NT]	[NT]	[NT]	105	[NT]
Lead-Dissolved	µg/L	1	Metals-022	<1	[NT]	[NT]	[NT]	[NT]	105	[NT]
Mercury-Dissolved	µg/L	0.05	Metals-021	<0.05	[NT]	[NT]	[NT]	[NT]	91	[NT]
Nickel-Dissolved	µg/L	1	Metals-022	<1	[NT]	[NT]	[NT]	[NT]	105	[NT]
Zinc-Dissolved	µg/L	1	Metals-022	<1	[NT]	[NT]	[NT]	[NT]	108	[NT]

Client Reference: 94525.00, St Marys - Stage 1 Contam. Assessment

QUALITY CONTROL: Miscellaneous Inorganics					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Date prepared	-			02/01/2019	[NT]	[NT]	[NT]	[NT]	02/01/2019	[NT]
Date analysed	-			02/01/2019	[NT]	[NT]	[NT]	[NT]	02/01/2019	[NT]
Ammonia as N in water	mg/L	0.005	Inorg-057	<0.005	[NT]	[NT]	[NT]	[NT]	83	[NT]
Total Nitrogen in water	mg/L	0.1	Inorg-055/062	<0.1	[NT]	[NT]	[NT]	[NT]	92	[NT]
Phosphate as P in water	mg/L	0.005	Inorg-060	<0.005	[NT]	[NT]	[NT]	[NT]	102	[NT]
Oil & Grease (LLE)	mg/L	5	Inorg-003	<5	[NT]	[NT]	[NT]	[NT]	87	[NT]

Client Reference: 94525.00, St Marys - Stage 1 Contam. Assessment

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-4	[NT]
Date extracted	-			27/12/2018	[NT]	[NT]	[NT]	[NT]	27/12/2018	[NT]
Date analysed	-			28/12/2018	[NT]	[NT]	[NT]	[NT]	28/12/2018	[NT]
TRH C ₆ - C ₉	mg/kg	25	Org-016	<25	[NT]	[NT]	[NT]	[NT]	95	[NT]
TRH C ₆ - C ₁₀	mg/kg	25	Org-016	<25	[NT]	[NT]	[NT]	[NT]	95	[NT]
Benzene	mg/kg	0.2	Org-016	<0.2	[NT]	[NT]	[NT]	[NT]	104	[NT]
Toluene	mg/kg	0.5	Org-016	<0.5	[NT]	[NT]	[NT]	[NT]	92	[NT]
Ethylbenzene	mg/kg	1	Org-016	<1	[NT]	[NT]	[NT]	[NT]	93	[NT]
m+p-xylene	mg/kg	2	Org-016	<2	[NT]	[NT]	[NT]	[NT]	92	[NT]
o-Xylene	mg/kg	1	Org-016	<1	[NT]	[NT]	[NT]	[NT]	94	[NT]
naphthalene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate aaa-Trifluorotoluene	%		Org-016	84	[NT]	[NT]	[NT]	[NT]	88	[NT]

Client Reference: 94525.00, St Marys - Stage 1 Contam. Assessment

QUALITY CONTROL: svTRH (C10-C40) in Soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-4	[NT]
Date extracted	-			27/12/2018	[NT]	[NT]	[NT]	[NT]	27/12/2018	[NT]
Date analysed	-			27/12/2018	[NT]	[NT]	[NT]	[NT]	27/12/2018	[NT]
TRH C ₁₀ - C ₁₄	mg/kg	50	Org-003	<50	[NT]	[NT]	[NT]	[NT]	101	[NT]
TRH C ₁₅ - C ₂₈	mg/kg	100	Org-003	<100	[NT]	[NT]	[NT]	[NT]	91	[NT]
TRH C ₂₉ - C ₃₆	mg/kg	100	Org-003	<100	[NT]	[NT]	[NT]	[NT]	93	[NT]
TRH >C ₁₀ -C ₁₆	mg/kg	50	Org-003	<50	[NT]	[NT]	[NT]	[NT]	101	[NT]
TRH >C ₁₆ -C ₃₄	mg/kg	100	Org-003	<100	[NT]	[NT]	[NT]	[NT]	91	[NT]
TRH >C ₃₄ -C ₄₀	mg/kg	100	Org-003	<100	[NT]	[NT]	[NT]	[NT]	93	[NT]
Surrogate o-Terphenyl	%		Org-003	83	[NT]	[NT]	[NT]	[NT]	92	[NT]

QUALITY CONTROL: PAHs in Soil					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-4	[NT]
Date extracted	-			27/12/2018	[NT]	[NT]	[NT]	[NT]	27/12/2018	[NT]
Date analysed	-			28/12/2018	[NT]	[NT]	[NT]	[NT]	28/12/2018	[NT]
Naphthalene	mg/kg	0.1	Org-012	<0.1	[NT]	[NT]	[NT]	[NT]	93	[NT]
Acenaphthylene	mg/kg	0.1	Org-012	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Acenaphthene	mg/kg	0.1	Org-012	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Fluorene	mg/kg	0.1	Org-012	<0.1	[NT]	[NT]	[NT]	[NT]	91	[NT]
Phenanthrene	mg/kg	0.1	Org-012	<0.1	[NT]	[NT]	[NT]	[NT]	93	[NT]
Anthracene	mg/kg	0.1	Org-012	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Fluoranthene	mg/kg	0.1	Org-012	<0.1	[NT]	[NT]	[NT]	[NT]	96	[NT]
Pyrene	mg/kg	0.1	Org-012	<0.1	[NT]	[NT]	[NT]	[NT]	94	[NT]
Benzo(a)anthracene	mg/kg	0.1	Org-012	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Chrysene	mg/kg	0.1	Org-012	<0.1	[NT]	[NT]	[NT]	[NT]	108	[NT]
Benzo(b,j+k)fluoranthene	mg/kg	0.2	Org-012	<0.2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Benzo(a)pyrene	mg/kg	0.05	Org-012	<0.05	[NT]	[NT]	[NT]	[NT]	109	[NT]
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-012	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-012	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-012	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-012	102	[NT]	[NT]	[NT]	[NT]	97	[NT]

Client Reference: 94525.00, St Marys - Stage 1 Contam. Assessment

QUALITY CONTROL: Organochlorine Pesticides in soil					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-4	[NT]
Date extracted	-			27/12/2018	[NT]	[NT]	[NT]	[NT]	27/12/2018	[NT]
Date analysed	-			27/12/2018	[NT]	[NT]	[NT]	[NT]	27/12/2018	[NT]
HCB	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
alpha-BHC	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	[NT]	[NT]	108	[NT]
gamma-BHC	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
beta-BHC	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	[NT]	[NT]	89	[NT]
Heptachlor	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	[NT]	[NT]	93	[NT]
delta-BHC	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Aldrin	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	[NT]	[NT]	82	[NT]
Heptachlor Epoxide	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	[NT]	[NT]	86	[NT]
gamma-Chlordane	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
alpha-chlordane	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Endosulfan I	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
pp-DDE	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	[NT]	[NT]	92	[NT]
Dieldrin	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	[NT]	[NT]	98	[NT]
Endrin	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	[NT]	[NT]	87	[NT]
pp-DDD	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	[NT]	[NT]	79	[NT]
Endosulfan II	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
pp-DDT	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Endrin Aldehyde	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Endosulfan Sulphate	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	[NT]	[NT]	83	[NT]
Methoxychlor	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate TCMX	%		Org-005	84	[NT]	[NT]	[NT]	[NT]	102	[NT]

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QUALITY CONTROL: Organophosphorus Pesticides					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-4	[NT]
Date extracted	-			27/12/2018	[NT]	[NT]	[NT]	[NT]	27/12/2018	[NT]
Date analysed	-			27/12/2018	[NT]	[NT]	[NT]	[NT]	27/12/2018	[NT]
Azinphos-methyl (Guthion)	mg/kg	0.1	Org-008	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Bromophos-ethyl	mg/kg	0.1	Org-008	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Chlorpyrifos	mg/kg	0.1	Org-008	<0.1	[NT]	[NT]	[NT]	[NT]	85	[NT]
Chlorpyrifos-methyl	mg/kg	0.1	Org-008	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Diazinon	mg/kg	0.1	Org-008	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Dichlorvos	mg/kg	0.1	Org-008	<0.1	[NT]	[NT]	[NT]	[NT]	94	[NT]
Dimethoate	mg/kg	0.1	Org-008	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Ethion	mg/kg	0.1	Org-008	<0.1	[NT]	[NT]	[NT]	[NT]	98	[NT]
Fenitrothion	mg/kg	0.1	Org-008	<0.1	[NT]	[NT]	[NT]	[NT]	98	[NT]
Malathion	mg/kg	0.1	Org-008	<0.1	[NT]	[NT]	[NT]	[NT]	80	[NT]
Parathion	mg/kg	0.1	Org-008	<0.1	[NT]	[NT]	[NT]	[NT]	91	[NT]
Ronnel	mg/kg	0.1	Org-008	<0.1	[NT]	[NT]	[NT]	[NT]	94	[NT]
Surrogate TCMX	%		Org-008	84	[NT]	[NT]	[NT]	[NT]	87	[NT]

