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28 February 2017

Austral 1 Pty Ltd
C/O Vantage Property Pty Ltd
Suite 205, 12 O'Connel Street
Sydney NSW 2000

**SUBJECT:** **Phase 2 Environmental Assessment Addendum - Soil Delineation Sampling**

**SITE:** **230 Sixth Avenue, Austral NSW**

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Dear Denis

Geo-Logix was engaged by Vantage Property Pty Ltd on behalf of Austral 1 Pty Ltd to undertake soil sampling to delineate the extent of soil contamination identified at 230 Sixth Avenue, Austral NSW (Figure 1). Environmental investigations completed by Geo-Logix in August 2016 identified the following soil contamination issues:

- Petroleum hydrocarbon impact detected at concentrations above human health based screening levels in shallow soil at location B1 in the western portion of the site;
- Long chain petroleum hydrocarbons were detected at concentrations above ecological screening levels (ESLs) in shallow soils at locations S17, S13, B1 and B2 in the vicinity of the shed located in the western portion of the site;
- Asbestos in the form of weathered fragments (fibrous asbestos) and as bonded fragments in shallow soil associated with asbestos cement sheet clad shed on the western portion of the site (SS1 and S5); and
- Asbestos in the form of bonded ACM in shallow fill in the south-eastern corner of the site at sample location S4;
- Asbestos as bonded ACM fragments in fill on the eastern boundary at sample location S16; and
- Asbestos as bonded ACM fragments in a garden area adjacent to a granny flat at sample location S19.

Further assessment was required to determine the extent of impacted soil to facilitate remediation / management of impacted soils.

## SITE INFORMATION

The investigation area comprises the following property:

| Street Address | Lot and Deposited Plan (DP) | Approximate Area ($m^2$) |
|---|---|---|
| 230 Sixth Avenue, Austral NSW 2179 | Lot 1067 DP2475 | 12,140 |

The site is located within a rural residential area on the southern side of Sixth Avenue, Austral NSW. The site is accessed via Sixth Avenue and consists of one rectangular lot encompassing an area of 12,140 $m^2$. At the time of investigation the site was occupied by a residential dwelling with landscaped gardens, a tennis court and swimming pool as well as numerous outbuildings and sheds. A fenced paddock is located in the southern portion of the site.

## SCOPE OF WORK

To define the extent of petroleum impact to soils in the vicinity of shed in the western portion of the site the following scope of works was undertaken. Delineation sample locations are shown on Figure 2:

- Collection and analysis of a soil sample 0.3 m deep from sample location S13 to assess the vertical extent of petroleum contamination;
- Collection of surface soil and deeper soil (0.3 m) from five additional locations D1 to D5 to the north, south and east of a large truck shed to delineate the lateral extent of petroleum impact;
- Analysis of surface samples for Total Recoverable Hydrocarbons (TRH) and benzene, toluene, ethylbenzene and xylenes (BTEX). Deeper samples were placed on hold; and
- Upon receipt of results, two samples (D2/0.2 5-0.3 and D3/0.0-0.15), were submitted for TRH analysis following silica gel clean up.

To define the extent of friable and bonded asbestos impact to soils associated with the shed in the south western portion of the site (in the vicinity of SS1 and S5) the following scope of works was undertaken:

- Mapping the extent of observable fragments of bonded asbestos on site's surfaces in in the vicinity of SS1 and S5; and
- Collection of surface soil samples from eight locations (D6 to D13) to the north, south and east of SS1 and S5 and the shed to delineate the lateral extent of friable asbestos impact; and
- Laboratory analysis of soil samples for asbestos identification.

To define the extent of bonded asbestos impact to soils in the vicinity of S4 in the southeast corner of the site the following scope of works was undertaken:

- Systematic test pitting at nine locations (TP12 to TP20) across a grid based sampling plan using an excavator;
- Collection of 10 litre sample of fill soils inspection of fill soils for asbestos as per the WA DOH (2009) gravimetric method to determine the %w/w of asbestos in soil.

