NEO CONSULTING

PRELIMINARY SITE INVESTIGATION

N6293

Mike Fitzpatrick c/o R.J. SINCLAIR Pty Ltd

Property AT:

126 Somersby Falls Road,

Somersby NSW 2250

Friday, 29th July 2022

Report Distribution

Preliminary Site Investigation

Address: 126 Somersby Falls Road, Somersby NSW 2250

Report No: N6293

Date: Friday, 29th July 2022

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Nick Caltabiano

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Executive Summary

Executive Summary

NEO Consulting were appointed by Mike Fitzpatrick (the client) to undertake a Preliminary Site Investigation (PSI) for the site located at No. 126 Somersby Falls Road, Somersby NSW 2250 (the site). The site is legally identified as Lot 1/-/DP712505 and has an area of approximately 10,480m^2. The site is currently zoned as RU1 - Primary Production.

The objective of this PSI was to provide a preliminary assessment of potentially contaminating activities which may have impacted the site. The scope of work undertaken includes:

- A site inspection to identify potential sources of contamination;
- Soil sampling to identify any contaminants (if present);
- Historical investigations relating to the site (if any);
- Local Council records and planning certificates;
- NSW Environment Protection Authority (EPA) environmental contaminated lands register;
- Protection of the Environment Operations (POEO) Act public register;
- Dial-Before-You-Dig enquiry for an evaluation into local underground services and assets;
- Review of local geological and hydrogeological information, including an evaluation of the WaterNSW registered groundwater bore database; and
- Acid Sulphate Soils (ASS) data maps

A site investigation was undertaken on 22nd July 2022 by qualified environmental consultants. During the site inspection, a soil investigation program was undertaken with a judgemental approach across the site to identify areas of contamination. Six (6) soil samples were obtained from the fill layer (0-0.3m) across the site. The samples were submitted to a National Association of Testing Authorities, Australia (NATA) accredited laboratory for analysis of Chemicals of Potential Concern (CoPC) that may have impacted the site during historical or present activities.

Analytical results indicate no exceedance of the NEPM and CRC Care Health and NEPM Ecological Assessment Criteria for Residential (A) sites. Additionally, No Asbestos was found in all samples. The consent authority may be satisfied that the required considerations of Cl 4.6 of State Environmental Planning Policy (Resilience and Hazards) 2021are satisfied for the following reasons:

1) Site observations did not indicate significant visible indications of contamination or contaminating sources;
2) Analytical results for all analytes were below the Health and Ecological Assessment Criteria for Residential (A) sites.

NEO Consulting considers that the potential for significant contamination of soil to be low and find that the site is suitable for the residential land use, provided the Recommendations within **Section 14** are undertaken.

1. Introduction

1.1 Background

NEO Consulting were appointed by Mike Fitzpatrick (the client) to undertake a Preliminary Site Investigation (PSI) for the site located at No. 126 Somersby Falls Road, Somersby NSW 2250 (the site). The site is legally identified as Lot 1/-/DP712505 and has an area of approximately 10,480m^2. The site is currently zoned as RU1 - Primary Production.

A site inspection was undertaken on 22nd July 2022 by qualified environmental consultants. Reporting, photographs and sampling were conducted on this day and with reference to the relevant regulatory criterial **(2. Scope of Work**). Further information of the inspection is described in **4. Site Condition**.

1.2 Objectives

This report provides a preliminary assessment of current and/or historical potentially contaminating activities that may have impacted the soils and will determine if the site is suitable for the proposed development.

1.3 Regulatory Framework

This PSI has been prepared in general accordance with the following regulatory framework:

- State Environmental Planning Policy (Resilience and Hazard) 2021;
- National Environment Protection Measures (NEPM), 2013;
- NSW Environmental Protection Authority, *Guidelines on the Duty to Report Contamination under Contaminated Land Management Act*, 1997;
- NSW Environmental Protection Authority, *Consultants Reporting on Contaminated Land: Contaminated Land Guidelines,* 2020;
- Protection of the Environment and Operation Act 1997; and
- Protection of the Environment Operations (Waste) Regulations, 2005.

2. Scope of Work

To meet the requirements in Section 1.3 of this report, the following scope of works were included:

- A site inspection to identify potential sources of contamination on site;
- Soil sampling to identify any contaminants (if present);
- Historical investigations relating to the site (if any);
- Review of current and historical Certificates of Title;
- Local Council records and planning certificates;
- NSW EPA Contaminated Land Records;
- NSW POEO Register;
- Review of local geological and hydrogeological information, including an evaluation of the NSW Groundwater registered groundwater bore database;
- Review of Acid Sulphate Soil data maps;
- Development of a Conceptual Site Model (CSM) to identify the connections between potential sources of contamination and exposure pathways, human and/or ecological receptors; and
- Recommendations for additional investigations (if any), based on the identified data gaps and findings of this report.

3. Site Details

Table 1. Site Details

Address	No. 126 Somersby Falls Road, Somersby NSW 2250
Deposited plan	Lot 1/-/DP712505
Zoning	RU1 - Primary Production
Locality map	Figure 1, Appendix A
Site Boundary	Figure 2, Appendix A
Area	10,480m^2

Table 2. Surrounding land-use

Direction from site	Land-use
North	Industrial property and vegetated land
East	Industrial property
South	Somersby Falls Road
West	Somersby Falls Road

4. Site Condition

A site inspection was undertaken on 22nd July 2022 by NEO Consulting. During the site inspection, the following observations were noted (photographs in **Appendix A**):

- The site was a triangular lot;
- The northern portion of the site contained four (4) building structures including;
  - A metal shed in the west;
  - A weatherboard dwelling in the centre; and
  - Two dwellings in the east;
- The southern portion of the site:
  - Was free of structures;
  - Contained a water pond;
  - Had grass groundcover.
- The site was surrounded by mature trees along the eastern and northern boundaries;
- No evidence of contamination was identified;
- There was a distinct change in elevation across the site area, sloping from northwest to southeast; and
- No indications of underground storage of petroleum products were identified.

5. Site History

5.1 History of Site

A summary of historical aerial imagery is contained below, and the images referenced can be seen in **Appendix A**.

Table 3. Historical aerial images of the site and surrounding area.

Year	Description
1966	The site was free of infrastructures and was sparsely vegetated. The surrounding area was vegetated landscapes.
1984	The vegetation across the site had been improved. A water pond had been built within the southern portion. The surrounding area was increased in rural developments.
2007	The site had been developed and was contained three building structures within the northern portion. The surrounding area was improved in commercial and industrial developments.

2015	A new dwelling had been built within the north-eastern portion of the site. The surrounding area was improved further in commercial and industrial developments.
2022	The site remains unchanged. The surrounding area is under industrial developments to the north and east.

5.2 Section 10.7 (2) Planning Certificate

A Section 10.7 Planning Certificate describes how a property may be used and the restrictions on development. The Planning Certificate is issued under Section 149 of the Environmental Planning and Assessment Act 1979. At the time of reporting, the Planning Certificate was not available.

5.3 NSW EPA Contaminated Land Register

A search within the NSW EPA contaminated land register was undertaken for the site. No results were found for the site.

5.4 Protection of the Environment Operation Act (POEO) Public Register

A search on the POEO public register of licensed and delicensed premises (DECC) was undertaken for the site. No results were found for the site.

5.5 SafeWork NSW Hazardous Goods

A search was not undertaken with SafeWork NSW for historical dangerous goods stored onsite.

5.6 Product Spill and Loss History

The visual site inspection did not identify evidence of contamination within the site (e.g. chemical staining, unhealthy vegetation).

5.7 Dial Before You Dig

A Dial-Before-You-Dig request suggests the potential for underground services and assets to be impacted or act as a portal to transport contamination offsite (**Appendix D**).

6. Environmental Setting

6.1 Geology

The Geological Map of Gosford-Lake macquarie (1:100,000), published by the Geological Survey of NSW indicated the site is underlain by Hawkesbury Sandstone, medium to coarse grained quartz sandstone with minor shale and laminite lenses.

A review of the regional maps by the NSW Department of Planning, Industry and Environment indicates the site is generally located within the Sydney Town landscape group. This landscape group is normally recognised by undulating to rolling low hills and moderately inclined slopes on quartz sandstone (Hawkesbury Sandstone and Terrigal Formation. Local relief of this landscape is typically up to 80 m, with slopes of usually 5-25%. Soils of This landscape group is shallow to deep (150 cm) Yellow Earths, Earthy Sands and some Siliceous Sands on crests and slopes; shallow to moderately deep (150 cm) Siliceous Sands, Leached Sands and Grey Earths in poorly drained areas and drainage lines; moderately deep (100–150 cm) Yellow Podzolic Soils and Gleyed Podzolic Soils associated with shale lenses.

6.2 Hydrology

A groundwater bore search was conducted on the 28thJuly 2022 and one (1) borehole (GW073523) was present within a 500m radius of the site. No Information was available for this borehole.

It was beyond the scope of works to study the groundwater flow direction. However, based on the regional topography, groundwater is expected to flow southeast towards Piles Creek.

6.3. Acid Sulphate Soil

To determine whether there is a potential for ASS to be present at the site, information was reviewed utilising the NSW Department of Planning, Industry and Environment eSPADE map viewer. The ASS risk maps show the chance of acid sulphate soil occurrence. This search indicated that there is "no known occurrence" of ASS underlying the soil at this site.

7. Areas of Environmental Concern

Based on the above information, the potential Areas of Environmental Concern (AEC) and their associated Contaminants of Potential Concern (CoPC) for the site were identified and summarised (**Table 4**).

Table 4. Potential Areas and Contaminants of Concern

AEC	Potentially Contaminating / Hazardous Activity	CoPC	Likelihood of Site Impact	Comments
Entire site	Importation of fill material. Historical on site structures and operations.	Metals, TRH, BTEX, PAH, OCP, OPP, Asbestos	Moderate	Based on site observations, the presence of imported fill material is possible. Historical operations may have given rise to contamination event/s.
Northern portion of the site	Hazardous building materials	Metals, PCBs, ACM, SMF	Low	No indication of these CoPC encountered during site inspection. Based on suspected age of construction (1990s), presence of these CoPCs is likely to be low.
Entire site	Aerosolised contaminated particles from nearby Industrial units	Metals, PAH	Moderate	Industrial activities may have given rise to PAH and metals contamination to the soils nearby.