Client Reference: 94525.00, St Marys - Stage 1 Contam. Assessment

QUALITY CONTROL: PCBs in Soil					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-4	[NT]
Date extracted	-			27/12/2018	[NT]	[NT]	[NT]	[NT]	27/12/2018	[NT]
Date analysed	-			27/12/2018	[NT]	[NT]	[NT]	[NT]	27/12/2018	[NT]
Aroclor 1016	mg/kg	0.1	Org-006	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Aroclor 1221	mg/kg	0.1	Org-006	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Aroclor 1232	mg/kg	0.1	Org-006	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Aroclor 1242	mg/kg	0.1	Org-006	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Aroclor 1248	mg/kg	0.1	Org-006	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Aroclor 1254	mg/kg	0.1	Org-006	<0.1	[NT]	[NT]	[NT]	[NT]	102	[NT]
Aroclor 1260	mg/kg	0.1	Org-006	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate TCLMX	%		Org-006	84	[NT]	[NT]	[NT]	[NT]	87	[NT]

Client Reference: 94525.00, St Marys - Stage 1 Contam. Assessment

QUALITY CONTROL: Acid Extractable metals in soil					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-4	[NT]
Date prepared	-			27/12/2018	[NT]	[NT]	[NT]	[NT]	27/12/2018	[NT]
Date analysed	-			27/12/2018	[NT]	[NT]	[NT]	[NT]	27/12/2018	[NT]
Arsenic	mg/kg	4	Metals-020	<4	[NT]	[NT]	[NT]	[NT]	110	[NT]
Cadmium	mg/kg	0.4	Metals-020	<0.4	[NT]	[NT]	[NT]	[NT]	101	[NT]
Chromium	mg/kg	1	Metals-020	<1	[NT]	[NT]	[NT]	[NT]	107	[NT]
Copper	mg/kg	1	Metals-020	<1	[NT]	[NT]	[NT]	[NT]	106	[NT]
Lead	mg/kg	1	Metals-020	<1	[NT]	[NT]	[NT]	[NT]	103	[NT]
Mercury	mg/kg	0.1	Metals-021	<0.1	[NT]	[NT]	[NT]	[NT]	93	[NT]
Nickel	mg/kg	1	Metals-020	<1	[NT]	[NT]	[NT]	[NT]	100	[NT]
Zinc	mg/kg	1	Metals-020	<1	[NT]	[NT]	[NT]	[NT]	101	[NT]

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QUALITY CONTROL: Misc Soil - Inorg					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-4	[NT]
Date prepared	-			02/01/2019	[NT]	[NT]	[NT]	[NT]	02/01/2019	[NT]
Date analysed	-			02/01/2019	[NT]	[NT]	[NT]	[NT]	02/01/2019	[NT]
Total Phenolics (as Phenol)	mg/kg	5	Inorg-031	<5	[NT]	[NT]	[NT]	[NT]	102	[NT]

Result Definitions

NT	Not tested
NA	Test not required
INS	Insufficient sample for this test
PQL	Practical Quantitation Limit
<	Less than
>	Greater than
RPD	Relative Percent Difference
LCS	Laboratory Control Sample
NS	Not specified
NEPM	National Environmental Protection Measure
NR	Not Reported

Quality Control Definitions

Blank	This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples.
Duplicate	This is the complete duplicate analysis of a sample from the process batch. If possible, the sample selected should be one where the analyte concentration is easily measurable.
Matrix Spike	A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.
LCS (Laboratory Control Sample)	This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample.
Surrogate Spike	Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.
Australian Drinking Water Guidelines recommend that Thermotolerant Coliform, Faecal Enterococci, & E.Coli levels are less than 1cfu/100mL. The recommended maximums are taken from "Australian Drinking Water Guidelines", published by NHMRC & ARMC 2011.	

Laboratory Acceptance Criteria

Duplicate sample and matrix spike recoveries may not be reported on smaller jobs, however, were analysed at a frequency to meet or exceed NEPM requirements. All samples are tested in batches of 20. The duplicate sample RPD and matrix spike recoveries for the batch were within the laboratory acceptance criteria.

Filters, swabs, wipes, tubes and badges will not have duplicate data as the whole sample is generally extracted during sample extraction.

Spikes for Physical and Aggregate Tests are not applicable.

For VOCs in water samples, three vials are required for duplicate or spike analysis.

Duplicates: >10xPQL - RPD acceptance criteria will vary depending on the analytes and the analytical techniques but is typically in the range 20%-50% – see ELN-P05 QA/QC tables for details; <10xPQL - RPD are higher as the results approach PQL and the estimated measurement uncertainty will statistically increase.

Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals; 60-140% for organics (+/-50% surrogates) and 10-140% for labile SVOCs (including labile surrogates), ultra trace organics and speciated phenols is acceptable.

In circumstances where no duplicate and/or sample spike has been reported at 1 in 10 and/or 1 in 20 samples respectively, the sample volume submitted was insufficient in order to satisfy laboratory QA/QC protocols.

When samples are received where certain analytes are outside of recommended technical holding times (THTs), the analysis has proceeded. Where analytes are on the verge of breaching THTs, every effort will be made to analyse within the THT or as soon as practicable.

Where sampling dates are not provided, Envirolab are not in a position to comment on the validity of the analysis where recommended technical holding times may have been breached.

Measurement Uncertainty estimates are available for most tests upon request.

Report Comments

Organics analysed outside of RHT

Dissolved Metals: no preserved sample was received, therefore the unpreserved sample was filtered through 0.45um filter at the lab.
Note: there is a possibility some elements may be underestimated.

CHAIN OF CUSTODY DESPATCH SHEET

Project No: 94525.00					Suburb: St Marys					To: EnviroLab Services				
Project Name: St Marys - Stage 1 Contamination Assessment					Order Number					12 Ashley St, Chatswood				
Project Manager: Gavin Boyd / Rod Gray					Sampler: JY					Attn: Aileen Hie				
Emails: see above					Phone:					Email:				
Date Required: Same day <input type="checkbox"/> 24 hours <input type="checkbox"/> 48 hours <input type="checkbox"/> 72 hours <input type="checkbox"/> Standard <input checked="" type="checkbox"/>					Prior Storage: <input checked="" type="checkbox"/> Esky <input checked="" type="checkbox"/> Fridge <input type="checkbox"/> Shelved					Do samples contain 'potential' HBM? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> (If YES, then handle, transport and store in accordance with FPM HAZID)				

Sample ID	Lab ID	Date Sampled	Sample Type S - soil W - water	Container Type G - glass P - plastic	Analytes										Notes/preservation		
					Combo	VOCs	Oil & Grease	Hardness	Ammonia, Nitrogen, Phosphate	Metals (Al, Br, Fe, Mn)	TRH C6-C9	BTEX	ON HOLD				
Trip blank	1	11.1.19	W	G													
Trip Spike	2	11.1.19	W	G													
FB	3	10.1.19	W	G/P												Field blank	
FR	4	10.1.19	W	G/P												Rinsate blank	
BH101	5	10.1.19	W	G/P													
BH102	6	10.1.19	W	G/P													
BH103	7	10.1.19	W	G/P													
BH104	8	10.1.19	W	G/P													
BH105	9	10.1.19	W	G/P													
BD1/20190110	10	10.1.19	W	G/P												Duplicate	
												EnviroLab Services 12 Ashley St Chatswood NSW 2067 Ph: (02) 9910 6200					
												Job No: 209407 Date Received: 14.1.19 Time Received: 14:30 Received by: KA Temp/Cond: Ambient Cooling: Ice/Repack Security: Intact/Broken					
												4.7°C					
PQL (S) mg/kg												ANZECC PQLs req'd for all water analytes <input type="checkbox"/>					
PQL = practical quantitation limit. If none given, default to Laboratory Method Detection Limit												Lab Report/Reference No:					
Metals to Analyse: 8HM unless specified here:																	
Total number of samples in container:												Relinquished by: JY			Transported to laboratory by:		
Send Results to: Douglas Partners Pty Ltd												Address: 43 Hobart St Riverstone NSW 2765			Phone: (02) 4647 0075 Fax: (02) 4646 1886		
Signed: [Signature]												Received by: ELS			Date & Time: 14:30 14.1.19		

SAMPLE RECEIPT ADVICE

Client Details

Client	Douglas Partners Pty Ltd (Riverstone)
Attention	Gavin Boyd, Rod Gray, Yashu Shresta, Jeremie Young

Sample Login Details

Your reference	94525.00, St Marys - Stage 1 Contam. Assessment
Envirolab Reference	209407
Date Sample Received	14/01/2019
Date Instructions Received	14/01/2019
Date Results Expected to be Reported	21/01/2019

Sample Condition

Samples received in appropriate condition for analysis	YES
No. of Samples Provided	10 Water
Turnaround Time Requested	Standard
Temperature on Receipt (°C)	4.7
Cooling Method	Ice Pack
Sampling Date Provided	YES

Comments

Nil

Please direct any queries to:

Aileen Hie	Jacinta Hurst
Phone: 02 9910 6200	Phone: 02 9910 6200
Fax: 02 9910 6201	Fax: 02 9910 6201
Email: ahie@envirolab.com.au	Email: jhurst@envirolab.com.au

Analysis Underway, details on the following page:



Envirolab Services Pty Ltd

ABN 37 112 535 645

12 Ashley St Chatswood NSW 2067

ph 02 9910 6200 fax 02 9910 6201

customerservice@envirolab.com.au

www.envirolab.com.au

Sample ID	VOCs in water	VTRH(C6-C10)/BTEXN in Water	svTRH (C10-C40) in Water	PAHs in Water	OCP in water	OP Pesticides in water	PCBs in Water	Total Phenolics in Water	HM in water - dissolved	Ammonia as N in water	Total Nitrogen in water	Phosphate as P in water	Oil & Grease (LLE)	Cations in water Dissolved	On Hold
Trip Blank		✓													
Trip Spike		✓													
FB															✓
FR		✓	✓	✓	✓	✓	✓	✓	✓						
BH101	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
BH102	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
BH103	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
BH104	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
BH105	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
BD1/20190110	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	

The '✓' indicates the testing you have requested. **THIS IS NOT A REPORT OF THE RESULTS.**

Additional Info

Sample storage - Waters are routinely disposed of approximately 1 month and soils approximately 2 months from receipt.