To define the extent of bonded asbestos impact to soils in the vicinity of S16 on the eastern boundary of the site, the following scope of works was undertaken:

- Systematic test pitting at 20 locations (TP1 to TP11 and TP21 to TP29) on a grid based sampling plan using an excavator and by hand; and
- Collection of 10 litre sample of fill soils and inspection of fill as per the method above.

Bonded asbestos was detected in a garden bed next to a shed in the northern portion of the property. Three samples (S19/D1 to S19/D3) were collected from outside the edge of the garden bed to determine

if asbestos is confined within the garden bed. A sample was collected from 0.3 m at S19 to determine if asbestos is confined to the surface.

## METHODOLOGY

### Soil Sampling Methodology

Soil samples from testpits TP1 to TP29 were inspected in the field for fragments of bonded ACM in accordance with WA DOH (2009) gravimetric method as follows:

- Testpits were excavated with a shovel to the depth of underlying undisturbed soil;
- A 10 L sample of fill material was collected from across the full thickness of fill soil;
- The 10 L sample was spread out on a tarpaulin for inspection of ACM fragments; and
- Where ACM fragments were encountered the pieces were collected and weighed so the % w/w ACM in soil could be calculated.

Soil samples D1 to D13, S19 and S19/D1 to S19/D3 were collected using a shovel. Soil samples were collected directly from the head of the shovel and placed into laboratory prepared glass jars with Teflon lined lids and Ziploc bags, stored in a chilled esky and delivered to Eurofins | MGT Laboratories under chain of custody for analysis of COPC.

The shovel was decontaminated between each sample location by double rinsing in Decon90 solution and clean water. Disposable gloves were changed between each sample location.

### Quality Assurance

Quality control (QC) sampling was undertaken in general accordance with specifications outlined in AS4482.1, *Guide to Sampling and Investigation of Potentially Contaminated Soil.* Field QC samples were collected and included the following:

| Sample Identification | Sample Type | Sample Matrix | Rate of Collection |
|---|---|---|---|
| DS1 | Field duplicate of sample D1/0.0-0.15 | Soil | 1 in 20 samples |
| TS1 | Field triplicate of sample D1/0.0-0.15 | Soil | 1 in 20 samples |

The laboratory internal QC procedures are consistent with NEPM policy on laboratory analysis of contaminated soils.

### Assessment Criteria

The following was adopted as Assessment Criteria for soil:

**NEPM Health Investigation Levels (HILs) – Residential A**

HILs are risk based generic assessment criteria used for the assessment of potential risks to human health from chronic exposure to contaminants in soil. They are intentionally conservative and based on a reasonable worst-case scenario for generic land use settings including Residential (HILs A/B), Open Space/Recreational (HILs C) and Commercial/Industrial (HILs D).

HILs A are adopted as the primary screening criteria as the proposed land use will be low density residential.

**NEPM Health Screening Levels (HSLs) – Low/High Density Residential (A/B)**

HSLs are risk based generic assessment criteria used for the assessment of potential risks to human health from chronic inhalation exposure of petroleum vapours from petroleum contaminated soils (Vapour Risk). They are intentionally conservative and based on a reasonable worst-case scenario for

generic soil types, contamination depth and land use settings including Residential (HSLs A/B), Open Space / Recreational (HSLs C) and Commercial/Industrial (HSLs D).

HSLs A/B for silt geology and depths 0-<1 m are adopted based on the proposed residential land use and maximum depth of investigation.

**NEPM Management Limits – Residential/Parkland/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 limits are adopted based on the proposed residential land use.

**NEPM Asbestos Criteria**

NEPM provides health screening levels for asbestos. The assessment criteria for asbestos at the site includes:

- No visible asbestos on the sites surface; and
- Concentrations of bonded ACM in remediated areas are below the residential health screening level of 0.01% w/w.
- Concentrations of friable ACM are below the residential health screening level of 0.001% w/w.