ABBREVIATIONS: ASBESTOS CONTAINING MATERIALS (ACM), BENZENE, TOLUENE, ETHYLBENZENE AND XYLENE (BTEX), POLYCHLORINATED BIPHENYLS (PCBS), POLYCYCLIC AROMATIC HYDROCARBON (PAH), TOTAL RECOVERABLE HYDROCARBONS (TRH), SYNTHETIC MINERAL FIBRES (SMF), HAZARDOUS MATERIALS SURVEY (HMS).

8. Conceptual Site Model

A Conceptual Site Model (CSM) was developed to provide an indication of potential risks associated with contamination source and contamination migration pathways, receptors and exposure mechanisms. The CSM provides a framework for the review of the reliability and useability of the data collected and to identify data gaps in the existing site characterisation. Here, we consider the connections between the following elements:

- Potential contamination sources and their associated CoPC;
- Potential human receptors that may be impacted by the site contamination are current and future site users including occupants to the dwelling/infrastructures onsite, site workers and the general public within the immediate vicinity of the site;
- Potential environmental receptors to the site including but not limited to: groundwater and surface water bodies, residual soils at and/or nearby the site;
- Potential exposure pathways; and
- Whether source-pathway-receptor connections are complete based on current and future site conditions.

Table 5. Conceptual Site Model

Potential Sources	Potential Receptor	Potential Exposure Pathway	Complete connection	Risk	Justification/ Control Measures
Contaminated soil from importation of uncontrolled fill across the site. Historical on site operations. Hazardous materials from the demolition of onsite structures.	Future site occupant, construction workers, general public, surrounding sensitive receptors	Dermal contact, inhalation/ ingestion of particulates.	Complete (current)	Moderate	Exposure to potentially contaminated soils is likely due to unsealed surfaces. If present, impacted soils are to be disposed of off-site in accordance with an unexpected finds protocol.
			No (Future)	Low	
	Natural soils	Migration of contamination from fill layer.	Complete (current)	Moderate	If contamination is present in the fill layer, migration to the natural layer is possible. If present, impacted soils are to be disposed of off-site.
			No (Future)	Low	
	Piles Creek	Migration of impacted groundwater and surface water run-off.	Limited (current)	Moderate	The local topography surrounding the site falls toward South Pacific Ocean, located approximately 800m southeast of the site. It is likely surface waters from the site reach this waterway during heavy rainfall events. If present, contaminated soils and groundwater are likely to be remediated.
			Limited (future)	Low	
	Underlying aquifer	Leaching and migration of contaminants through groundwater infiltration.	Limited (current)	Moderate	Due to existing unsealed surfaces, leachability of contaminants is possible. If present, contaminated soil and/or groundwater
			Limited (future)	Low	

is likely to be remediated.

9. Assessment Criteria

The following assessment criteria were adopted for the investigation.

9.1 NEPM Health Investigation Level A (HIL-A) – Residential

HILs are scientific, risk-based guidance levels to be used as in the primary stage of assessing soil contamination to evaluate the potential risks to human health from chronic exposure to contaminants. HILs are applicable to a broad range of metals and organic substances, and generally apply to depths up to 3m below the surface for residential use. Tier 1 HILs are divided into sub-criteria. The sub-criteria appropriate to the site is HIL A – residential with garden/accessible soils.

Table 6. HIL-A

Assessment Criteria	Residential Soil HIL-A, mg/kg
HCB	10
Heptachlor	6
Chlordane	50
Aldrin & Dieldrin	6
Endrin	10
DDD+DDE+DDT	240
Endosulfan	270
Methoxychlor	300
Mirex	10
Arsenic, As	100
Cadmium, Cd	20
Chromium, Cr	100
Copper, Cu	6,000
Lead, Pb	300
Nickel, Ni	400
Zinc, Zn	7,400
Mercury, Hg	40
Carcinogenic PAHs (as BaP TEQ)	3
Total PAH (18)	300

9.2 NEPM Health Screening Level A (HSL-A) – Residential

HSLs have been developed for selected petroleum compounds and fractions and are used for the assessment of potential risks to human health from chronic inhalation and direct contact pathways of petroleum vapour emanating off petroleum contaminated soils (Vapour Risk). HSLs are guided by land-use scenarios, specific soil physicochemical properties and generally apply to depths below surface to >4m. Tier 1 HSLs are divided into sub-criteria. The sub-criteria appropriate to the site is HSL A – residential with garden/accessible soils. NL = Not Limiting.

Table 7. HSL-A

Assessment Criteria	Residential Soil HSL-A for Vapour Intrusion, 0-<1m depth, Clay, mg/kg	Residential Soil HSL-A for Vapour Intrusion, 1-<2m depth, Clay, mg/kg
Benzene	0.7	1
Toluene	480	NL
Ethylbenzene	NL	NL
Xylenes	110	310
Naphthalene	5	NL
TRH C_6-C_{10} - BTEX (F1)	50	90
TRH >C_{10}-C_{16} - N (F2)	280	NL

9.3 CRC Care – Residential

In accordance with the CRC for Contamination Assessment and Remediation of the Environment, Technical Report 10, "*Health screening levels for petroleum hydrocarbons in soil and groundwater*", HSLs for direct contact are to be considered with soils and vapour intrusion.

Table 8. CRC Care HSL-A

Assessment Criteria	Residential Soil HSL-A for direct contact, mg/kg
Benzene	100
Toluene	14,000
Ethylbenzene	4,500
Xylenes	12,000
Naphthalene	1,400
TRH C_6-C_{10}	4,400
TRH >C_{10}-C_{16}	3,300
TRH >C_{16}-C_{34} (F3)	4,500
TRH >C_{34}-C_{40} (F4)	6,300

9.4 NEPM Ecological Investigation Level (EIL) – Urban Residential and Public Open Space

Ecological investigation levels (EILs) have been developed to assess the risk for the presence of metals and organic substance in a terrestrial ecosystem. EILs are guided by land-use scenarios, specific soil physicochemical properties and generally apply to the top 2m of soil. EILs can be applied for arsenic (As), copper (Cu), chromium III (Cr(III)), dichlorodiphenyltrichloroethane (DDT), naphthalene, nickel (Ni), lead (Pb) and zinc (Zn). The NEPM Soil Quality Guidelines (SQG) for EILs are calculated using the Added Contamination Limit (ACL) to determine the amount of contamination that had to be added to the soil to cause toxicity, including ambient background concentration (ABC).

Table 9. Generic and calculated EIL

Assessment Criteria	Urban Residential and Public Open Space, mg/kg
Arsenic, As	100
Chromium, Cr	580*
Copper, Cu	220*
Lead, Pb	1100
Nickel, Ni	220*
Zinc, Zn	570*
DDT	640
Naphthalene	370

*Calculated based on estimated CEC of 15 cmol(+)/kg, pH of 6.5 and Clay content of 30%.

9.5 NEPM Ecological Screening Level (ESL) – Urban Residential and Public Open Space

ESLs have been developed for selected petroleum hydrocarbons (BTEX, benzo(a)pyrene, TRH F1 and F2) in soil, based on fresh contamination. These parameters are applicable to coarse and fine-grained soil and apply from the surface of the soil to 2m below ground level, which corresponds with the root and habitat zone for many species.

Table 10. ESL

Assessment Criteria	Residential and Public Open Spaces, Fine-Grained Soil, mg/kg
Benzene	65
Toluene	105
Ethylbenzene	125
Xylenes	45
BaPyr (BaP)	0.7
TRH C_6-C_{10}	180
TRH >C_{10}-C_{16}	120

TRH >C_{16}-C_{34} (F3)	1,300
TRH >C_{34}-C_{40} (F4)	5,600

9.6 NEPM Management Limits – Residential, Parkland and Public Open Space

Management Limits for petroleum have been developed for prevention of explosive vapour accumulation, prevention of the formation of observable Light Non-Aqueous Phase Liquids (LNAPL) and protection against effects on buried infrastructure. Residential, parkland and public open space limits have been adopted based on the proposed land use

Table 11. Management Limits

Assessment Criteria	Residential, Parkland and Public Open Space, Fine-Grained Soil, mg/kg
TRH C_6-C_{10}	800
TRH >C_{10}-C_{16}	1000
TRH >C_{16}-C_{34} (F3)	3,500
TRH >C_{34}-C_{40} (F4)	10,000

9.7 NEPM Guidelines for Asbestos

The assessed soil must not contain Asbestos Containing Materials (ACM) in the excess of 0.01%w/w and surface soil within the site must be free of visible ACM, Asbestos Fines (AF) and Fibrous Asbestos (FA).

10. Analytical Results

10.1 Soil Analytical Results

Analytical results indicate no exceedances of Health and Ecological Assessment Criteria for Residential (A) developments. No respirable fibres detected in all soil samples. Analytical results summary is reported in **Appendix C**.

11. Data Gaps

- Condition of the soils beneath onsite structures.

12. Conclusion

Based on the site investigation and analytical results, NEO Consulting considers that the potential for significant contamination of the soil to be low. All analytes were below the Health and Ecological Assessment Criteria for Residential (A) developments.

Therefore, NEO Consulting finds that the site is suitable for the residential land use, providing that the recommendations within **Section 13** of this report are undertaken.

13. Recommendations

Based on the information collected and available during this investigation, the following recommendations have been made:

- If there are any proposed demolition for the site;
  - a Hazardous Material Survey should be undertaken on all on site structures;
  - An Asbestos Clearance Certificate is required for the site;
- Any soils requiring excavation, onsite reuse and/or removal must be classified in accordance with "Waste Classification Guidelines Part 1: Classifying Waste" NSW EPA (2014); and
- A site specific Unexpected Finds Protocol is to be made available for reference for all occupants and/or site workers in the event unanticipated contamination is discovered.

References

- State Environmental Planning Policy (Resilience and Hazard) 2021;
- National Environment Protection Measures (NEPM), 2013;
- CRC Care, Technical Report No. 10, *Health Screening Level for Petroleum Hydrocarbons in Soil and Groundwater, Part 1, Technical Development Document*;
- NSW Environmental Protection Authority, *Contaminated Land Management, Guidelines for the NSW Site Auditor Scheme,* 2017 (3rd Edition);
- NSW Environmental Protection Authority, *Waste Classification Guidelines Part 1: Classifying Waste,* 2014;
- NSW Environmental Protection Authority, *Sampling Design Guidelines*, 1995;
- The Contaminated Land Management Act 1997;
- NSW Environmental Protection Authority, *Guidelines on the Duty to Report Contamination under Contaminated Land Management Act*, 1997;
- NSW Environmental Protection Authority, *Consultants Reporting on Contaminated Land: Contaminated Land Guidelines,* 2020;
- Protection of the Environment and Operation Act 1997;
- Protection of the Environment Operations (Waste) Regulations, 2005;
- SafeWork NSW, *Managing Asbestos in or On Soil*, 2014;
- Work Health and Safety Act, 2011; and
- Work Health and Safety Regulation, 2011.