Requests for longer term sample storage must be received in writing.

CERTIFICATE OF ANALYSIS 209407

Client Details

Client	Douglas Partners Pty Ltd (Riverstone)
Attention	Gavin Boyd, Rod Gray, Yashu Shresta, Jeremie Young
Address	43 Hobart St, Riverstone, NSW, 2765

Sample Details

Your Reference	<u>94525.00, St Marys - Stage 1 Contam. Assessment</u>
Number of Samples	10 Water
Date samples received	14/01/2019
Date completed instructions received	14/01/2019

Analysis Details

Please refer to the following pages for results, methodology summary and quality control data.
 Samples were analysed as received from the client. Results relate specifically to the samples as received.
 Results are reported on a dry weight basis for solids and on an as received basis for other matrices.
Please refer to the last page of this report for any comments relating to the results.

Report Details

Date results requested by	21/01/2019
Date of Issue	24/01/2019
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Results Approved By

Giovanni Agosti, Group Technical Manager
 Jeremy Faircloth, Organics Supervisor
 Priya Samarawickrama, Senior Chemist

Authorised By



Jacinta Hurst, Laboratory Manager

VOCs in water						
Our Reference		209407-5	209407-6	209407-7	209407-8	209407-9
Your Reference	UNITS	BH101	BH102	BH103	BH104	BH105
Date Sampled		10/01/2019	10/01/2019	10/01/2019	10/01/2019	10/01/2019
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	15/01/2019	15/01/2019	15/01/2019	15/01/2019	15/01/2019
Date analysed	-	16/01/2019	16/01/2019	16/01/2019	16/01/2019	16/01/2019
Dichlorodifluoromethane	µg/L	<10	<10	<10	<10	<10
Chloromethane	µg/L	<10	<10	<10	<10	<10
Vinyl Chloride	µg/L	<10	<10	<10	<10	<10
Bromomethane	µg/L	<10	<10	<10	<10	<10
Chloroethane	µg/L	<10	<10	<10	<10	<10
Trichlorofluoromethane	µg/L	<10	<10	<10	<10	<10
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1
Trans-1,2-dichloroethene	µg/L	<1	<1	<1	<1	<1
1,1-dichloroethane	µg/L	<1	<1	<1	<1	<1
Cis-1,2-dichloroethene	µg/L	<1	<1	<1	<1	<1
Bromochloromethane	µg/L	<1	<1	<1	<1	<1
Chloroform	µg/L	<1	<1	<1	<1	<1
2,2-dichloropropane	µg/L	<1	<1	<1	<1	<1
1,2-dichloroethane	µg/L	<1	<1	<1	<1	<1
1,1,1-trichloroethane	µg/L	<1	<1	<1	<1	<1
1,1-dichloropropene	µg/L	<1	<1	<1	<1	<1
Cyclohexane	µg/L	<1	<1	<1	<1	<1
Carbon tetrachloride	µg/L	<1	<1	<1	<1	<1
Benzene	µg/L	<1	<1	<1	<1	<1
Dibromomethane	µg/L	<1	<1	<1	<1	<1
1,2-dichloropropane	µg/L	<1	<1	<1	<1	<1
Trichloroethene	µg/L	<1	<1	<1	<1	<1
Bromodichloromethane	µg/L	<1	<1	<1	<1	<1
trans-1,3-dichloropropene	µg/L	<1	<1	<1	<1	<1
cis-1,3-dichloropropene	µg/L	<1	<1	<1	<1	<1
1,1,2-trichloroethane	µg/L	<1	<1	<1	<1	<1
Toluene	µg/L	100	4	7	5	<1
1,3-dichloropropane	µg/L	<1	<1	<1	<1	<1
Dibromochloromethane	µg/L	<1	<1	<1	<1	<1
1,2-dibromoethane	µg/L	<1	<1	<1	<1	<1
Tetrachloroethene	µg/L	<1	<1	<1	<1	<1
1,1,1,2-tetrachloroethane	µg/L	<1	<1	<1	<1	<1
Chlorobenzene	µg/L	<1	<1	<1	<1	<1
Ethylbenzene	µg/L	<1	<1	<1	<1	<1
Bromoform	µg/L	<1	<1	<1	<1	<1

VOCs in water						
Our Reference		209407-5	209407-6	209407-7	209407-8	209407-9
Your Reference	UNITS	BH101	BH102	BH103	BH104	BH105
Date Sampled		10/01/2019	10/01/2019	10/01/2019	10/01/2019	10/01/2019
Type of sample		Water	Water	Water	Water	Water
m+p-xylene	µg/L	<2	<2	<2	<2	<2
Styrene	µg/L	<1	<1	<1	<1	<1
1,1,2,2-tetrachloroethane	µg/L	<1	<1	<1	<1	<1
o-xylene	µg/L	<1	<1	<1	<1	<1
1,2,3-trichloropropane	µg/L	<1	<1	<1	<1	<1
Isopropylbenzene	µg/L	<1	<1	<1	<1	<1
Bromobenzene	µg/L	<1	<1	<1	<1	<1
n-propyl benzene	µg/L	<1	<1	<1	<1	<1
2-chlorotoluene	µg/L	<1	<1	<1	<1	<1
4-chlorotoluene	µg/L	<1	<1	<1	<1	<1
1,3,5-trimethyl benzene	µg/L	<1	<1	<1	<1	<1
Tert-butyl benzene	µg/L	<1	<1	<1	<1	<1
1,2,4-trimethyl benzene	µg/L	<1	<1	<1	<1	<1
1,3-dichlorobenzene	µg/L	<1	<1	<1	<1	<1
Sec-butyl benzene	µg/L	<1	<1	<1	<1	<1
1,4-dichlorobenzene	µg/L	<1	<1	<1	<1	<1
4-isopropyl toluene	µg/L	<1	<1	<1	<1	<1
1,2-dichlorobenzene	µg/L	<1	<1	<1	<1	<1
n-butyl benzene	µg/L	<1	<1	<1	<1	<1
1,2-dibromo-3-chloropropane	µg/L	<1	<1	<1	<1	<1
1,2,4-trichlorobenzene	µg/L	<1	<1	<1	<1	<1
Hexachlorobutadiene	µg/L	<1	<1	<1	<1	<1
1,2,3-trichlorobenzene	µg/L	<1	<1	<1	<1	<1
Surrogate Dibromofluoromethane	%	105	103	104	102	101
Surrogate toluene-d8	%	104	98	102	99	99
Surrogate 4-BFB	%	96	95	100	97	100

vTRH(C6-C10)/BTEXN in Water						
Our Reference		209407-1	209407-2	209407-4	209407-5	209407-6
Your Reference	UNITS	Trip Blank	Trip Spike	FR	BH101	BH102
Date Sampled		07/01/2019	07/01/2019	10/01/2019	10/01/2019	10/01/2019
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	15/01/2019	15/01/2019	15/01/2019	15/01/2019	15/01/2019
Date analysed	-	16/01/2019	16/01/2019	16/01/2019	16/01/2019	16/01/2019
TRH C ₆ - C ₉	µg/L	<10	[NA]	<10	330	11
TRH C ₆ - C ₁₀	µg/L	<10	[NA]	<10	330	12
TRH C ₆ - C ₁₀ less BTEX (F1)	µg/L	[NA]	[NA]	<10	230	<10
Benzene	µg/L	<1	120%	<1	<1	<1
Toluene	µg/L	<1	117%	<1	100	4
Ethylbenzene	µg/L	<1	119%	<1	<1	<1
m+p-xylene	µg/L	<2	120%	<2	<2	<2
o-xylene	µg/L	<1	120%	<1	<1	<1
Naphthalene	µg/L	[NA]	[NA]	<1	<1	<1
Surrogate Dibromofluoromethane	%	97	99	97	105	103
Surrogate toluene-d8	%	97	100	99	104	98
Surrogate 4-BFB	%	100	98	101	96	95