**NEPM Ecological Assessment**

Ecological Screening Levels (ESLs) have been developed as ecologically based criteria. The ESLs are based on a review of Canadian guidance for petroleum hydrocarbons contamination in coarse and fine grained soil types and application of the Australian methodology. A summary of ESLs adopted for site and rationale are detailed below.

| Contaminant | ESL (mg/kg) | Rationale |
|---|---|---|
| F1 $C_6$-$C_{10}$ | 180 | Value for urban residential/public open space in fine grained soil. |
| F2 $C_{10}$-$C_{16}$ | 120 | |
| F3 $C_{16}$-$C_{34}$ | 300* | |
| F4 $C_{34}$-$C_{40}$ | 2800* | |
| Benzene | 50 | |
| Toluene | 85 | |
| Ethylbenzene | 70 | |
| Xylenes | 105 | |
| Benzo(a)pyrene | 0.7 | |

*Low reliability values derived on the basis of fresh contamination (NEPC, 2013)

## SOIL ANALYTICAL RESULTS

Soil analytical results are summarised in Table 1 and Table 2. Laboratory reports are presented in Attachment A.

### Petroleum Hydrocarbons

Petroleum hydrocarbons were not detected at concentrations greater than the assessment criteria in all soil samples analysed with the exception of TRH in D2/0.25-0.3 and D3/0.0-0.15 which exceeded residential ESLs (Table 1).

### Asbestos

Fragments of bonded ACM were detected at concentrations above the assessment criteria in soil samples from testpits TP1, TP3 to TP5, TP19, TP21 and TP26 (Table 3). Fragments of bonded ACM were detected at concentrations below the assessment criteria in TP2 and TP28. A fragment of bonded ACM pipe was also observed in fill at sample location TP26.

Bonded ACM was not identified in all other soil samples inspected.

## QA / QC RESULTS

Soil duplicate/triplicate relative percent difference (RPD) results are below the adopted acceptance criteria of 30-50 % (AS4482.1). Geo-Logix accepts the validity of the laboratory data.

## DISCUSSION

### Petroleum in Soil

Petroleum hydrocarbons in the F3 fraction were identified in fill at delineation sample locations D2 and D3 at concentrations in excess of residential ESLs. Petroleum in the F2 fractions were not detected at concentrations greater than laboratory reporting limits. The results demonstrate the extent of petroleum impacted fill at concentrations greater than human health assessment criteria in the vicinity of sample B1 is limited. Given the limited extent and the concentration at B1 was only slightly in excess of HSLs, the impact is not considered to represent a contamination hotspot and is not considered sufficient to negate the viability of the proposed residential development.

Petroleum hydrocarbons in the F3 fraction detected in the vicinity of the shed is not considered sufficient to warrant remediation on the following basis:

- The ESL is considered low reliability (NEPC, 2013);
- The ESL is derived on the basis of fresh contamination (NEPC, 2013);
- The volume of material is limited;
- The impact does not constitute a risk to human health and the concentrations are below Management Limits; and
- Remediation by excavation and off-site disposal could result in greater environmental effects than leaving the material in place.

### Asbestos in Soil

A number of asbestos issues were identified at the site which are discussed below:

- Fragments of bonded ACM were identified at sample location D2 in shallow fill (0.0 - 0.15 mbg) associated with building waste comprising of tiles and other ceramics. ACM appeared to be isolated and restricted to shallow fill along a narrow strip between the asphalt surface of the truck shed to the south and ACM fence to the north, an approximate area of 60 – 75 $m^2$. The estimated extent of impact is presented on Figure 3A.
- Fragments of bonded ACM were identified in fill at concentrations above residential landuse criteria in seven out of 20 testpits completed in the vicinity of

sample S16 (Figure 3a). Fragments of bonded asbestos do not appear associated with demolition of any former site structures but with fill used to create a level lawn area. Given bonded ACM fragments have been encountered throughout this fill, the results suggest the whole fill unit it is impacted. Approximately 700 $m^3$ of fill is considered to require remediation or management;