Limitations

The findings of this report are based on the Scope of Work outlined in Section 2. NEO Consulting performed the services in a manner consistent with the normal level of care and expertise exercised by members of the environmental consulting profession. No warranties, express or implied are made.

The results of this assessment are based upon the information documented and presented in this report. All conclusions and recommendations regarding the site are the professional opinions of NEO Consulting personnel involved with the project, subject to the qualifications made above. While normal assessments of data reliability have been made, NEO Consulting assumes no responsibility or liability for errors in any data obtained from regulatory agencies, statements from sources outside of NEO Consulting, or developments resulting from situations outside the scope of this project.

The results of this assessment are based on the site conditions identified at the time of the site inspection and validation sampling. NEO Consulting will not be liable to revise the report to account for any changes in site characteristics, regulatory requirements, assessment criteria or the availability of additional information, subsequent to the issue date of this report.

NEO Consulting is not engaged in environmental consulting and reporting for the purpose of advertising sales promoting, or endorsement of any client interests, including raising investment capital, recommending investment decisions, or other publicity purposes.

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APPENDIX A

Figures and Photographic Log

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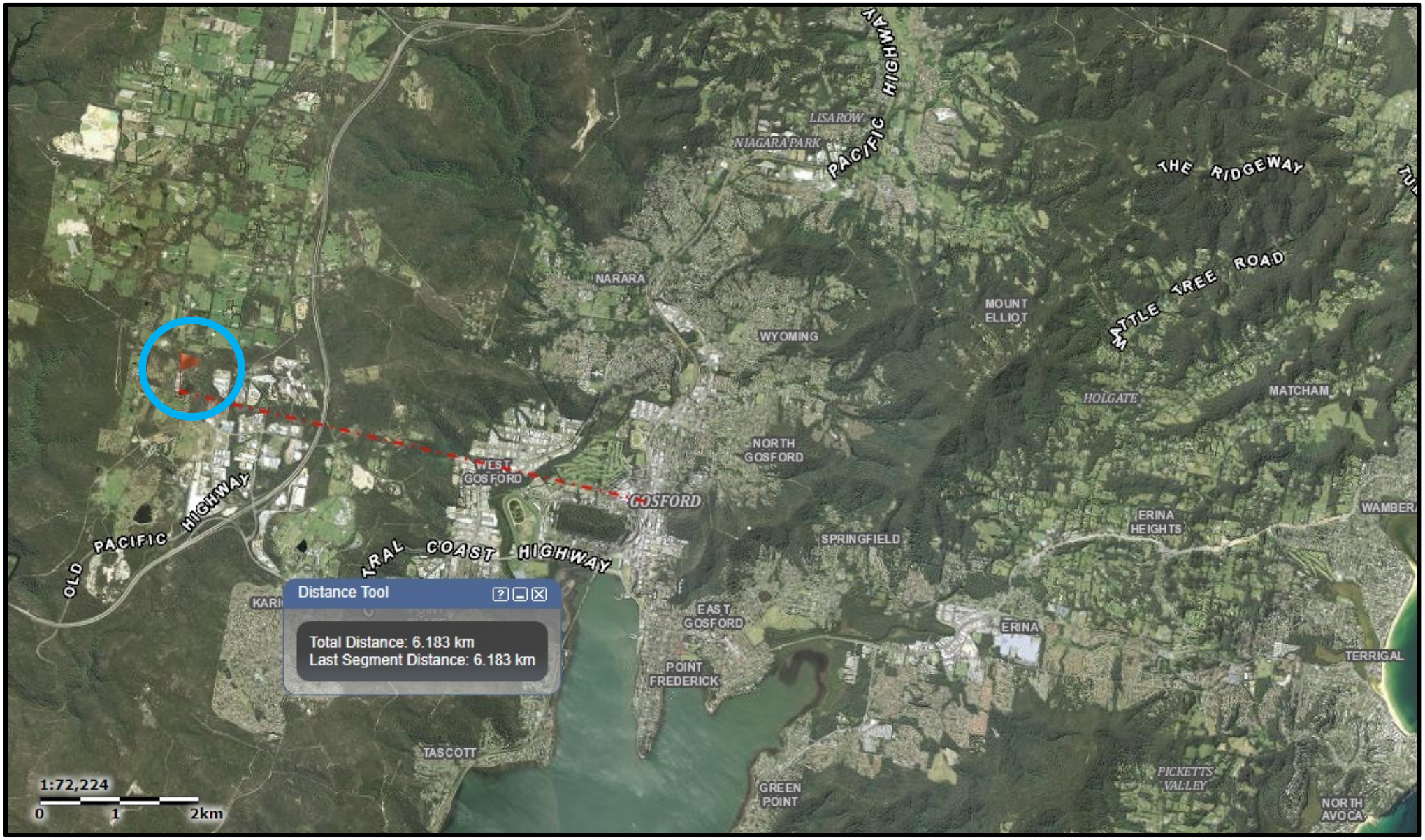
Figure 1. The site is located approximately 6km west of Gosford.



Site location

Source: Six Maps 2022

Figure 1	Locality Map
Project	126 Somersby Falls Road, Somersby NSW 2250

Figure 2. The approximate area of the site is 10,480m^2. Six (6) soil samples were obtained from this site.

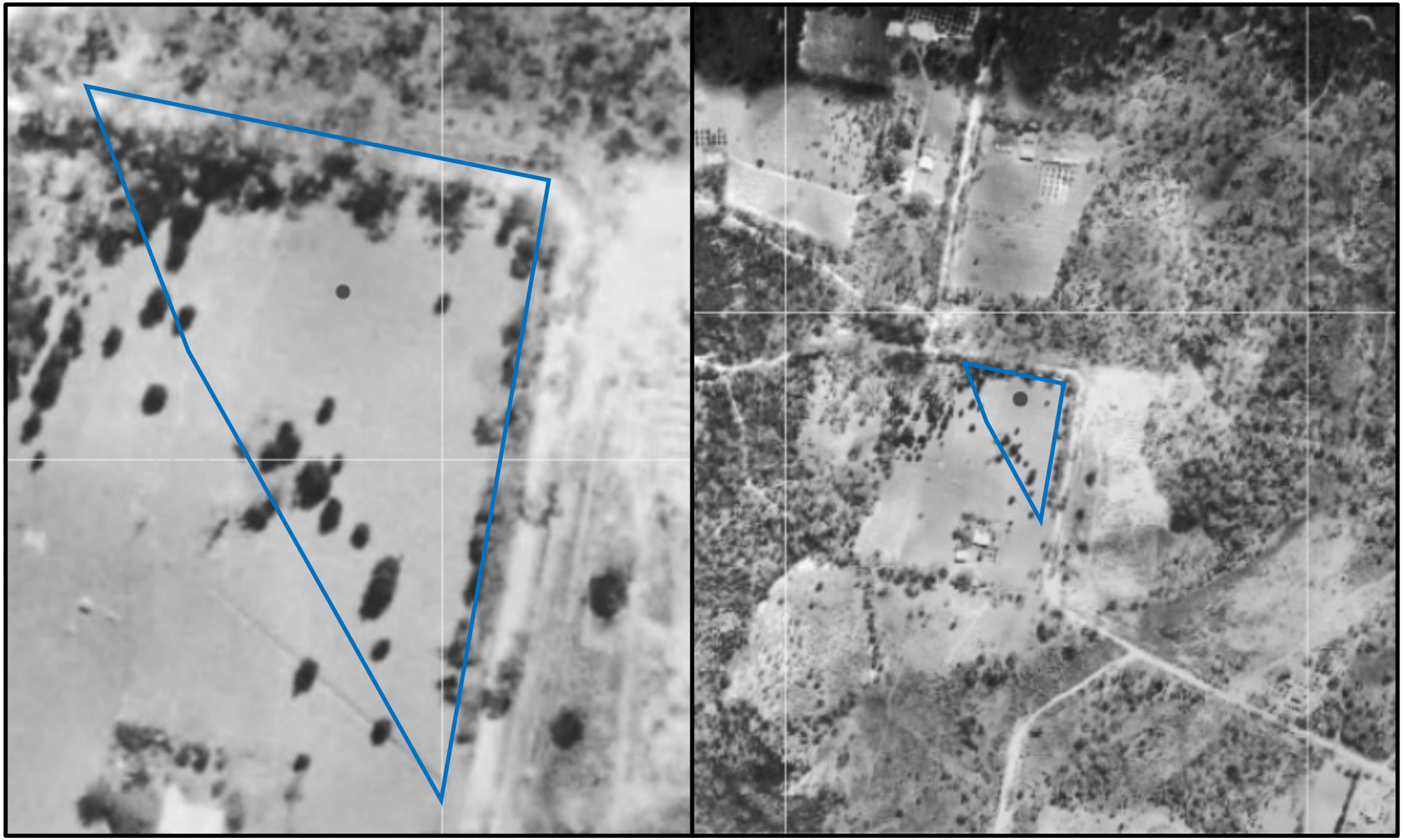
Sample ID	Depth (m)	Texture	Matrix
BH1	0.3	Light Clay	Fill
BH2	0.3	Light Clay	Fill
BH3	0.3	Light Clay	Fill
BH4	0.3	Light Clay	Fill
BH5	0.3	Light Clay	Fill
BH6	0.3	Light Clay	Fill