vTRH(C6-C10)/BTEXN in Water					
Our Reference		209407-7	209407-8	209407-9	209407-10
Your Reference	UNITS	BH103	BH104	BH105	BD1/20190110
Date Sampled		10/01/2019	10/01/2019	10/01/2019	10/01/2019
Type of sample		Water	Water	Water	Water
Date extracted	-	15/01/2019	15/01/2019	15/01/2019	15/01/2019
Date analysed	-	16/01/2019	16/01/2019	16/01/2019	16/01/2019
TRH C ₆ - C ₉	µg/L	18	13	<10	<10
TRH C ₆ - C ₁₀	µg/L	20	14	<10	<10
TRH C ₆ - C ₁₀ less BTEX (F1)	µg/L	13	<10	<10	<10
Benzene	µg/L	<1	<1	<1	<1
Toluene	µg/L	7	5	<1	<1
Ethylbenzene	µg/L	<1	<1	<1	<1
m+p-xylene	µg/L	<2	<2	<2	<2
o-xylene	µg/L	<1	<1	<1	<1
Naphthalene	µg/L	<1	<1	<1	<1
Surrogate Dibromofluoromethane	%	104	102	101	104
Surrogate toluene-d8	%	102	99	99	99
Surrogate 4-BFB	%	100	97	100	98

svTRH (C10-C40) in Water						
Our Reference	UNITS	209407-4	209407-5	209407-6	209407-7	209407-8
Your Reference		FR	BH101	BH102	BH103	BH104
Date Sampled		10/01/2019	10/01/2019	10/01/2019	10/01/2019	10/01/2019
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	15/01/2019	15/01/2019	15/01/2019	15/01/2019	15/01/2019
Date analysed	-	15/01/2019	15/01/2019	15/01/2019	15/01/2019	15/01/2019
TRH C ₁₀ - C ₁₄	µg/L	<50	<50	<50	<50	<50
TRH C ₁₅ - C ₂₈	µg/L	<100	<100	<100	<100	<100
TRH C ₂₉ - C ₃₆	µg/L	<100	<100	<100	<100	<100
TRH >C ₁₀ - C ₁₆	µg/L	<50	<50	<50	<50	<50
TRH >C ₁₀ - C ₁₆ less Naphthalene (F2)	µg/L	<50	<50	<50	<50	<50
TRH >C ₁₆ - C ₃₄	µg/L	<100	<100	<100	<100	<100
TRH >C ₃₄ - C ₄₀	µg/L	<100	<100	<100	<100	<100
Surrogate o-Terphenyl	%	113	119	112	104	101

svTRH (C10-C40) in Water			
Our Reference	UNITS	209407-9	209407-10
Your Reference		BH105	BD1/20190110
Date Sampled		10/01/2019	10/01/2019
Type of sample		Water	Water
Date extracted	-	15/01/2019	15/01/2019
Date analysed	-	15/01/2019	15/01/2019
TRH C ₁₀ - C ₁₄	µg/L	68	52
TRH C ₁₅ - C ₂₈	µg/L	<100	<100
TRH C ₂₉ - C ₃₆	µg/L	<100	<100
TRH >C ₁₀ - C ₁₆	µg/L	<50	<50
TRH >C ₁₀ - C ₁₆ less Naphthalene (F2)	µg/L	<50	<50
TRH >C ₁₆ - C ₃₄	µg/L	<100	<100
TRH >C ₃₄ - C ₄₀	µg/L	<100	<100
Surrogate o-Terphenyl	%	105	103

PAHs in Water						
Our Reference		209407-4	209407-5	209407-6	209407-7	209407-8
Your Reference	UNITS	FR	BH101	BH102	BH103	BH104
Date Sampled		10/01/2019	10/01/2019	10/01/2019	10/01/2019	10/01/2019
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	15/01/2019	15/01/2019	15/01/2019	15/01/2019	15/01/2019
Date analysed	-	16/01/2019	16/01/2019	16/01/2019	16/01/2019	16/01/2019
Naphthalene	µg/L	<1	<1	<1	<1	<1
Acenaphthylene	µg/L	<1	<1	<1	<1	<1
Acenaphthene	µg/L	<1	<1	<1	<1	<1
Fluorene	µg/L	<1	<1	<1	<1	<1
Phenanthrene	µg/L	<1	<1	<1	<1	<1
Anthracene	µg/L	<1	<1	<1	<1	<1
Fluoranthene	µg/L	<1	<1	<1	<1	<1
Pyrene	µg/L	<1	<1	<1	<1	<1
Benzo(a)anthracene	µg/L	<1	<1	<1	<1	<1
Chrysene	µg/L	<1	<1	<1	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	<2	<2	<2	<2	<2
Benzo(a)pyrene	µg/L	<1	<1	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1	<1	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	<1	<1	<1	<1	<1
Benzo(a)pyrene TEQ	µg/L	<5	<5	<5	<5	<5
Total +ve PAH's	µg/L	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE
Surrogate <i>p</i> -Terphenyl-d14	%	120	124	118	119	109

PAHs in Water		
Our Reference		209407-9
Your Reference	UNITS	BH105
Date Sampled		10/01/2019
Type of sample		Water
Date extracted	-	15/01/2019
Date analysed	-	16/01/2019
Naphthalene	µg/L	<1
Acenaphthylene	µg/L	<1
Acenaphthene	µg/L	<1
Fluorene	µg/L	<1
Phenanthrene	µg/L	<1
Anthracene	µg/L	<1
Fluoranthene	µg/L	<1
Pyrene	µg/L	<1
Benzo(a)anthracene	µg/L	<1
Chrysene	µg/L	<1
Benzo(b,j+k)fluoranthene	µg/L	<2
Benzo(a)pyrene	µg/L	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1
Dibenzo(a,h)anthracene	µg/L	<1
Benzo(g,h,i)perylene	µg/L	<1
Benzo(a)pyrene TEQ	µg/L	<5
Total +ve PAH's	µg/L	NIL (+)VE
Surrogate <i>p</i> -Terphenyl-d14	%	119

OCP in water						
Our Reference		209407-4	209407-5	209407-6	209407-7	209407-8
Your Reference	UNITS	FR	BH101	BH102	BH103	BH104
Date Sampled		10/01/2019	10/01/2019	10/01/2019	10/01/2019	10/01/2019
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	15/01/2019	15/01/2019	15/01/2019	15/01/2019	15/01/2019
Date analysed	-	15/01/2019	15/01/2019	15/01/2019	15/01/2019	15/01/2019
HCB	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
alpha-BHC	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
gamma-BHC	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
beta-BHC	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Heptachlor	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
delta-BHC	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Aldrin	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Heptachlor Epoxide	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
gamma-Chlordane	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
alpha-Chlordane	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Endosulfan I	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
pp-DDE	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Dieldrin	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Endrin	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
pp-DDD	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Endosulfan II	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
pp-DDT	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Endrin Aldehyde	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Endosulfan Sulphate	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Methoxychlor	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Surrogate TCMX	%	125	128	125	126	122

OCP in water		
Our Reference		209407-9
Your Reference	UNITS	BH105
Date Sampled		10/01/2019
Type of sample		Water
Date extracted	-	15/01/2019
Date analysed	-	15/01/2019
HCB	µg/L	<0.2
alpha-BHC	µg/L	<0.2
gamma-BHC	µg/L	<0.2
beta-BHC	µg/L	<0.2
Heptachlor	µg/L	<0.2
delta-BHC	µg/L	<0.2
Aldrin	µg/L	<0.2
Heptachlor Epoxide	µg/L	<0.2
gamma-Chlordane	µg/L	<0.2
alpha-Chlordane	µg/L	<0.2
Endosulfan I	µg/L	<0.2
pp-DDE	µg/L	<0.2
Dieldrin	µg/L	<0.2
Endrin	µg/L	<0.2
pp-DDD	µg/L	<0.2
Endosulfan II	µg/L	<0.2
pp-DDT	µg/L	<0.2
Endrin Aldehyde	µg/L	<0.2
Endosulfan Sulphate	µg/L	<0.2
Methoxychlor	µg/L	<0.2
Surrogate TCMX	%	128

OP Pesticides in water						
Our Reference	UNITS	209407-4	209407-5	209407-6	209407-7	209407-8
Your Reference		FR	BH101	BH102	BH103	BH104
Date Sampled		10/01/2019	10/01/2019	10/01/2019	10/01/2019	10/01/2019
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	15/01/2019	15/01/2019	15/01/2019	15/01/2019	15/01/2019
Date analysed	-	15/01/2019	15/01/2019	15/01/2019	15/01/2019	15/01/2019
Azinphos-methyl (Guthion)	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Bromophos ethyl	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Chlorpyrifos	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Chlorpyrifos-methyl	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Diazinon	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Dichlorvos	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Dimethoate	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Ethion	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Fenitrothion	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Malathion	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Parathion	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Ronnel	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Surrogate TCMX	%	125	128	125	126	122

OP Pesticides in water		
Our Reference	UNITS	209407-9
Your Reference		BH105
Date Sampled		10/01/2019
Type of sample		Water
Date extracted	-	15/01/2019
Date analysed	-	15/01/2019
Azinphos-methyl (Guthion)	µg/L	<0.2
Bromophos ethyl	µg/L	<0.2
Chlorpyrifos	µg/L	<0.2
Chlorpyrifos-methyl	µg/L	<0.2
Diazinon	µg/L	<0.2
Dichlorvos	µg/L	<0.2
Dimethoate	µg/L	<0.2
Ethion	µg/L	<0.2
Fenitrothion	µg/L	<0.2
Malathion	µg/L	<0.2
Parathion	µg/L	<0.2
Ronnel	µg/L	<0.2
Surrogate TCMX	%	128