- Fragments of bonded asbestos were observed in shallow fill soils (0.0 - 0.2 mbg) adjacent to the granny flat in the central portion of the site. Impact was largely contained within the garden bed with the estimated volume of contaminated fill approximately 14 $m^3$.
- Friable asbestos impacted soil was found to be limited to within the shed footprint in the southwest portion of the site at SS1. However, fragments of bonded ACM were observed in shallow surface soils (0.0 - 0.1 m) across an approximate area of 290 $m^2$ surrounding the shed.
- Fragments of bonded asbestos including asbestos pipe was identified at sample locations TP16 and TP19. Asbestos at TP19 appeared associated with building waste including brick, concrete and glass to a maximum depth of 0.4 mbg. The estimated extent of bonded ACM impacted fill is presented on Figure 3b. The volume of bonded asbestos impacted fill is approximately 165 $m^3$.

## CONCLUSIONS

The extent of soil contamination identified in the Phase 2 investigation has been defined. Remediation and / or management of the issues is required for the site to be made suitable for residential land use.

Please do not hesitate to contact Geo-Logix should you require further information.

Yours sincerely

**Tim Gunns**
BSc Hons, MSc
Project Scientist

**Ben Pearce**
BSc Hons, CEnvP# 321
Senior Associate

### Figures

**Figure 1:** Site Location
**Figure 2:** Delineation Sample Locations
**Figure 3a:** Asbestos Impacted Areas
**Figure 3b:** Asbestos Impacted Areas

### Tables

**Table 1:** Summary of Soil Analytical Data – Petroleum Hydrocarbons
**Table 2:** Summary of Soil Analytical Data – Asbestos

### Attachments

**Attachment A:** Laboratory Reports

## REFERENCES

Australian Standard (2005) AS 4482.1-2005 Guide to the investigation and sampling of sites with potentially contaminated soil. Part 1: Volatile and Semi-volatile compounds. Standards Australia.

Geo-Logix (2015) Phase 2 Environment Site Assessment Report, 230 Sixth Avenue, Austral NSW. Report Ref 1601114_Rpt03FinalV01_9Dec16.

NEPC (1999) *Amended National Environmental Protection Measure (2013)*, National Environmental Protection Council.

NSW EPA (1995) *Contaminated Sites Sampling Design Guidelines*, NSW Environmental Protection Authority.

## LIMITATIONS

This report should be read in full, and no executive summary, conclusion or other section of the report may be used or relied on in isolation, or taken as representative of the report as a whole. No responsibility is accepted by Geo-Logix, and any duty of care that may arise but for this statement is excluded, in relation to any use of any part of this report other than on this basis.

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To the extent permitted by law, Geo-Logix makes no warranties or representations as to the:

(a) suitability of the Site for any specific use, or category of use, or

(b) potential statutory requirements for remediation, if any, of the Site,

(c) approvals, if any, that may be needed in respect of any use or category of use, or

(d) level of remediation, if any, that is warranted to render the Site suitable for any specific use, or category of use, or

(e) level of ongoing monitoring of Site conditions, if any, that is required in respect of any specific use, or category of use, or

(f) presence, extent or absence of any substance in, on or under the Site,

other than as expressly stated in this report.

The conclusions stated in this report are based solely on the information, Scope of Works, analysis and data that are stated or expressly referred to in this report.

To the extent that the information and data relied upon to prepare this report has been conveyed to Geo-Logix by the Client or third parties orally or in the form of documents, Geo-Logix has assumed that the information and data are completely accurate and has not sought independently to verify the accuracy of the information or data. Geo-Logix assumes no responsibility or duty of care in respect of any errors or omissions in the information or data provided to it.