⊗ Soil Sample Location

Source: Nearmap 2022

Figure 2	Site Area
Project	126 Somersby Falls Road, Somersby NSW 2250

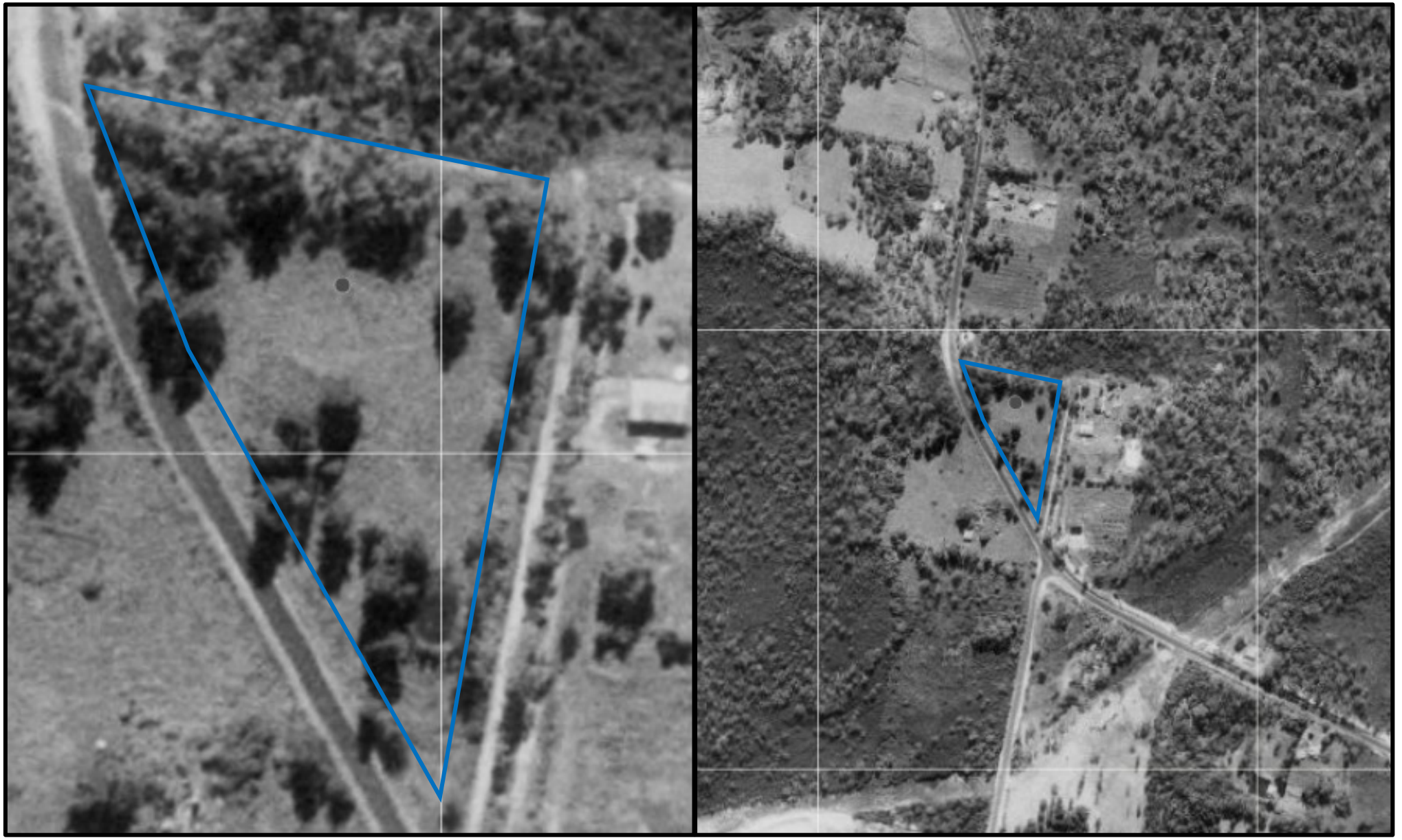
Figure 3: Aerial image of the site and surrounding area 1966. The site was free of infrastructures and was sparsely vegetated. The surrounding area was comprised vegetated landscapes.



Source: NSW Historical Imagery 2022

Figure 3	Aerial Image 1966
Project	126 Somersby Falls Road, Somersby NSW 2250

Figure 4: Aerial image of the site and surrounding area 1984. The vegetation across the site had been improved. A water pond had been built within the southern portion. The surrounding area was increased in rural developments.



Source: NSW Historical Imagery 2022

Figure 4	Aerial Image 1984
Project	126 Somersby Falls Road, Somersby NSW 2250

Figure 5: Aerial image of the site and surrounding area 2007. The site had been developed and was contained three building structures within the northern portion. The surrounding area was improved in commercial and industrial developments.

Figure 5	Aerial Image 2007
Project	126 Somersby Falls Road, Somersby NSW 2250

Source: Google Earth 2022

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Figure 6: Aerial image of the site and surrounding area in 2015. A new dwelling had been built within the northeastern portion of the site. The surrounding area was improved further in commercial and industrial developments.

Source: Nearmap 2022

Figure 6	Aerial Images: 2015
Project	126 Somersby Falls Road, Somersby NSW 2250

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Figure 7: Aerial image of the site and surrounding area in 2022. The site remains unchanged. The surrounding area is under industrial developments to the north and east.

Source: Nearmap 2022

Figure 7	Aerial Images: 2022
Project	126 Somersby Falls Road, Somersby NSW 2250

Figure 8. The entrance driveway from Somersby Falls Road.

Figure 9. Metal sheds within the northwestern portion of the site.

Figure 10. Weatherboard dwelling within the northern portion of the site.

Figure 11. Metal clad dwelling within the northeastern portion of the site.

Figure 12. Weatherboard dwelling within the northeastern portion of the site.

Figure 13. Grass area within the central and southern portion of the site.

Figure 14. Water pond within the southern portion of the site.

Figure 15. BH1 sample profile consisted of grey brown light clay and wet soil.

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APPENDIX B

Data Quality Objectives

Data Quality Objectives (DQOs)

The DQOs have been developed in accordance with the NEPM Appendix B of Schedule B2 and provide the type, quantity and quality of data to support decisions regarding the environmental conditions of this site.

Table 12. Summary of DQOs and the location of the detailed section in the report.

Step 1: State the problem	NEO Consulting designed the PSI to identify current and/or historical potentially contaminating activities that may have impacted the soils of the site, in order to determine suitability of the site for the proposed future use.
Step 2: Identify the decision	NEO Consulting considered the site history, the proposed future use of this site, and the NEPM Health and Ecological Screening and Investigation Levels when identifying the decisions required for the site to be considered suitable for its continued land use. The decisions required to meet these decisions are as follows: • Was the sampling, analysis and quality plan designed appropriate to achieve the aim of the PSI? • If present, is on-site contamination capable of migrating off-site? • Are there any unacceptable risks to the future on site or off-site receptors in the soil or groundwater? • Is the site suitable for its continued land use?
Step 3: Identify the information inputs	NEO Consulting has identified issues of potential environmental concern; • Appropriate identification of COPC; • Systematic soil sampling and analysis programs of shallow soil across the site; • Appropriate quality assurance/quality control to enable an evaluation of the reliability of the analytical data; and • Screening sampler analytical results against appropriate assessment criteria for the intended land use.
Step 4: Define the boundaries of the study	The study boundaries are: • Lateral boundary: The legally defined area of the site; • Vertical boundary: The soil interface to the maximum depth reached during soil sampling; and • Temporal boundary: Constrained to a single visit to the site.
Step 5: Develop the analytical approach	Here, NEO Consulting integrate the information from steps 1 – 4 to support and justify our proposed analytical approach. Our aim is to confirm if the site is suitable for the proposed development. If the findings of the chemical analysis identify; • Any exceedance of the adopted assessment criteria for soil; • Groundwater flow direction confirms contamination likely to be transported offsite; • Professional opinion that further assessment is required; and/or • Adopted RPD for QC data not met.

	Further assessment may be required to confirm suitability of the site in the form of; Detailed Site Investigation, Data Gap investigation, Remediation Action Plan and Site Validation.
Step 6: Specify performance or acceptance criteria	For judgemental soil sampling the data must meet the following qualifiers; • Acceptable recovery on all surrogate spikes used in laboratory analyses; • Acceptable analytical method to ensure detection limit appropriate for all analytes; • If these conditions are not met, then chemical analysis will require re-testing for all samples with fresh aliquot.
Step 7: Optimise the design for obtaining data	Judgemental sampling pattern within the AEC will provide suitable coverage of the site to produce reliable data in alignment with the Data Quality Indicators (DQIs) to cover precision, accuracy, representativeness, completeness and comparability (PARCC). This sampling pattern will ensure that critical locations are assessed and analysed appropriately for COPC.
The DQOs align with CSM	Yes

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APPENDIX C

Laboratory Results and Chain of Custody (NATA)

NEO CONSULTING

Table 13. Total Recoverable Hydrocarbon (TRH) analytical results. Values are presented as mg/kg. NL = Not Limiting. F1 = subtract the sum of BTEX concentrations from the C_6-C_{10} aliphatic hydrocarbon fraction. F2 = subtract Naphthalene from the> C_{10}-C_{16} aliphatic hydrocarbon fraction.

Assessment Criteria		TRH C_6-C_{10}	TRH C_6-C_{10} - BTEX (F1)	TRH >C_{10}-C_{16}	TRH >C_{10}-C_{16} - N (F2)	TRH >C_{16}-C_{34} (F3)	TRH >C_{34}-C_{40} (F4)
NEPM 2013 Residential Soil HSL-A for Vapour Intrusion, 0-<1m depth, Clay, mg/kg			50		280		
CRC Care Residential Soil HSL-A for Direct Contact, mg/kg		4400		3300		4500	6300
NEPM 2013 Soil Generic ESL for Urban, Residential and Public Open Spaces, fine-grained soil, mg/kg		180		120		1300	5600
NEPM 2013 Management Limits for Residential, Parkland and Public Open Space, fine-grained soil, mg/kg		800		1000		3500	10 000
Sample	Depth (m)	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
BH1	0.3	<25	<25	<25	<25	<90	<120
BH2	0.3	<25	<25	<25	<25	<90	<120
BH3	0.3	<25	<25	<25	<25	<90	<120
BH4	0.3	<25	<25	<25	<25	<90	<120
BH5	0.3	<25	<25	<25	<25	<90	<120
BH6	0.3	<25	<25	<25	<25	130	<120

Table 14. Benzene, Toluene, Ethylbenzene and Xylene (BTEX) analytical results. Values are presented as mg/kg. NL = Not Limiting.