PCBs in Water						
Our Reference		209407-4	209407-5	209407-6	209407-7	209407-8
Your Reference	UNITS	FR	BH101	BH102	BH103	BH104
Date Sampled		10/01/2019	10/01/2019	10/01/2019	10/01/2019	10/01/2019
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	15/01/2019	15/01/2019	15/01/2019	15/01/2019	15/01/2019
Date analysed	-	15/01/2019	15/01/2019	15/01/2019	15/01/2019	15/01/2019
Aroclor 1016	µg/L	<2	<2	<2	<2	<2
Aroclor 1221	µg/L	<2	<2	<2	<2	<2
Aroclor 1232	µg/L	<2	<2	<2	<2	<2
Aroclor 1242	µg/L	<2	<2	<2	<2	<2
Aroclor 1248	µg/L	<2	<2	<2	<2	<2
Aroclor 1254	µg/L	<2	<2	<2	<2	<2
Aroclor 1260	µg/L	<2	<2	<2	<2	<2
Surrogate TCLMX	%	125	128	125	126	122

PCBs in Water		
Our Reference		209407-9
Your Reference	UNITS	BH105
Date Sampled		10/01/2019
Type of sample		Water
Date extracted	-	15/01/2019
Date analysed	-	15/01/2019
Aroclor 1016	µg/L	<2
Aroclor 1221	µg/L	<2
Aroclor 1232	µg/L	<2
Aroclor 1242	µg/L	<2
Aroclor 1248	µg/L	<2
Aroclor 1254	µg/L	<2
Aroclor 1260	µg/L	<2
Surrogate TCLMX	%	128

Total Phenolics in Water						
Our Reference		209407-4	209407-5	209407-6	209407-7	209407-8
Your Reference	UNITS	FR	BH101	BH102	BH103	BH104
Date Sampled		10/01/2019	10/01/2019	10/01/2019	10/01/2019	10/01/2019
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	16/01/2019	16/01/2019	16/01/2019	16/01/2019	16/01/2019
Date analysed	-	16/01/2019	16/01/2019	16/01/2019	16/01/2019	16/01/2019
Total Phenolics (as Phenol)	mg/L	<0.05	<0.05	<0.05	<0.05	<0.05

Total Phenolics in Water		
Our Reference		209407-9
Your Reference	UNITS	BH105
Date Sampled		10/01/2019
Type of sample		Water
Date extracted	-	16/01/2019
Date analysed	-	16/01/2019
Total Phenolics (as Phenol)	mg/L	<0.05

HM in water - dissolved						
Our Reference		209407-4	209407-5	209407-6	209407-7	209407-8
Your Reference	UNITS	FR	BH101	BH102	BH103	BH104
Date Sampled		10/01/2019	10/01/2019	10/01/2019	10/01/2019	10/01/2019
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	15/01/2019	15/01/2019	15/01/2019	15/01/2019	15/01/2019
Date analysed	-	15/01/2019	15/01/2019	15/01/2019	15/01/2019	15/01/2019
Arsenic-Dissolved	µg/L	<1	<1	<1	<1	<1
Cadmium-Dissolved	µg/L	0.1	1.4	0.5	0.1	0.2
Chromium-Dissolved	µg/L	<1	<1	<1	<1	<1
Copper-Dissolved	µg/L	32	23	27	17	30
Lead-Dissolved	µg/L	4	3	2	1	2
Mercury-Dissolved	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05
Nickel-Dissolved	µg/L	3	93	25	8	21
Zinc-Dissolved	µg/L	71	170	85	39	94
Aluminium-Dissolved	µg/L	10	50	10	<10	40
Bromine-Dissolved	µg/L	<10	31,000	12,000	11,000	8,300
Iron-Dissolved	µg/L	28	4,800	250	<10	4,800
Manganese-Dissolved	µg/L	<5	16,000	3,100	1,800	2,800

HM in water - dissolved			
Our Reference		209407-9	209407-10
Your Reference	UNITS	BH105	BD1/20190110
Date Sampled		10/01/2019	10/01/2019
Type of sample		Water	Water
Date prepared	-	15/01/2019	15/01/2019
Date analysed	-	15/01/2019	15/01/2019
Arsenic-Dissolved	µg/L	<1	<1
Cadmium-Dissolved	µg/L	0.2	0.2
Chromium-Dissolved	µg/L	<1	<1
Copper-Dissolved	µg/L	29	12
Lead-Dissolved	µg/L	2	<1
Mercury-Dissolved	µg/L	<0.05	<0.05
Nickel-Dissolved	µg/L	7	4
Zinc-Dissolved	µg/L	45	34
Aluminium-Dissolved	µg/L	10	10
Bromine-Dissolved	µg/L	28,000	27,000
Iron-Dissolved	µg/L	15	<10
Manganese-Dissolved	µg/L	1,100	850

Miscellaneous Inorganics						
Our Reference		209407-5	209407-6	209407-7	209407-8	209407-9
Your Reference	UNITS	BH101	BH102	BH103	BH104	BH105
Date Sampled		10/01/2019	10/01/2019	10/01/2019	10/01/2019	10/01/2019
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	14/01/2019	14/01/2019	14/01/2019	14/01/2019	14/01/2019
Date analysed	-	14/01/2019	14/01/2019	14/01/2019	14/01/2019	14/01/2019
Ammonia as N in water	mg/L	0.22	0.053	<0.005	0.11	0.047
Total Nitrogen in water	mg/L	0.6	0.6	1.1	0.3	0.8
Phosphate as P in water	mg/L	0.006	0.057	0.25	<0.005	0.008
Oil & Grease (LLE)	mg/L	<5	<5	<5	<5	<5

Cations in water Dissolved						
Our Reference		209407-5	209407-6	209407-7	209407-8	209407-9
Your Reference	UNITS	BH101	BH102	BH103	BH104	BH105
Date Sampled		10/01/2019	10/01/2019	10/01/2019	10/01/2019	10/01/2019
Type of sample		Water	Water	Water	Water	Water
Date digested	-	15/01/2019	15/01/2019	15/01/2019	15/01/2019	15/01/2019
Date analysed	-	15/01/2019	15/01/2019	15/01/2019	15/01/2019	15/01/2019
Calcium - Dissolved	mg/L	83	26	9.8	38	100
Magnesium - Dissolved	mg/L	820	230	160	160	550
Hardness	mgCaCO ₃ /L	3,600	1,000	670	770	2,500

Method ID	Methodology Summary
Inorg-003	Oil & Grease - determine gravimetrically following extraction with Hexane, in accordance with APHA latest edition, 5520-B.
Inorg-031	Total Phenolics by segmented flow analyser (in line distillation with colourimetric finish). Solids are extracted in a caustic media prior to analysis.
Inorg-055/062	Total Nitrogen - Calculation sum of TKN and oxidised Nitrogen.
Inorg-057	Ammonia - determined colourimetrically, based on APHA latest edition 4500-NH3 F. Soils are analysed following a KCl extraction.
Inorg-060	Phosphate determined colourimetrically based on EPA365.1 and APHA latest edition 4500 P E. Soils are analysed following a water extraction.
Metals-020	Determination of various metals by ICP-AES.
Metals-021	Determination of Mercury by Cold Vapour AAS.
Metals-022	Determination of various metals by ICP-MS.
Org-003	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis.
Org-005	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC with dual ECD's.
Org-006	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC-ECD.
Org-008	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC with dual ECD's.
Org-012	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS. Benzo(a)pyrene TEQ as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater - 2013.
Org-013	Water samples are analysed directly by purge and trap GC-MS.
Org-016	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater.

Client Reference: 94525.00, St Marys - Stage 1 Contam. Assessment

QUALITY CONTROL: VOCs in water						Duplicate		Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W3	[NT]
Date extracted	-			15/01/2019	[NT]	[NT]	[NT]	[NT]	15/01/2019	[NT]
Date analysed	-			16/01/2019	[NT]	[NT]	[NT]	[NT]	16/01/2019	[NT]
Dichlorodifluoromethane	µg/L	10	Org-013	<10	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Chloromethane	µg/L	10	Org-013	<10	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Vinyl Chloride	µg/L	10	Org-013	<10	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Bromomethane	µg/L	10	Org-013	<10	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Chloroethane	µg/L	10	Org-013	<10	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Trichlorofluoromethane	µg/L	10	Org-013	<10	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,1-Dichloroethene	µg/L	1	Org-013	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Trans-1,2-dichloroethene	µg/L	1	Org-013	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,1-dichloroethane	µg/L	1	Org-013	<1	[NT]	[NT]	[NT]	[NT]	102	[NT]
Cis-1,2-dichloroethene	µg/L	1	Org-013	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Bromochloromethane	µg/L	1	Org-013	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Chloroform	µg/L	1	Org-013	<1	[NT]	[NT]	[NT]	[NT]	101	[NT]
2,2-dichloropropane	µg/L	1	Org-013	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,2-dichloroethane	µg/L	1	Org-013	<1	[NT]	[NT]	[NT]	[NT]	96	[NT]
1,1,1-trichloroethane	µg/L	1	Org-013	<1	[NT]	[NT]	[NT]	[NT]	102	[NT]
1,1-dichloropropene	µg/L	1	Org-013	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Cyclohexane	µg/L	1	Org-013	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Carbon tetrachloride	µg/L	1	Org-013	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Benzene	µg/L	1	Org-013	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Dibromomethane	µg/L	1	Org-013	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,2-dichloropropane	µg/L	1	Org-013	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Trichloroethene	µg/L	1	Org-013	<1	[NT]	[NT]	[NT]	[NT]	106	[NT]
Bromodichloromethane	µg/L	1	Org-013	<1	[NT]	[NT]	[NT]	[NT]	100	[NT]
trans-1,3-dichloropropene	µg/L	1	Org-013	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
cis-1,3-dichloropropene	µg/L	1	Org-013	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,1,2-trichloroethane	µg/L	1	Org-013	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Toluene	µg/L	1	Org-013	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,3-dichloropropane	µg/L	1	Org-013	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Dibromochloromethane	µg/L	1	Org-013	<1	[NT]	[NT]	[NT]	[NT]	99	[NT]
1,2-dibromoethane	µg/L	1	Org-013	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Tetrachloroethene	µg/L	1	Org-013	<1	[NT]	[NT]	[NT]	[NT]	98	[NT]
1,1,1,2-tetrachloroethane	µg/L	1	Org-013	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Chlorobenzene	µg/L	1	Org-013	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Ethylbenzene	µg/L	1	Org-013	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Bromoform	µg/L	1	Org-013	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
m+p-xylene	µg/L	2	Org-013	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Styrene	µg/L	1	Org-013	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,1,2,2-tetrachloroethane	µg/L	1	Org-013	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
o-xylene	µg/L	1	Org-013	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]