Without limiting the paragraph above, where laboratory tests have been carried out by others on Geo-Logix' behalf, the tests are reproduced in this report on the assumption that the tests are accurate. Geo-Logix has not sought independently to verify the accuracy of those tests and assumes no responsibility in respect of them.

Geo-Logix assumes no responsibility in respect of any changes in the condition of the Site which have occurred since the time when Geo-Logix gathered data and/or took samples from the Site on its site inspections dated **15/02/2017** and **20/02/2017**

Given the nature of asbestos, and the difficulties involved in identifying asbestos fibres, despite the exercise of all reasonable due care and diligence, thorough investigations may not always reveal its presence in either buildings or fill. Even if asbestos has been tested for and those tests' results do not reveal the presence of asbestos at those specific points of sampling, asbestos or asbestos containing materials may still be present at the Site, particularly if fill has been imported at any time, buildings constructed prior to 1980 have been demolished on the Site or materials from such buildings have been disposed of on the Site.

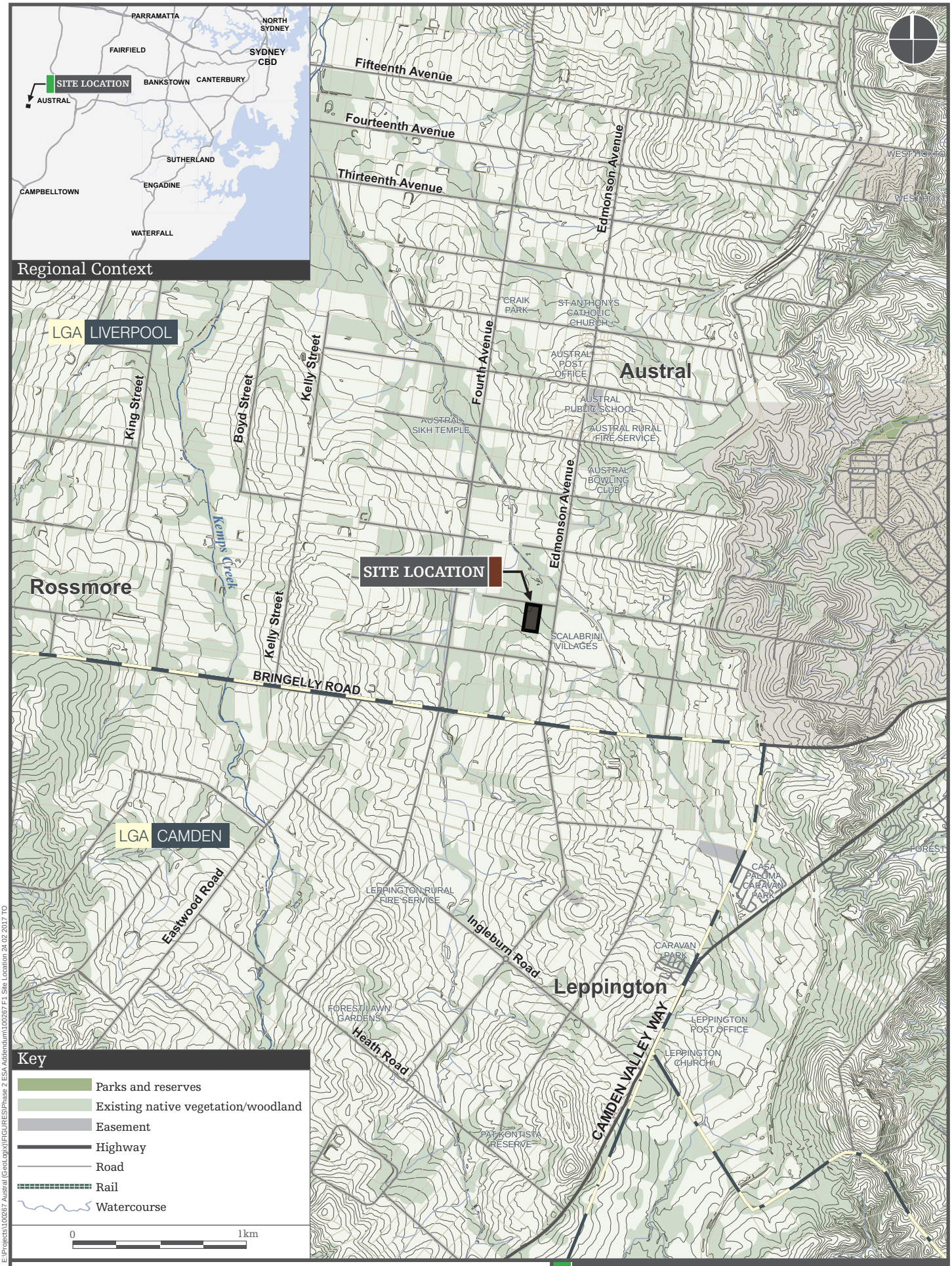
Where the Scope of Works does not include offsite investigations, Geo-Logix provides no warranty as to offsite conditions, including the extent if any to which substances in the Site may be emanating off site, and if so whether any adjoining sites have been or may be impacted by contamination originating from the Site.