Assessment Criteria		Benzene	Toluene	Ethylbenzene	Xylenes
NEPM 2013 Residential Soil HSL-A for Vapour Intrusion, 0-<1m depth, Clay, mg/kg		0.7	480	NL	110
CRC Care Residential Soil HSL-A for Direct Contact, mg/kg		100	14000	4500	12000
NEPM 2013 Soil ESL for Urban, Residential and Public Open Spaces, fine-grained soil, mg/kg		65	105	125	45
Sample	Depth (m)	mg/kg	mg/kg	mg/kg	mg/kg
BH1	0.3	<0.1	<0.1	<0.1	<0.3
BH2	0.3	<0.1	<0.1	<0.1	<0.3
BH3	0.3	<0.1	<0.1	<0.1	<0.3
BH4	0.3	<0.1	<0.1	<0.1	<0.3
BH5	0.3	<0.1	<0.1	<0.1	<0.3
BH6	0.3	<0.1	<0.1	<0.1	<0.3

Table 15. Polycyclic Aromatic Hydrocarbon (PAH) analytical results. The carcinogenic PAH (Benzo(a)anthracene (BaAnt); Benzo(a)pyrene (BaPyr or BaP); Benzo(b+j) fluoranthene (BbjFl); Benzo(k)fluoranthene (BkFl); Benzo(g,h,i)perylene (BghiPer); Chrysene (Chr); and Dibenz(a,h)anthracene (DBahAnt)) potency is calculated relative to Benzo(a)pyrene to produce a Toxicity Equivalent Factor (TEF). The Toxicity Equivalent Quotient (TEQ) is calculated by multiplying the concentration of each carcinogenic PAH in the sample by its Benzo(a)pyrene (B(a)P) TEF. Total PAH includes Naphthalene (N), 2-methylnaphthalene (2-MN), 1-methylnaphthalene (1-MN), Acenaphthylene (Acy), Acenaphthene (Ace), Fluorene (F), Phenanthrene (P), Anthracene (Ant), Fluoranthene (Fl), Pyrene (Pyr) and the carcinogenic PAHs. Values are presented as mg/kg. NL = Not Limiting.

Assessment Criteria		Naphthalene	Benzo(a)pyrene	Carcinogenic PAH (as BaP TEQ)	Total PAH (18)
NEPM 2013 Residential Soil HSL-A for Vapour Intrusion, 0-<1m depth, Clay, mg/kg		5			
CRC Care Residential Soil HSL-A for Direct Contact, mg/kg		1400			
NEPM 2013 Soil Generic EIL for Urban Residential and Public Open Space, mg/kg		170			
Soil ESL for Urban, Residential and Public Open Spaces, fine-grained soil, mg/kg			0.7		
NEPM 2013 Residential Soil HIL-A, mg/kg			1.00 TEF	3	300
Sample	Depth (m)	mg/kg	mg/kg	TEQ (mg/kg)	mg/kg
BH1	0.3	<0.1	<0.1	<0.3	<0.8
BH2	0.3	<0.1	<0.1	<0.3	<0.8
BH3	0.3	<0.1	<0.1	<0.3	<0.8
BH4	0.3	<0.1	<0.1	<0.3	<0.8
BH5	0.3	<0.1	<0.1	<0.3	<0.8
BH6	0.3	<0.1	<0.1	<0.3	<0.8

Table 16. Heavy Metal analytical results. Values are presented as mg/kg.

Assessment Criteria		Arsenic, As	Cadmium, Cd	Chromium, Cr	Copper, Cu	Lead, Pb	Nickel, Ni	Zinc, Zn	Mercury, Hg
NEPM 2013 Residential Soil HIL-A, mg/kg		100	20	100	6000	300	400	7400	40
NEPM 2013 Soil Generic EIL for Urban Residential and Public Open Space, mg/kg		100		580*	220*	1100	220*	570*	
Sample	Depth (m)	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
BH1	0.3	**2**	<0.3	**3.7**	**1.8**	**7**	<0.5	**4.4**	<0.05
BH2	0.3	<1	<0.3	**2.4**	**1.1**	**5**	<0.5	**3.0**	<0.05
BH3	0.3	**2**	<0.3	**12**	**8.5**	**8**	**17**	**13**	<0.05
BH4	0.3	**2**	<0.3	**5.7**	**3.2**	**5**	**2.8**	**26**	<0.05
BH5	0.3	<1	<0.3	**3.5**	**2.2**	**3**	<0.5	**6.5**	<0.05
BH6	0.3	**3**	<0.3	**6.5**	**6.7**	**11**	**2.5**	**22**	<0.05

*Calculated based on estimated CEC of 15 cmol(+)/kg, pH of 6.5 and Clay content of 30%.

Table 17. Pesticides analytical results. Values are presented as mg/kg.

Assessment Criteria		HCB	Heptachlor	Chlordane	Aldrin & Dieldrin	Endrin	DDT	DDD+DDE +DDT	Endosulfan	Methoxychlor	Mirex
NEPM 2013 Residential Soil HIL-A, mg/kg		10	6	50	6	10		240	270	300	10
NEPM 2013 Soil Generic EIL for Urban Residential and Public Open Space, mg/kg							180				
Sample	Depth (m)	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
BH1	0.3	<0.1	<0.2	<0.2	<0.3	<0.2	<0.2	<0.6	<0.5	<0.1	<0.1
BH2	0.3	<0.1	<0.2	<0.2	<0.3	<0.2	<0.2	<0.6	<0.5	<0.1	<0.1
BH3	0.3	<0.1	<0.2	<0.2	<0.3	<0.2	<0.2	<0.6	<0.5	<0.1	<0.1
BH4	0.3	<0.1	<0.2	<0.2	<0.3	<0.2	<0.2	<0.6	<0.5	<0.1	<0.1
BH5	0.3	<0.1	<0.2	<0.2	<0.3	<0.2	<0.2	<0.6	<0.5	<0.1	<0.1
BH6	0.3	<0.1	<0.2	<0.2	<0.3	<0.2	<0.2	<0.6	<0.5	<0.1	<0.1

Table 18. Asbestos analytical results. Values are presented as %w/w.

HSL-A	All Samples
Asbestos	No respirable fibres detected in all soil samples
Estimated Fibres	<0.01 %w/w

SGS

CHAIN OF CUSTODY & ANALYSIS REQUEST

Page 1 of 1

SGS Environmental Services
Unit 16, 33 Maddox Street
Alexandria NSW 2015
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Company Name: NEO Consulting Pty Ltd
Address: 186 Riverstone Parade, Riverstone, NSW, 2765
Contact Name: Nick Catalbiano, Luke Breva

Project Name/No: N6293
Purchase Order No:
Results Required By: Next day / 3 days / Standard (Circle one)
Telephone: Nick's mobile: 0416 680 375 Luke's mobile: 0455 485 502
Facsimile:
Email Results: [Read Comment section]

Client Sample ID	Date Sampled	Lab Sample ID	WATER	SOIL	PRESERVATIVE	NO OF CONTAINERS	NEO 2
S1		1		✓		1	✓
S2		2		✓		1	✓
S3		3		✓		1	✓
S4		4		✓		1	✓
S5		5		✓		1	✓
S6		6		✓		1	✓

SGS EHS Sydney COC
SE234597

Relinquished By:	Date/Time:	Received By: George Zhi	Date/Time 22/7/22 @ 4pm
Relinquished By:	Date/Time:	Received By:	Date/Time
Samples Intact: (Yes) / No	Temperature: Ambient / Chilled	Sample Cooler Sealed: Yes/ No	Laboratory Quotation No:
	Comments: Email Reports and Invoices to all emails => ① Nick@neoconsulting.com.au ② Luke@neoconsulting.com.au ③ admin@neoconsulting.com.au ④ Oskar@neoconsulting.com.au ⑤ sarah@neoconsulting.com.au ⑥ Ehsan@neoconsulting.com.au		

ANALYTICAL REPORT

Accreditation No. 2562

CLIENT DETAILS

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Client	NEO CONSULTING PTY LTD
Address	PO BOX 279 RIVERSTONE NSW 2765
Telephone	0416 680 375
Facsimile	(Not specified)
Email	admin@neoconsulting.com.au
Project	**N6293**
Order Number	**N6293**
Samples	6

LABORATORY DETAILS

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Laboratory	SGS Alexandria Environmental
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SGS Reference	**SE234597 R0**
Date Received	22/7/2022
Date Reported	29/7/2022

COMMENTS

Accredited for compliance with ISO/IEC 17025 - Testing. NATA accredited laboratory 2562(4354).

No respirable fibres detected in all soil samples using trace analysis technique.
A portion of the sample supplied has been sub-sampled for asbestos analysis in soil according to SGS In-house procedures. We therefore cannot guarantee that the sub-sample is representative of the entire sample supplied. SGS Industries and Environment recommends supplying approximately 50-100g of sample in a separate container
Asbestos analysed by Approved Identifier Yusuf Kuthpudin.

SIGNATORIES

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VOC's in Soil [AN433] Tested: 25/7/2022

PARAMETER	UOM	LOR	S1 SOIL - 21/7/2022 SE234597.001	S2 SOIL - 21/7/2022 SE234597.002	S3 SOIL - 21/7/2022 SE234597.003	S4 SOIL - 21/7/2022 SE234597.004	S5 SOIL - 21/7/2022 SE234597.005
Benzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Toluene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Ethylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
m/p-xylene	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
o-xylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total Xylenes	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Total BTEX	mg/kg	0.6	<0.6	<0.6	<0.6	<0.6	<0.6
Naphthalene (VOC)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1

PARAMETER	UOM	LOR	S6 SOIL - 21/7/2022 SE234597.006
Benzene	mg/kg	0.1	<0.1
Toluene	mg/kg	0.1	<0.1
Ethylbenzene	mg/kg	0.1	<0.1
m/p-xylene	mg/kg	0.2	<0.2
o-xylene	mg/kg	0.1	<0.1
Total Xylenes	mg/kg	0.3	<0.3
Total BTEX	mg/kg	0.6	<0.6
Naphthalene (VOC)	mg/kg	0.1	<0.1

Volatile Petroleum Hydrocarbons in Soil [AN433] Tested: 25/7/2022

PARAMETER	UOM	LOR	S1 SOIL - 21/7/2022 SE234597.001	S2 SOIL - 21/7/2022 SE234597.002	S3 SOIL - 21/7/2022 SE234597.003	S4 SOIL - 21/7/2022 SE234597.004	S5 SOIL - 21/7/2022 SE234597.005
TRH C6-C9	mg/kg	20	<20	<20	<20	<20	<20
Benzene (F0)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TRH C6-C10	mg/kg	25	<25	<25	<25	<25	<25
TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	<25	<25	<25

PARAMETER	UOM	LOR	S6 SOIL - 21/7/2022 SE234597.006
TRH C6-C9	mg/kg	20	<20
Benzene (F0)	mg/kg	0.1	<0.1
TRH C6-C10	mg/kg	25	<25
TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25