QUALITY CONTROL: VOCs in water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W3	[NT]
1,2,3-trichloropropane	µg/L	1	Org-013	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Isopropylbenzene	µg/L	1	Org-013	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Bromobenzene	µg/L	1	Org-013	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
n-propyl benzene	µg/L	1	Org-013	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2-chlorotoluene	µg/L	1	Org-013	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
4-chlorotoluene	µg/L	1	Org-013	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,3,5-trimethyl benzene	µg/L	1	Org-013	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Tert-butyl benzene	µg/L	1	Org-013	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,2,4-trimethyl benzene	µg/L	1	Org-013	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,3-dichlorobenzene	µg/L	1	Org-013	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Sec-butyl benzene	µg/L	1	Org-013	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,4-dichlorobenzene	µg/L	1	Org-013	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
4-isopropyl toluene	µg/L	1	Org-013	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,2-dichlorobenzene	µg/L	1	Org-013	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
n-butyl benzene	µg/L	1	Org-013	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,2-dibromo-3-chloropropane	µg/L	1	Org-013	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,2,4-trichlorobenzene	µg/L	1	Org-013	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Hexachlorobutadiene	µg/L	1	Org-013	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,2,3-trichlorobenzene	µg/L	1	Org-013	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate Dibromofluoromethane	%		Org-013	97	[NT]	[NT]	[NT]	[NT]	98	[NT]
Surrogate toluene-d8	%		Org-013	102	[NT]	[NT]	[NT]	[NT]	101	[NT]
Surrogate 4-BFB	%		Org-013	99	[NT]	[NT]	[NT]	[NT]	102	[NT]

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QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W3	[NT]
Date extracted	-			15/01/2019	[NT]	[NT]	[NT]	[NT]	15/01/2019	[NT]
Date analysed	-			16/01/2019	[NT]	[NT]	[NT]	[NT]	16/01/2019	[NT]
TRH C ₆ - C ₉	µg/L	10	Org-016	<10	[NT]	[NT]	[NT]	[NT]	100	[NT]
TRH C ₆ - C ₁₀	µg/L	10	Org-016	<10	[NT]	[NT]	[NT]	[NT]	100	[NT]
Benzene	µg/L	1	Org-016	<1	[NT]	[NT]	[NT]	[NT]	103	[NT]
Toluene	µg/L	1	Org-016	<1	[NT]	[NT]	[NT]	[NT]	100	[NT]
Ethylbenzene	µg/L	1	Org-016	<1	[NT]	[NT]	[NT]	[NT]	99	[NT]
m+p-xylene	µg/L	2	Org-016	<2	[NT]	[NT]	[NT]	[NT]	100	[NT]
o-xylene	µg/L	1	Org-016	<1	[NT]	[NT]	[NT]	[NT]	100	[NT]
Naphthalene	µg/L	1	Org-013	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate Dibromofluoromethane	%		Org-016	97	[NT]	[NT]	[NT]	[NT]	98	[NT]
Surrogate toluene-d8	%		Org-016	102	[NT]	[NT]	[NT]	[NT]	101	[NT]
Surrogate 4-BFB	%		Org-016	99	[NT]	[NT]	[NT]	[NT]	102	[NT]

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QUALITY CONTROL: svTRH (C10-C40) in Water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	209407-5
Date extracted	-			15/01/2019	4	15/01/2019	15/01/2019		15/01/2019	15/01/2019
Date analysed	-			15/01/2019	4	15/01/2019	15/01/2019		15/01/2019	15/01/2019
TRH C ₁₀ - C ₁₄	µg/L	50	Org-003	<50	4	<50	<50	0	105	86
TRH C ₁₅ - C ₂₈	µg/L	100	Org-003	<100	4	<100	<100	0	73	71
TRH C ₂₉ - C ₃₆	µg/L	100	Org-003	<100	4	<100	<100	0	131	113
TRH >C ₁₀ - C ₁₆	µg/L	50	Org-003	<50	4	<50	<50	0	105	86
TRH >C ₁₆ - C ₃₄	µg/L	100	Org-003	<100	4	<100	<100	0	73	71
TRH >C ₃₄ - C ₄₀	µg/L	100	Org-003	<100	4	<100	<100	0	131	113
Surrogate o-Terphenyl	%		Org-003	112	4	113	115	2	112	84

QUALITY CONTROL: PAHs in Water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	209407-5
Date extracted	-			15/01/2019	4	15/01/2019	15/01/2019		15/01/2019	15/01/2019
Date analysed	-			16/01/2019	4	16/01/2019	16/01/2019		16/01/2019	16/01/2019
Naphthalene	µg/L	1	Org-012	<1	4	<1	<1	0	91	94
Acenaphthylene	µg/L	1	Org-012	<1	4	<1	<1	0	[NT]	[NT]
Acenaphthene	µg/L	1	Org-012	<1	4	<1	<1	0	[NT]	[NT]
Fluorene	µg/L	1	Org-012	<1	4	<1	<1	0	90	94
Phenanthrene	µg/L	1	Org-012	<1	4	<1	<1	0	89	96
Anthracene	µg/L	1	Org-012	<1	4	<1	<1	0	[NT]	[NT]
Fluoranthene	µg/L	1	Org-012	<1	4	<1	<1	0	95	101
Pyrene	µg/L	1	Org-012	<1	4	<1	<1	0	94	100
Benzo(a)anthracene	µg/L	1	Org-012	<1	4	<1	<1	0	[NT]	[NT]
Chrysene	µg/L	1	Org-012	<1	4	<1	<1	0	105	111
Benzo(b,j+k)fluoranthene	µg/L	2	Org-012	<2	4	<2	<2	0	[NT]	[NT]
Benzo(a)pyrene	µg/L	1	Org-012	<1	4	<1	<1	0	102	111
Indeno(1,2,3-c,d)pyrene	µg/L	1	Org-012	<1	4	<1	<1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	µg/L	1	Org-012	<1	4	<1	<1	0	[NT]	[NT]
Benzo(g,h,i)perylene	µg/L	1	Org-012	<1	4	<1	<1	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-012	127	4	120	121	1	118	117

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QUALITY CONTROL: OCP in water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	209407-5
Date extracted	-			15/01/2019	4	15/01/2019	15/01/2019		15/01/2019	15/01/2019
Date analysed	-			15/01/2019	4	15/01/2019	15/01/2019		15/01/2019	15/01/2019
HCB	µg/L	0.2	Org-005	<0.2	4	<0.2	<0.2	0	[NT]	[NT]
alpha-BHC	µg/L	0.2	Org-005	<0.2	4	<0.2	<0.2	0	114	120
gamma-BHC	µg/L	0.2	Org-005	<0.2	4	<0.2	<0.2	0	[NT]	[NT]
beta-BHC	µg/L	0.2	Org-005	<0.2	4	<0.2	<0.2	0	93	95
Heptachlor	µg/L	0.2	Org-005	<0.2	4	<0.2	<0.2	0	96	100
delta-BHC	µg/L	0.2	Org-005	<0.2	4	<0.2	<0.2	0	[NT]	[NT]
Aldrin	µg/L	0.2	Org-005	<0.2	4	<0.2	<0.2	0	84	88
Heptachlor Epoxide	µg/L	0.2	Org-005	<0.2	4	<0.2	<0.2	0	90	93
gamma-Chlordane	µg/L	0.2	Org-005	<0.2	4	<0.2	<0.2	0	[NT]	[NT]
alpha-Chlordane	µg/L	0.2	Org-005	<0.2	4	<0.2	<0.2	0	[NT]	[NT]
Endosulfan I	µg/L	0.2	Org-005	<0.2	4	<0.2	<0.2	0	[NT]	[NT]
pp-DDE	µg/L	0.2	Org-005	<0.2	4	<0.2	<0.2	0	101	106
Dieldrin	µg/L	0.2	Org-005	<0.2	4	<0.2	<0.2	0	101	106
Endrin	µg/L	0.2	Org-005	<0.2	4	<0.2	<0.2	0	93	97
pp-DDD	µg/L	0.2	Org-005	<0.2	4	<0.2	<0.2	0	90	94
Endosulfan II	µg/L	0.2	Org-005	<0.2	4	<0.2	<0.2	0	[NT]	[NT]
pp-DDT	µg/L	0.2	Org-005	<0.2	4	<0.2	<0.2	0	[NT]	[NT]
Endrin Aldehyde	µg/L	0.2	Org-005	<0.2	4	<0.2	<0.2	0	[NT]	[NT]
Endosulfan Sulphate	µg/L	0.2	Org-005	<0.2	4	<0.2	<0.2	0	97	105
Methoxychlor	µg/L	0.2	Org-005	<0.2	4	<0.2	<0.2	0	[NT]	[NT]
Surrogate TCMX	%		Org-005	123	4	125	128	2	112	117