Where the Scope of Works does not include the investigation, sampling, monitoring or other testing of groundwater in, on or under the Site, Geo-Logix provides no warranty or representation as to the quality of groundwater on the Site or the actual or potential migration of contamination in groundwater across or off the Site.

Subsurface site conditions are typically heterogeneous, and may change with time. Samples taken from different points on the Site may not enable inferences to be drawn about the condition of areas of the Site significantly removed from the sample points, or about the condition of any part of the Site whatsoever, in particular where the proposed inferences are to be drawn a long time after the date of the report.

Geo-Logix has prepared this report with the diligence, care and skill which a reasonable person would expect from a reputable environmental consultancy and in accordance with environmental regulatory authority and industry standards, guidelines and assessment criteria applicable as at the date of this report. Industry standards and environmental criteria change frequently, and may change at any time after the date of this report.

# FIGURES

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# SITE LOCATION

*Phase 2 Environmental Site Assessment Addendum*
230 Sixth Avenue, Austral NSW

Project No. 1701010

Figure 1


E:\Projects\100267 Austral (GeoLogix)\FIGURES\Phase 2 ESA Addendum\100267 F2 Sample Location Map 27 02 2017.TO

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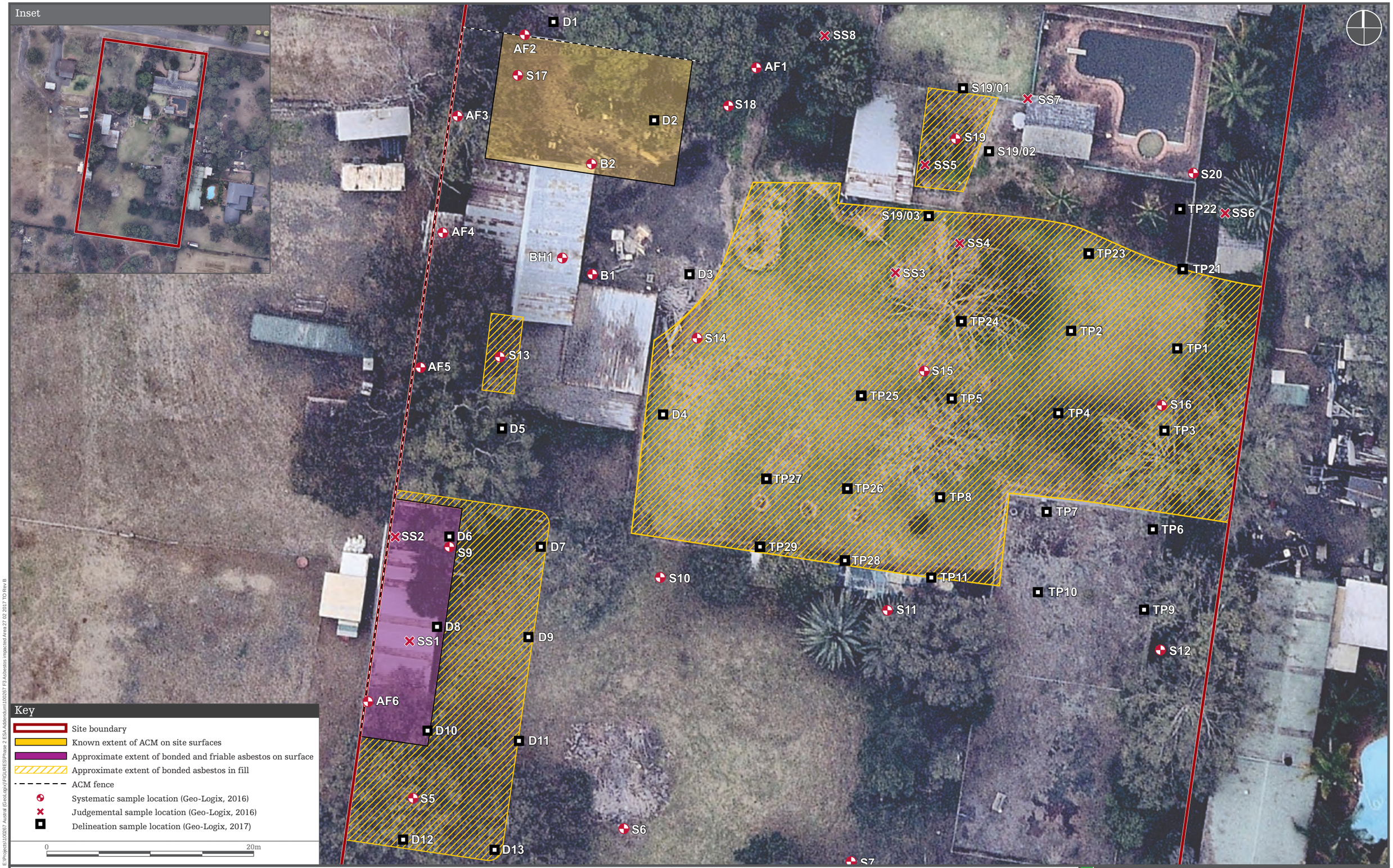
# SAMPLE LOCATION MAP

*Phase 2 Environmental Site Assessment Addendum*
230 Sixth Avenue, Austral NSW

Project No. 1701010

Figure 2

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# ASBESTOS IMPACTED AREA

*Phase 2 Environmental Site Assessment Addendum*
230 Sixth Avenue, Austral NSW

Project No. 1701010

Figure 3A


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# ASBESTOS IMPACTED AREA

*Phase 2 Environmental Site Assessment Addendum*
230 Sixth Avenue, Austral NSW

Project No. 1701010

Figure 3B

# TABLES

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# Table 1 : Summary of Soil Analytical Data - Petroleum Hydrocarbons