TRH (Total Recoverable Hydrocarbons) in Soil [AN403] Tested: 25/7/2022

PARAMETER	UOM	LOR	S1 SOIL - 21/7/2022 SE234597.001	S2 SOIL - 21/7/2022 SE234597.002	S3 SOIL - 21/7/2022 SE234597.003	S4 SOIL - 21/7/2022 SE234597.004	S5 SOIL - 21/7/2022 SE234597.005
TRH C10-C14	mg/kg	20	<20	<20	<20	<20	<20
TRH C15-C28	mg/kg	45	<45	<45	<45	<45	<45
TRH C29-C36	mg/kg	45	<45	<45	<45	<45	<45
TRH C37-C40	mg/kg	100	<100	<100	<100	<100	<100
TRH >C10-C16	mg/kg	25	<25	<25	<25	<25	<25
TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	<25	<25	<25	<25
TRH >C16-C34 (F3)	mg/kg	90	<90	<90	<90	<90	<90
TRH >C34-C40 (F4)	mg/kg	120	<120	<120	<120	<120	<120
TRH C10-C36 Total	mg/kg	110	<110	<110	<110	<110	<110
TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210	<210	<210	<210

PARAMETER	UOM	LOR	S6 SOIL - 21/7/2022 SE234597.006
TRH C10-C14	mg/kg	20	<20
TRH C15-C28	mg/kg	45	**120**
TRH C29-C36	mg/kg	45	<45
TRH C37-C40	mg/kg	100	<100
TRH >C10-C16	mg/kg	25	<25
TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25
TRH >C16-C34 (F3)	mg/kg	90	**130**
TRH >C34-C40 (F4)	mg/kg	120	<120
TRH C10-C36 Total	mg/kg	110	**120**
TRH >C10-C40 Total (F bands)	mg/kg	210	<210

PAH (Polynuclear Aromatic Hydrocarbons) in Soil [AN420] Tested: 25/7/2022

PARAMETER	UOM	LOR	S1 SOIL - 21/7/2022 SE234597.001	S2 SOIL - 21/7/2022 SE234597.002	S3 SOIL - 21/7/2022 SE234597.003	S4 SOIL - 21/7/2022 SE234597.004	S5 SOIL - 21/7/2022 SE234597.005
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	0.1	<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	<0.1
Chrysene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Carcinogenic PAHs, BaP TEQ <LOR=0	TEQ (mg/kg)	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Carcinogenic PAHs, BaP TEQ <LOR=LOR	TEQ (mg/kg)	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	TEQ (mg/kg)	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Total PAH (18)	mg/kg	0.8	<0.8	<0.8	<0.8	<0.8	<0.8
Total PAH (NEPM/WHO 16)	mg/kg	0.8	<0.8	<0.8	<0.8	<0.8	<0.8

PARAMETER	UOM	LOR	S6 SOIL - 21/7/2022 SE234597.006
Naphthalene	mg/kg	0.1	<0.1
2-methylnaphthalene	mg/kg	0.1	<0.1
1-methylnaphthalene	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)fluoranthene	mg/kg	0.1	<0.1
Benzo(k)fluoranthene	mg/kg	0.1	<0.1
Benzo(a)pyrene	mg/kg	0.1	<0.1
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1
Dibenzo(ah)anthracene	mg/kg	0.1	<0.1
Benzo(ghi)perylene	mg/kg	0.1	<0.1
Carcinogenic PAHs, BaP TEQ <LOR=0	TEQ (mg/kg)	0.2	<0.2
Carcinogenic PAHs, BaP TEQ <LOR=LOR	TEQ (mg/kg)	0.3	<0.3
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	TEQ (mg/kg)	0.2	<0.2
Total PAH (18)	mg/kg	0.8	<0.8
Total PAH (NEPM/WHO 16)	mg/kg	0.8	<0.8

OC Pesticides in Soil [AN420] Tested: 25/7/2022

PARAMETER	UOM	LOR	S1 SOIL - 21/7/2022 SE234597.001	S2 SOIL - 21/7/2022 SE234597.002	S3 SOIL - 21/7/2022 SE234597.003	S4 SOIL - 21/7/2022 SE234597.004	S5 SOIL - 21/7/2022 SE234597.005
Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Lindane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Beta BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Delta BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor epoxide	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
o,p'-DDE	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha Endosulfan	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
trans-Nonachlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
p,p'-DDE	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Endrin	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
o,p'-DDD	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
o,p'-DDT	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Beta Endosulfan	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
p,p'-DDD	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
p,p'-DDT	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Ketone	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Isodrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Mirex	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total CLP OC Pesticides	mg/kg	1	<1	<1	<1	<1	<1
Total OC VIC EPA	mg/kg	1	<1	<1	<1	<1	<1

OC Pesticides in Soil [AN420] Tested: 25/7/2022 (continued)

PARAMETER	UOM	LOR	S6 SOIL - 21/7/2022 SE234597.006
Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1
Alpha BHC	mg/kg	0.1	<0.1
Lindane	mg/kg	0.1	<0.1
Heptachlor	mg/kg	0.1	<0.1
Aldrin	mg/kg	0.1	<0.1
Beta BHC	mg/kg	0.1	<0.1
Delta BHC	mg/kg	0.1	<0.1
Heptachlor epoxide	mg/kg	0.1	<0.1
o,p'-DDE	mg/kg	0.1	<0.1
Alpha Endosulfan	mg/kg	0.2	<0.2
Gamma Chlordane	mg/kg	0.1	<0.1
Alpha Chlordane	mg/kg	0.1	<0.1
trans-Nonachlor	mg/kg	0.1	<0.1
p,p'-DDE	mg/kg	0.1	<0.1
Dieldrin	mg/kg	0.2	<0.2
Endrin	mg/kg	0.2	<0.2
o,p'-DDD	mg/kg	0.1	<0.1
o,p'-DDT	mg/kg	0.1	<0.1
Beta Endosulfan	mg/kg	0.2	<0.2
p,p'-DDD	mg/kg	0.1	<0.1
p,p'-DDT	mg/kg	0.1	<0.1
Endosulfan sulphate	mg/kg	0.1	<0.1
Endrin Aldehyde	mg/kg	0.1	<0.1
Methoxychlor	mg/kg	0.1	<0.1
Endrin Ketone	mg/kg	0.1	<0.1
Isodrin	mg/kg	0.1	<0.1
Mirex	mg/kg	0.1	<0.1
Total CLP OC Pesticides	mg/kg	1	<1
Total OC VIC EPA	mg/kg	1	<1

OP Pesticides in Soil [AN420] Tested: 25/7/2022

PARAMETER	UOM	LOR	S1 SOIL - 21/7/2022 SE234597.001	S2 SOIL - 21/7/2022 SE234597.002	S3 SOIL - 21/7/2022 SE234597.003	S4 SOIL - 21/7/2022 SE234597.004	S5 SOIL - 21/7/2022 SE234597.005
Dichlorvos	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dimethoate	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Diazinon (Dimpylate)	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Fenitrothion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Malathion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Bromophos Ethyl	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Methidathion	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ethion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Total OP Pesticides*	mg/kg	1.7	<1.7	<1.7	<1.7	<1.7	<1.7

PARAMETER	UOM	LOR	S6 SOIL - 21/7/2022 SE234597.006
Dichlorvos	mg/kg	0.5	<0.5
Dimethoate	mg/kg	0.5	<0.5
Diazinon (Dimpylate)	mg/kg	0.5	<0.5
Fenitrothion	mg/kg	0.2	<0.2
Malathion	mg/kg	0.2	<0.2
Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	<0.2
Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2
Bromophos Ethyl	mg/kg	0.2	<0.2
Methidathion	mg/kg	0.5	<0.5
Ethion	mg/kg	0.2	<0.2
Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2
Total OP Pesticides*	mg/kg	1.7	<1.7

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES [AN040/AN320] Tested: 28/7/2022

PARAMETER	UOM	LOR	S1 SOIL - 21/7/2022 SE234597.001	S2 SOIL - 21/7/2022 SE234597.002	S3 SOIL - 21/7/2022 SE234597.003	S4 SOIL - 21/7/2022 SE234597.004	S5 SOIL - 21/7/2022 SE234597.005
Arsenic, As	mg/kg	1	2	<1	2	2	<1
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.5	3.7	2.4	12	5.7	3.5
Copper, Cu	mg/kg	0.5	1.8	1.1	8.5	3.2	2.2
Lead, Pb	mg/kg	1	7	5	8	5	3
Nickel, Ni	mg/kg	0.5	<0.5	<0.5	17	2.8	<0.5
Zinc, Zn	mg/kg	2	4.4	3.0	13	26	6.5

PARAMETER	UOM	LOR	S6 SOIL - 21/7/2022 SE234597.006
Arsenic, As	mg/kg	1	3
Cadmium, Cd	mg/kg	0.3	<0.3
Chromium, Cr	mg/kg	0.5	6.5
Copper, Cu	mg/kg	0.5	6.7
Lead, Pb	mg/kg	1	11
Nickel, Ni	mg/kg	0.5	2.5
Zinc, Zn	mg/kg	2	22

Mercury in Soil [AN312] Tested: 28/7/2022

PARAMETER	UOM	LOR	S1 SOIL - 21/7/2022 SE234597.001	S2 SOIL - 21/7/2022 SE234597.002	S3 SOIL - 21/7/2022 SE234597.003	S4 SOIL - 21/7/2022 SE234597.004	S5 SOIL - 21/7/2022 SE234597.005
Mercury	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05

PARAMETER	UOM	LOR	S6 SOIL - 21/7/2022 SE234597.006
Mercury	mg/kg	0.05	<0.05

Moisture Content [AN002] Tested: 25/7/2022

PARAMETER	UOM	LOR	S1 SOIL - 21/7/2022 SE234597.001	S2 SOIL - 21/7/2022 SE234597.002	S3 SOIL - 21/7/2022 SE234597.003	S4 SOIL - 21/7/2022 SE234597.004	S5 SOIL - 21/7/2022 SE234597.005
% Moisture	%w/w	1	18.8	16.1	18.9	23.2	15.1

PARAMETER	UOM	LOR	S6 SOIL - 21/7/2022 SE234597.006
% Moisture	%w/w	1	13.2

Fibre Identification in soil [AN602] Tested: 28/7/2022

PARAMETER	UOM	LOR	S1 SOIL - 21/7/2022 SE234597.001	S2 SOIL - 21/7/2022 SE234597.002	S3 SOIL - 21/7/2022 SE234597.003	S4 SOIL - 21/7/2022 SE234597.004	S5 SOIL - 21/7/2022 SE234597.005
Asbestos Detected	No unit	-	No	No	No	No	No
Estimated Fibres*	%w/w	0.01	<0.01	<0.01	<0.01	<0.01	<0.01