Client Reference: 94525.00, St Marys - Stage 1 Contam. Assessment

QUALITY CONTROL: OP Pesticides in water					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	209407-6
Date extracted	-			15/01/2019	4	15/01/2019	15/01/2019		15/01/2019	15/01/2019
Date analysed	-			15/01/2019	4	15/01/2019	15/01/2019		15/01/2019	15/01/2019
Azinphos-methyl (Guthion)	µg/L	0.2	Org-008	<0.2	4	<0.2	<0.2	0	[NT]	[NT]
Bromophos ethyl	µg/L	0.2	Org-008	<0.2	4	<0.2	<0.2	0	[NT]	[NT]
Chlorpyrifos	µg/L	0.2	Org-008	<0.2	4	<0.2	<0.2	0	87	92
Chlorpyrifos-methyl	µg/L	0.2	Org-008	<0.2	4	<0.2	<0.2	0	[NT]	[NT]
Diazinon	µg/L	0.2	Org-008	<0.2	4	<0.2	<0.2	0	[NT]	[NT]
Dichlorvos	µg/L	0.2	Org-008	<0.2	4	<0.2	<0.2	0	90	93
Dimethoate	µg/L	0.2	Org-008	<0.2	4	<0.2	<0.2	0	[NT]	[NT]
Ethion	µg/L	0.2	Org-008	<0.2	4	<0.2	<0.2	0	113	108
Fenitrothion	µg/L	0.2	Org-008	<0.2	4	<0.2	<0.2	0	110	115
Malathion	µg/L	0.2	Org-008	<0.2	4	<0.2	<0.2	0	101	105
Parathion	µg/L	0.2	Org-008	<0.2	4	<0.2	<0.2	0	88	114
Ronnel	µg/L	0.2	Org-008	<0.2	4	<0.2	<0.2	0	92	97
Surrogate TCMX	%		Org-008	123	4	125	128	2	118	111

Client Reference: 94525.00, St Marys - Stage 1 Contam. Assessment

QUALITY CONTROL: PCBs in Water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	209407-6
Date extracted	-			15/01/2019	4	15/01/2019	15/01/2019		15/01/2019	15/01/2019
Date analysed	-			15/01/2019	4	15/01/2019	15/01/2019		15/01/2019	15/01/2019
Aroclor 1016	µg/L	2	Org-006	<2	4	<2	<2	0	[NT]	[NT]
Aroclor 1221	µg/L	2	Org-006	<2	4	<2	<2	0	[NT]	[NT]
Aroclor 1232	µg/L	2	Org-006	<2	4	<2	<2	0	[NT]	[NT]
Aroclor 1242	µg/L	2	Org-006	<2	4	<2	<2	0	[NT]	[NT]
Aroclor 1248	µg/L	2	Org-006	<2	4	<2	<2	0	[NT]	[NT]
Aroclor 1254	µg/L	2	Org-006	<2	4	<2	<2	0	99	102
Aroclor 1260	µg/L	2	Org-006	<2	4	<2	<2	0	[NT]	[NT]
Surrogate TCLMX	%		Org-006	123	4	125	128	2	118	111

Client Reference: 94525.00, St Marys - Stage 1 Contam. Assessment

QUALITY CONTROL: Total Phenolics in Water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	209407-5
Date extracted	-			16/01/2019	4	16/01/2019	16/01/2019		16/01/2019	16/01/2019
Date analysed	-			16/01/2019	4	16/01/2019	16/01/2019		16/01/2019	16/01/2019
Total Phenolics (as Phenol)	mg/L	0.05	Inorg-031	<0.05	4	<0.05	<0.05	0	102	99

Client Reference: 94525.00, St Marys - Stage 1 Contam. Assessment

QUALITY CONTROL: HM in water - dissolved					Duplicate		Spike Recovery %			
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	209407-5
Date prepared	-			15/01/2019	4	15/01/2019	15/01/2019		15/01/2019	15/01/2019
Date analysed	-			15/01/2019	4	15/01/2019	15/01/2019		15/01/2019	15/01/2019
Arsenic-Dissolved	µg/L	1	Metals-022	<1	4	<1	<1	0	100	104
Cadmium-Dissolved	µg/L	0.1	Metals-022	<0.1	4	0.1	<0.1	0	101	97
Chromium-Dissolved	µg/L	1	Metals-022	<1	4	<1	<1	0	102	98
Copper-Dissolved	µg/L	1	Metals-022	<1	4	32	32	0	101	87
Lead-Dissolved	µg/L	1	Metals-022	<1	4	4	4	0	101	92
Mercury-Dissolved	µg/L	0.05	Metals-021	<0.05	4	<0.05	[NT]		103	[NT]
Nickel-Dissolved	µg/L	1	Metals-022	<1	4	3	4	29	102	90
Zinc-Dissolved	µg/L	1	Metals-022	<1	4	71	74	4	103	92
Aluminium-Dissolved	µg/L	10	Metals-022	<10	4	10	<10	0	107	87
Bromine-Dissolved	µg/L	10	Metals-022	<10	4	<10	<10	0	100	#
Iron-Dissolved	µg/L	10	Metals-022	<10	4	28	29	4	104	#
Manganese-Dissolved	µg/L	5	Metals-022	<5	4	<5	<5	0	102	#

QUALITY CONTROL: HM in water - dissolved					Duplicate		Spike Recovery %			
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	209407-9
Date prepared	-			[NT]	8	15/01/2019	15/01/2019		[NT]	15/01/2019
Date analysed	-			[NT]	8	15/01/2019	15/01/2019		[NT]	15/01/2019
Arsenic-Dissolved	µg/L	1	Metals-022	[NT]	8	<1	[NT]		[NT]	[NT]
Cadmium-Dissolved	µg/L	0.1	Metals-022	[NT]	8	0.2	[NT]		[NT]	[NT]
Chromium-Dissolved	µg/L	1	Metals-022	[NT]	8	<1	[NT]		[NT]	[NT]
Copper-Dissolved	µg/L	1	Metals-022	[NT]	8	30	[NT]		[NT]	[NT]
Lead-Dissolved	µg/L	1	Metals-022	[NT]	8	2	[NT]		[NT]	[NT]
Mercury-Dissolved	µg/L	0.05	Metals-021	[NT]	8	<0.05	<0.05	0	[NT]	111
Nickel-Dissolved	µg/L	1	Metals-022	[NT]	8	21	[NT]		[NT]	[NT]
Zinc-Dissolved	µg/L	1	Metals-022	[NT]	8	94	[NT]		[NT]	[NT]
Aluminium-Dissolved	µg/L	10	Metals-022	[NT]	8	40	[NT]		[NT]	[NT]
Bromine-Dissolved	µg/L	10	Metals-022	[NT]	8	8300	[NT]		[NT]	[NT]
Iron-Dissolved	µg/L	10	Metals-022	[NT]	8	4800	[NT]		[NT]	[NT]
Manganese-Dissolved	µg/L	5	Metals-022	[NT]	8	2800	[NT]		[NT]	[NT]

Client Reference: 94525.00, St Marys - Stage 1 Contam. Assessment

QUALITY CONTROL: Miscellaneous Inorganics						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	209407-6
Date prepared	-			14/01/2019	5	14/01/2019	14/01/2019		14/01/2019	14/01/2019
Date analysed	-			14/01/2019	5	14/01/2019	14/01/2019		14/01/2019	14/01/2019
Ammonia as N in water	mg/L	0.005	Inorg-057	<0.005	5	0.22	0.22	0	96	74
Total Nitrogen in water	mg/L	0.1	Inorg-055/062	<0.1	5	0.6	0.6	0	105	96
Phosphate as P in water	mg/L	0.005	Inorg-060	<0.005	5	0.006	0.006	0	113	85
Oil & Grease (LLE)	mg/L	5	Inorg-003	<5	5	<5	[NT]		84	[NT]

Client Reference: 94525.00, St Marys - Stage 1 Contam. Assessment

QUALITY CONTROL: Cations in water Dissolved						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	209407-6
Date digested	-			15/01/2019	5	15/01/2019	15/01/2019		15/01/2019	15/01/2019
Date analysed	-			15/01/2019	5	15/01/2019	15/01/2019		15/01/2019	15/01/2019
Calcium - Dissolved	mg/L	0.5	Metals-020	<0.5	5	83	80	4	99	#
Magnesium - Dissolved	mg/L	0.5	Metals-020	<0.5	5	820	810	1	100	#
Hardness	mgCaCO3/L	3		[NT]	5	3600	3500	3	[NT]	[NT]

Result Definitions

NT	Not tested
NA	Test not required
INS	Insufficient sample for this test
PQL	Practical Quantitation Limit
<	Less than
>	Greater than
RPD	Relative Percent Difference
LCS	Laboratory Control Sample
NS	Not specified
NEPM	National Environmental Protection Measure
NR	Not Reported

Quality Control Definitions

Blank	This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples.
Duplicate	This is the complete duplicate analysis of a sample from the process batch. If possible, the sample selected should be one where the analyte concentration is easily measurable.
Matrix Spike	A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.
LCS (Laboratory Control Sample)	This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample.
Surrogate Spike	Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.
Australian Drinking Water Guidelines recommend that Thermotolerant Coliform, Faecal Enterococci, & E.Coli levels are less than 1cfu/100mL. The recommended maximums are taken from "Australian Drinking Water Guidelines", published by NHMRC & ARMC 2011.	

Laboratory Acceptance Criteria

Duplicate sample and matrix spike recoveries may not be reported on smaller jobs, however, were analysed at a frequency to meet or exceed NEPM requirements. All samples are tested in batches of 20. The duplicate sample RPD and matrix spike recoveries for the batch were within the laboratory acceptance criteria.

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For VOCs in water samples, three vials are required for duplicate or spike analysis.

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In circumstances where no duplicate and/or sample spike has been reported at 1 in 10 and/or 1 in 20 samples respectively, the sample volume submitted was insufficient in order to satisfy laboratory QA/QC protocols.

When samples are received where certain analytes are outside of recommended technical holding times (THTs), the analysis has proceeded. Where analytes are on the verge of breaching THTs, every effort will be made to analyse within the THT or as soon as practicable.

Where sampling dates are not provided, Envirolab are not in a position to comment on the validity of the analysis where recommended technical holding times may have been breached.

Measurement Uncertainty estimates are available for most tests upon request.

Report Comments

8 HM in water - dissolved - # Percent recovery is not possible to report due to the high concentration of the element/s in the sample/s. However an acceptable recovery was obtained for the LCS.

Andrew Fitzsimons

From: Aileen Hie
Sent: Tuesday, 22 January 2019 6:09 PM
To: Andrew Fitzsimons
Subject: FW: Results for Registration 209407 94525.00, St Marys - Stage 1 Contam. Assessment
Attachments: 209407-COC.pdf
Follow Up Flag: Follow up
Flag Status: Flagged

Ref: 209407-A
TAT: std
Due: 30/1/19

File

Regards,

Aileen Hie | Sample Receipt Supervisor | Envirolab Services Pty Ltd

Great Science, Great Service.

12 Ashley Street Chatswood NSW 2067

T 612 9910 6200 F 612 9910 6201

E ahie@envirolab.com.au | W www.envirolab.com.au

Please note that all samples submitted to the Envirolab Group laboratories will be analysed under the Envirolab Group Terms and Conditions. The Terms and Conditions are accessible by clicking this link

From: Yashu Shrestha [mailto:Yashu.Shrestha@douglaspartners.com.au]

Sent: Tuesday, 22 January 2019 5:34 PM

To: Jacinta Hurst <JHurst@envirolab.com.au>; Aileen Hie <AHie@envirolab.com.au>

Subject: FW: Results for Registration 209407 94525.00, St Marys - Stage 1 Contam. Assessment

Hi Aileen/Jacinta

#3

Please could you analyse sample FB from the above batch for 8 metals+ Al, Bromine, Fe and Mn.

Thanks

Kind regards

SAMPLE RECEIPT ADVICE

Client Details

Client	Douglas Partners Pty Ltd (Riverstone)
Attention	Yashu Shresta

Sample Login Details

Your reference	94525.00, St Marys - Stage 1 Contam. Assessment
Envirolab Reference	209407-A
Date Sample Received	14/01/2019
Date Instructions Received	22/01/2019
Date Results Expected to be Reported	30/01/2019

Sample Condition

Samples received in appropriate condition for analysis	YES
No. of Samples Provided	10 Water
Turnaround Time Requested	Standard
Temperature on Receipt (°C)	4.7
Cooling Method	Ice Pack
Sampling Date Provided	YES

Comments

Nil

Please direct any queries to:

Aileen Hie

Phone: 02 9910 6200
Fax: 02 9910 6201
Email: ahie@envirolab.com.au

Jacinta Hurst

Phone: 02 9910 6200
Fax: 02 9910 6201
Email: jhurst@envirolab.com.au

Analysis Underway, details on the following page:

Sample ID	HM in water - dissolved	On Hold
Trip Blank		✓
Trip Spike		✓
FB	✓	
FR		✓
BH101		✓
BH102		✓
BH103		✓
BH104		✓
BH105		✓
BD1/20190110		✓

The '✓' indicates the testing you have requested. **THIS IS NOT A REPORT OF THE RESULTS.**

Additional Info

Sample storage - Waters are routinely disposed of approximately 1 month and soils approximately 2 months from receipt.

Requests for longer term sample storage must be received in writing.

CERTIFICATE OF ANALYSIS 209407-A

Client Details

Client	Douglas Partners Pty Ltd (Riverstone)
Attention	Yashu Shresta
Address	43 Hobart St, Riverstone, NSW, 2765

Sample Details

Your Reference	<u>94525.00, St Marys - Stage 1 Contam. Assessment</u>
Number of Samples	10 Water
Date samples received	14/01/2019
Date completed instructions received	22/01/2019

Analysis Details

Please refer to the following pages for results, methodology summary and quality control data.
 Samples were analysed as received from the client. Results relate specifically to the samples as received.
 Results are reported on a dry weight basis for solids and on an as received basis for other matrices.
Please refer to the last page of this report for any comments relating to the results.

Report Details

Date results requested by	30/01/2019
Date of Issue	31/01/2019
NATA Accreditation Number 2901. This document shall not be reproduced except in full.	
Accredited for compliance with ISO/IEC 17025 - Testing. Tests not covered by NATA are denoted with *	

Results Approved By

Jaimie Loa-Kum-Cheung, Senior Chemist

Authorised By



Jacinta Hurst, Laboratory Manager

HM in water - dissolved		
Our Reference		209407-A-3
Your Reference	UNITS	FB
Date Sampled		10/01/2019
Type of sample		Water
Date prepared	-	23/01/2019
Date analysed	-	23/01/2019
Arsenic-Dissolved	µg/L	<1
Cadmium-Dissolved	µg/L	<0.1
Chromium-Dissolved	µg/L	<1
Copper-Dissolved	µg/L	<1
Lead-Dissolved	µg/L	<1
Mercury-Dissolved	µg/L	<0.05
Nickel-Dissolved	µg/L	<1
Zinc-Dissolved	µg/L	<1
Aluminium-Dissolved	µg/L	<10
Bromine-Dissolved	µg/L	11
Iron-Dissolved	µg/L	<10
Manganese-Dissolved	µg/L	<5

Method ID	Methodology Summary
Metals-021	Determination of Mercury by Cold Vapour AAS.
Metals-022	Determination of various metals by ICP-MS.

Client Reference: 94525.00, St Marys - Stage 1 Contam. Assessment

QUALITY CONTROL: HM in water - dissolved					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Date prepared	-			23/01/2019	[NT]	[NT]	[NT]	[NT]	23/01/2019	[NT]
Date analysed	-			23/01/2019	[NT]	[NT]	[NT]	[NT]	23/01/2019	[NT]
Arsenic-Dissolved	µg/L	1	Metals-022	<1	[NT]	[NT]	[NT]	[NT]	96	[NT]
Cadmium-Dissolved	µg/L	0.1	Metals-022	<0.1	[NT]	[NT]	[NT]	[NT]	102	[NT]
Chromium-Dissolved	µg/L	1	Metals-022	<1	[NT]	[NT]	[NT]	[NT]	100	[NT]
Copper-Dissolved	µg/L	1	Metals-022	<1	[NT]	[NT]	[NT]	[NT]	98	[NT]
Lead-Dissolved	µg/L	1	Metals-022	<1	[NT]	[NT]	[NT]	[NT]	104	[NT]
Mercury-Dissolved	µg/L	0.05	Metals-021	<0.05	[NT]	[NT]	[NT]	[NT]	114	[NT]
Nickel-Dissolved	µg/L	1	Metals-022	<1	[NT]	[NT]	[NT]	[NT]	97	[NT]
Zinc-Dissolved	µg/L	1	Metals-022	<1	[NT]	[NT]	[NT]	[NT]	98	[NT]
Aluminium-Dissolved	µg/L	10	Metals-022	<10	[NT]	[NT]	[NT]	[NT]	104	[NT]
Bromine-Dissolved	µg/L	10	Metals-022	<10	[NT]	[NT]	[NT]	[NT]	107	[NT]
Iron-Dissolved	µg/L	10	Metals-022	<10	[NT]	[NT]	[NT]	[NT]	97	[NT]
Manganese-Dissolved	µg/L	5	Metals-022	<5	[NT]	[NT]	[NT]	[NT]	97	[NT]

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Report Comments

Dissolved Metals: no preserved sample was received, therefore the unpreserved sample was filtered through 0.45um filter at the lab.
Note: there is a possibility some elements may be underestimated.