PARAMETER	UOM	LOR	S6 SOIL - 21/7/2022 SE234597.006
Asbestos Detected	No unit	-	No
Estimated Fibres*	%w/w	0.01	<0.01

METHOD	METHODOLOGY SUMMARY
AN002	The test is carried out by drying (at either 40°C or 105°C) a known mass of sample in a weighed evaporating basin. After fully dry the sample is re-weighed. Samples such as sludge and sediment having high percentages of moisture will take some time in a drying oven for complete removal of water.
AN040/AN320	A portion of sample is digested with nitric acid to decompose organic matter and hydrochloric acid to complete the digestion of metals. The digest is then analysed by ICP OES with metals results reported on the dried sample basis. Based on USEPA method 200.8 and 6010C.
AN040	A portion of sample is digested with Nitric acid to decompose organic matter and Hydrochloric acid to complete the digestion of metals and then filtered for analysis by ASS or ICP as per USEPA Method 200.8.
AN312	Mercury by Cold Vapour AAS in Soils: After digestion with nitric acid, hydrogen peroxide and hydrochloric acid, mercury ions are reduced by stannous chloride reagent in acidic solution to elemental mercury. This mercury vapour is purged by nitrogen into a cold cell in an atomic absorption spectrometer or mercury analyser. Quantification is made by comparing absorbances to those of the calibration standards. Reference APHA 3112/3500
AN403	Total Recoverable Hydrocarbons: Determination of Hydrocarbons by gas chromatography after a solvent extraction. Detection is by flame ionisation detector (FID) that produces an electronic signal in proportion to the combustible matter passing through it. Total Recoverable Hydrocarbons (TRH) are routinely reported as four alkane groupings based on the carbon chain length of the compounds: C6-C9, C10-C14, C15-C28 and C29-C36 and in recognition of the NEPM 1999 (2013), >C10-C16 (F2), >C16-C34 (F3) and >C34-C40 (F4). F2 is reported directly and also corrected by subtracting Naphthalene (from VOC method AN433) where available.
AN403	Additionally, the volatile C6-C9 fraction may be determined by a purge and trap technique and GC/MS because of the potential for volatiles loss. Total Recoverable Hydrocarbons - Silica (TRH-Si) follows the same method of analysis after silica gel cleanup of the solvent extract. Aliphatic/Aromatic Speciation follows the same method of analysis after fractionation of the solvent extract over silica with differential polarity of the eluent solvents .
AN403	The GC/FID method is not well suited to the analysis of refined high boiling point materials (ie lubricating oils or greases) but is particularly suited for measuring diesel, kerosene and petrol if care to control volatility is taken. This method will detect naturally occurring hydrocarbons, lipids, animal fats, phenols and PAHs if they are present at sufficient levels, dependent on the use of specific cleanup/fractionation techniques. Reference USEPA 3510B, 8015B.
AN420	(SVOCs) including OC, OP, PCB, Herbicides, PAH, Phthalates and Speciated Phenols (etc) in soils, sediments and waters are determined by GCMS/ECD technique following appropriate solvent extraction process (Based on USEPA 3500C and 8270D).
AN420	SVOC Compounds: Semi-Volatile Organic Compounds (SVOCs) including OC, OP, PCB, Herbicides, PAH, Phthalates and Speciated Phenols in soils, sediments and waters are determined by GCMS/ECD technique following appropriate solvent extraction process (Based on USEPA 3500C and 8270D).
AN433	VOCs and C6-C9 Hydrocarbons by GC-MS P&T: VOC`s are volatile organic compounds. The sample is presented to a gas chromatograph via a purge and trap (P&T) concentrator and autosampler and is detected with a Mass Spectrometer (MSD). Solid samples are initially extracted with methanol whilst liquid samples are processed directly. References: USEPA 5030B, 8020A, 8260.
AN602	Qualitative identification of chrysotile, amosite and crocidolite in bulk samples by polarised light microscopy (PLM) in conjunction with dispersion staining (DS). AS4964 provides the basis for this document. Unequivocal identification of the asbestos minerals present is made by obtaining sufficient diagnostic `clues`, which provide a reasonable degree of certainty, dispersion staining is a mandatory `clue` for positive identification. If sufficient `clues` are absent, then positive identification of asbestos is not possible. This procedure requires removal of suspect fibres/bundles from the sample which cannot be returned.
AN602	Fibres/material that cannot be unequivocably identified as one of the three asbestos forms, will be reported as unknown mineral fibres (umf) The fibres detected may or may not be asbestos fibres.
AN602	AS4964.2004 Method for the Qualitative Identification of Asbestos in Bulk Samples, Section 8.4, Trace Analysis Criteria, Note 4 states:"Depending upon sample condition and fibre type, the detection/reporting limit (RL) of this technique has been found to lie generally in the range of 1 in 1,000 to 1 in 10,000 parts by weight, equivalent to 1 to 0.1 g/kg."
AN602	The sample can be reported “no asbestos found at the reporting limit (RL) of 0.1 g/kg” (<0.01%w/w) where AN602 section 4.5 of this method has been followed, and if- (a) no trace asbestos fibres have been detected (i.e. no ‘respirable’ fibres): (b) the estimated weight of non-respirable asbestos fibre bundles and/or the estimated weight of asbestos in asbestos-containing materials are found to be less than 0.1g/kg: and (c) these non-respirable asbestos fibre bundles and/or the asbestos containing materials are only visible under stereo-microscope viewing conditions.

FOOTNOTES

*	NATA accreditation does not cover the performance of this service.	-	Not analysed.	UOM	Unit of Measure.
**	Indicative data, theoretical holding time exceeded.	NVL	Not validated.	LOR	Limit of Reporting.
***	Indicates that both * and ** apply.	IS	Insufficient sample for analysis.	↑↓	Raised/lowered Limit of Reporting.
		LNR	Sample listed, but not received.		

Unless it is reported that sampling has been performed by SGS, the samples have been analysed as received.
Solid samples expressed on a dry weight basis.

Where "Total" analyte groups are reported (for example, Total PAHs, Total OC Pesticides) the total will be calculated as the sum of the individual analytes, with those analytes that are reported as <LOR being assumed to be zero. The summed (Total) limit of reporting is calculated by summing the individual analyte LORs and dividing by two. For example, where 16 individual analytes are being summed and each has an LOR of 0.1 mg/kg, the "Totals" LOR will be 1.6 / 2 (0.8 mg/kg). Where only 2 analytes are being summed, the " Total" LOR will be the sum of those two LORs.

Some totals may not appear to add up because the total is rounded after adding up the raw values.

If reported, measurement uncertainty follow the ± sign after the analytical result and is expressed as the expanded uncertainty calculated using a coverage factor of 2, providing a level of confidence of approximately 95%, unless stated otherwise in the comments section of this report.

Results reported for samples tested under test methods with codes starting with ARS-SOP, radionuclide or gross radioactivity concentrations are expressed in becquerel (Bq) per unit of mass or volume or per wipe as stated on the report. Becquerel is the SI unit for activity and equals one nuclear transformation per second.
Note that in terms of units of radioactivity:

a. 1 Bq is equivalent to 27 pCi
b. 37 MBq is equivalent to 1 mCi

For results reported for samples tested under test methods with codes starting with ARS-SOP, less than (<) values indicate the detection limit for each radionuclide or parameter for the measurement system used. The respective detection limits have been calculated in accordance with ISO 11929.

The QC and MU criteria are subject to internal review according to the SGS QAQC plan and may be provided on request or alternatively can be found here: www.sgs.com.au/en-gb/environment-health-and-safety.

ANALYTICAL REPORT

Accreditation No. 2562

CLIENT DETAILS

Contact	Admin
Client	NEO CONSULTING PTY LTD
Address	PO BOX 279 RIVERSTONE NSW 2765
Telephone	0416 680 375
Facsimile	(Not specified)
Email	admin@neoconsulting.com.au
Project	**N6293**
Order Number	**N6293**
Samples	6

LABORATORY DETAILS

Manager	Huong Crawford
Laboratory	SGS Alexandria Environmental
Address	Unit 16, 33 Maddox St Alexandria NSW 2015
Telephone	+61 2 8594 0400
Facsimile	+61 2 8594 0499
Email	au.environmental.sydney@sgs.com
SGS Reference	**SE234597 R0**
Date Received	22 Jul 2022
Date Reported	29 Jul 2022

COMMENTS

Accredited for compliance with ISO/IEC 17025 - Testing. NATA accredited laboratory 2562(4354).

No respirable fibres detected in all soil samples using trace analysis technique.
A portion of the sample supplied has been sub-sampled for asbestos analysis in soil according to SGS In-house procedures. We therefore cannot guarantee that the sub-sample is representative of the entire sample supplied. SGS Industries and Environment recommends supplying approximately 50-100g of sample in a separate container
Asbestos analysed by Approved Identifier Yusuf Kuthpudin.

SIGNATORIES

Ravee SIVASUBRAMANIAM
Hygiene Team Leader

RESULTS

Fibre Identification in soil — Method AN602

Laboratory Reference	Client Reference	Matrix	Sample Description	Date Sampled	Fibre Identification	Est.%w/w*
SE234597.001	S1	Soil	82g Clay,Sand,Soil	21 Jul 2022	No Asbestos Found at RL of 0.1g/kg	<0.01
SE234597.002	S2	Soil	109g Clay,Sand,Soil, Rocks	21 Jul 2022	No Asbestos Found at RL of 0.1g/kg Organic Fibres Detected	<0.01
SE234597.003	S3	Soil	88g Clay,Sand,Soil, Rocks	21 Jul 2022	No Asbestos Found at RL of 0.1g/kg Organic Fibres Detected	<0.01
SE234597.004	S4	Soil	101g Clay,Sand,Soil, Rocks	21 Jul 2022	No Asbestos Found at RL of 0.1g/kg Organic Fibres Detected	<0.01
SE234597.005	S5	Soil	108g Sand,Soil,Rocks	21 Jul 2022	No Asbestos Found at RL of 0.1g/kg	<0.01
SE234597.006	S6	Soil	94g Sand,Soil,Rocks	21 Jul 2022	No Asbestos Found at RL of 0.1g/kg	<0.01

METHOD	METHODOLOGY SUMMARY
AN602	Qualitative identification of chrysotile, amosite and crocidolite in bulk samples by polarised light microscopy (PLM) in conjunction with dispersion staining (DS). AS4964 provides the basis for this document. Unequivocal identification of the asbestos minerals present is made by obtaining sufficient diagnostic `clues`, which provide a reasonable degree of certainty, dispersion staining is a mandatory `clue` for positive identification. If sufficient `clues` are absent, then positive identification of asbestos is not possible. This procedure requires removal of suspect fibres/bundles from the sample which cannot be returned.
AN602	Fibres/material that cannot be unequivocably identified as one of the three asbestos forms, will be reported as unknown mineral fibres (umf) The fibres detected may or may not be asbestos fibres.
AN602	AS4964.2004 Method for the Qualitative Identification of Asbestos in Bulk Samples , Section 8.4, Trace Analysis Criteria, Note 4 states:"Depending upon sample condition and fibre type, the detection/reporting limit (RL) of this technique has been found to lie generally in the range of 1 in 1,000 to 1 in 10,000 parts by weight, equivalent to 1 to 0.1 g/kg."
AN602	The sample can be reported “no asbestos found at the reporting limit (RL) of 0.1 g/kg” (<0.01%w/w) where AN602 section 4.5 of this method has been followed, and if- (a) no trace asbestos fibres have been detected (i.e. no ‘respirable ’ fibres): (b) the estimated weight of non-respirable asbestos fibre bundles and/or the estimated weight of asbestos in asbestos-containing materials are found to be less than 0.1g/kg: and (c) these non-respirable asbestos fibre bundles and/or the asbestos containing materials are only visible under stereo-microscope viewing conditions.

FOOTNOTES

Amosite	-	Brown Asbestos	NA	-	Not Analysed
Chrysotile	-	White Asbestos	LNR	-	Listed, Not Required
Crocidolite	-	Blue Asbestos	*	-	NATA accreditation does not cover the performance of this service .
Amphiboles	-	Amosite and/or Crocidolite	**	-	Indicative data, theoretical holding time exceeded.
			***	-	Indicates that both * and ** apply.

(In reference to soil samples only) This report does not comply with the analytical reporting recommendations in the Western Australian Department of Health Guidelines for the Assessment and Remediation and Management of Asbestos Contaminated sites in Western Australia - May 2009.

Unless it is reported that sampling has been performed by SGS, the samples have been analysed as received.

Where reported: 'Asbestos Detected': Asbestos detected by polarised light microscopy, including dispersion staining.
Where reported: 'No Asbestos Found': No Asbestos Found by polarised light microscopy , including dispersion staining.
Where reported: 'UMF Detected': Mineral fibres of unknown type detected by polarised light microscopy, including dispersion staining. Confirmation by another independent analytical technique may be necessary.

Even after disintegration it can be very difficult, or impossible, to detect the presence of asbestos in some asbestos -containing bulk materials using polarised light microscopy. This is due to the low grade or small length or diameter of asbestos fibres present in the material, or to the fact that very fine fibres have been distributed intimately throughout the materials.

The QC and MU criteria are subject to internal review according to the SGS QAQC plan and may be provided on request or alternatively can be found here: www.sgs.com.au/en-gb/environment-health-and-safety .

NEO CONSULTING

APPENDIX D

Property Report and Relevant Information

Property Report

126 SOMERSBY FALLS ROAD SOMERSBY 2250

Property Details

Address:	126 SOMERSBY FALLS ROAD SOMERSBY 2250
Lot/Section /Plan No:	1/-/DP712505
Council:	CENTRAL COAST COUNCIL

Summary of planning controls

Planning controls held within the Planning Database are summarised below. The property may be affected by additional planning controls not outlined in this report. Please contact your council for more information.

Local Environmental Plans	Gosford Local Environmental Plan 2014 (pub. 1-5-2020)
Land Zoning	RU1 - Primary Production: (pub. 11-2-2014)
Height Of Building	NA
Floor Space Ratio	NA
Minimum Lot Size	20 ha
Heritage	NA
Land Reservation Acquisition	NA
Foreshore Building Line	NA
Acid Sulfate Soils	Class 5

Detailed planning information

State Environmental Planning Policies which apply to this property

State Environmental Planning Policies can specify planning controls for certain areas and/or types of development. They can also identify the development assessment system that applies and the type of environmental assessment that is required.

- State Environmental Planning Policy (Biodiversity and Conservation) 2021: Allowable Clearing Area (pub. 2-12-2021)
- State Environmental Planning Policy (Biodiversity and Conservation) 2021: Land Application (pub. 2-12-2021)
- State Environmental Planning Policy (Biodiversity and Conservation) 2021: Sub Catchment Boundaries (pub. 2-12-2021)
- State Environmental Planning Policy (Building Sustainability Index: BASIX) 2004: Land Application (pub. 25-6-2004)
- State Environmental Planning Policy (Exempt and Complying Development Codes) 2008: Land Application (pub. 12-12-2008)
- State Environmental Planning Policy (Housing) 2021: Land Application (pub. 26-11-2021)
- State Environmental Planning Policy (Industry and Employment) 2021: Land Application (pub. 2-12-2021)
- State Environmental Planning Policy (Planning Systems) 2021: Land Application (pub. 2-12-2021)
- State Environmental Planning Policy (Primary Production) 2021: Land Application (pub. 2-12-2021)
- State Environmental Planning Policy (Resilience and Hazards) 2021: Land Application (pub. 2-12-2021)
- State Environmental Planning Policy (Resources and Energy) 2021: Land Application (pub. 2-12-2021)
- State Environmental Planning Policy (Transport and Infrastructure) 2021: Land Application (pub. 2-12-2021)
- State Environmental Planning Policy No 65—Design Quality of Residential Apartment Development: Land Application (pub. 26-7-2002)

Other matters affecting the property

Information held in the Planning Database about other matters affecting the property appears below. The property may also be affected by additional planning controls not outlined in this report. Please speak to your council for more information

Bushfire Prone Land	Vegetation Buffer
	Vegetation Category
Local Aboriginal Land Council	DARKINJUNG
Regional Plan Boundary	Central Coast

PLAN FORM 2

Plan Drawing only to appear in this space

*OFFICE USE ONLY

Signatures and seals only.

DIAGRAM

PT POR.14

D.P. 546768

SOMERSBY

FALLS RD. (20.115 WIDE)

ROAD

RESERVE

SEE DIAGRAM

POR. 50

20.115 WIDE

MYOORA ROAD (20.115 WIDE)

1 1.064ha

2 7.867ha

3 19.997ha

"A" EASEMENT FOR ELECTRICITY PURPOSES 10 WIDE VIDE D.P. 631354

"B" EASEMENT FOR TRANSMISSION LINE 30.48 WIDE VIDE D.P. 443390

"C" EASEMENT FOR TRANSMISSION LINE 18.285 WIDE VIDE C894102 & EASEMENT FOR ELECTRICITY PURPOSES 18.285 WIDE VIDE M.S. 4296 M.D.

"D" EASEMENT FOR WATER SUPPLY PURPOSES 30 WIDE VIDE D.P. 591062

"E" EASEMENT FOR PIPELINE 3.05 WIDE VIDE C894102

"F" PIPELINE EASEMENT 24.385 WIDE VIDE D.P. 499017 & D.P. 499018

D.P. 555439

D.P. 580038

Council Clerk's Certificate

I hereby certify that –

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

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

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

Subdivision No. .....

Date .....

(Signature) .....

Council Clerk

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

†Delete if inapplicable.

D.P. 712505 (E)

Registered: 16-8-1984

C.A.: _____

Title System: TORRENS

Purpose: SUBDIVISION

Ref. Map: 9131-11-S #

Last Plan: _____

PLAN OF SUBDIVISION OF PART LOT 1 D.P. 555439

Reduction Ratio 1: 2500

Lengths are in metres.

~~Mun./Shire~~ City: GOSFORD

Locality: SOMERSBY

Parish: NARARA

County: NORTHUMBERLAND

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

I, CHRISTOPHER LEWIS EGGELING

of BANNISTER & HUNTER DX 7212 GOSFORD

a surveyor registered under the Surveyors Act, 1929, as amended, hereby certify that the survey represented in this plan

is accurate and has been made *(1) by me ~~(2) under my immediate supervision~~ in accordance with the Survey Practice Regulations, 1933, and was completed on †

9TH JULY 1985

Signature .....

Surveyor registered under Surveyors Act, 1929, as amended.

Datum Line of Azimuth: X – Y

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

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

NOTATION RESERVE ROAD 20.115 WIDE ADDED IN LTO VIDE 2641 14.2.1997

WARNING: CREASING OR FOLDING WILL LEAD TO REJECTION

SURVEYOR'S REFERENCE 46392

Job No 32346873

Phone: 1100
www.1100.com.au

Caller Details

Contact:	Nick Caltabiano	**Caller Id:**	3063293	**Phone:**	0423 834 874
Company:	Neo Consulting				
Address:	186 Riverstone Parade Riverstone NSW 2765	**Email:**	neo.searches.dbyd@gmail.com		

Dig Site and Enquiry Details

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

User Reference: Somersby
Working on Behalf of: Private

Enquiry Date:	**Start Date:**	**End Date:**
18/07/2022	19/07/2022	02/08/2022

Address:
126 Somersby Falls Road
Somersby NSW 2250

Job Purpose:	**Onsite Activities:**
Excavation	Vertical Boring

Location of Workplace: Private
Location in Road:

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

Notes/Description of Works:
Not supplied

Your Responsibilities and Duty of Care

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

Asset Owner Details

The assets owners listed below have been requested to contact you with information about their asset locations within 2 working days.
Additional time should be allowed for information issued by post. It is **your responsibility** to identify the presence of any underground assets in and around your proposed dig site. Please be aware, that not all asset owners are registered with the Before You Dig service, so it is **your responsibility** to identify and contact any asset owners not listed here directly.
** Asset owners highlighted by asterisks ** require that you visit their offices to collect plans.
# Asset owners highlighted with a hash # require that you call them to discuss your enquiry or to obtain plans.

Seq. No.	Authority Name	Phone	Status
213742084	Ausgrid	(02) 4951 0899	NOTIFIED
213742085	Central Coast Council	(02) 4350 3111	NOTIFIED
213742086	Jemena Gas North	1300 880 906	NOTIFIED
213742082	NBN Co NswAct	1800 687 626	NOTIFIED
213742083	Telstra NSW Central	1800 653 935	NOTIFIED

END OF UTILITIES LIST