## Phase 2 Environmental Site Assessment Addendum

## Project No.: 1701010

230 Sixth Avenue
Austral NSW

| | Criteria 1 | Criteria 2 | Criteria 3 | Sample ID | D1/0.0-0.15 | DS1 | RPD_DS1 | TS1 | RPD_TS1 |
|---|---|---|---|---|---|---|---|---|---|
| | HSLs - A/B | Management | ESLs | Depth (m) | 0.0-0.15 | - | - | - | - |
| | Sand | Limits | Urban Res | Type | Fill | - | - | - | - |
| | 0 to <1 m | Res/Park | Coarse Soil | Date | 15-Feb-17 | 15-Feb-17 | - | 15-Feb-17 | - |
| | | | | | | | | | |
| TRH $C_6$-$C_{10}$ | - | 700 | - | | < 20 | < 20 | *nc* | < 20 | *nc* |
| TRH $C_6$-$C_{10}$ less BTEX (F1) | 45 | - | 180 | | < 20 | < 20 | *nc* | < 20 | *nc* |
| TRH >$C_{10}$-$C_{16}$ | - | 1,000 | - | | < 50 | < 50 | *nc* | < 50 | *nc* |
| TRH >$C_{10}$-$C_{16}$ less Naphthalene (F2) | 110 | - | 120 | | < 50 | < 50 | *nc* | < 50 | *nc* |
| TRH >$C_{16}$-$C_{34}$ | - | 2,500 | 300 | | < 100 | < 100 | *nc* | < 100 | *nc* |
| TRH >$C_{34}$-$C_{40}$ | - | 10,000 | 2,800 | | < 100 | < 100 | *nc* | < 100 | *nc* |
| | | | | | | | | | |
| Benzene | 0.5 | - | 50 | | < 0.1 | < 0.1 | *nc* | < 0.1 | *nc* |
| Toluene | 160 | - | 85 | | < 0.1 | < 0.1 | *nc* | < 0.1 | *nc* |
| Ethylbenzene | 55 | - | 70 | | < 0.1 | < 0.1 | *nc* | < 0.1 | *nc* |
| m&p-Xylenes | - | - | - | | < 0.2 | < 0.2 | *nc* | < 0.2 | *nc* |
| o-Xylene | - | - | - | | < 0.1 | < 0.1 | *nc* | < 0.1 | *nc* |
| Xylenes - Total | 40 | - | 105 | | < 0.3 | < 0.3 | *nc* | < 0.3 | *nc* |
| Naphthalene | 3 | - | - | | < 0.5 | < 0.5 | *nc* | < 0.5 | *nc* |

**Notes:**

Criteria 1 = NEPC (1999) Amended, 'A/B' Residential Soil Health Screening Levels for vapour intrusion, sand 0 to <1m.
Criteria 2 = NEPC (1999) Amended, Residential and parkland Management Limits for TPH fractions in soil, coarse material.
Criteria 3 = NEPC (1999) Amended, Ecological Screening Levels for urban residential/public open space, coarse soil.
Total concentrations in mg/kg
- = assessment criteria not available
DS1 = duplicate of D1/0.0-0.15
TS1 = triplicate of D1/0.0-0.15
RPD = relative percent difference of duplicate/triplicate
nc = RPD not calculated, one or both samples below laboratory reporting limit
< # or ND = analyte(s) not detected in excess of laboratory reporting limit
-- = sample not analysed
Bold/red indicates exceedance of assessment criteria

# Table 1 : Summary of Soil Analytical Data - Petroleum Hydrocarbons

## Phase 2 Environmental Site Assessment Addendum

## Project No.: 1701010

230 Sixth Avenue
Austral NSW

| | Criteria 1 | Criteria 2 | Criteria 3 | Sample ID | D1/0.25-0.3 | D2/0.0-0.15 | D2/0.25-0.3 | D3/0.0-0.15 | D3/0.25-0.3 |
|---|---|---|---|---|---|---|---|---|---|
| | HSLs - A/B | Management | ESLs | Depth (m) | 0.25-0.3 | 0.0-0.15 | 0.25-0.3 | 0.0-0.15 | 0.25-0.3 |
| | Sand | Limits | Urban Res | Type | Fill | Fill | Fill | Fill | Fill |
| | 0 to <1 m | Res/Park | Coarse Soil | Date | 15-Feb-17 | 15-Feb-17 | 15-Feb-17 | 15-Feb-17 | 15-Feb-17 |
| TRH $C_6$-$C_{10}$ | - | 700 | - | | < 20 | < 20 | < 20 | < 20 | < 20 |
| TRH $C_6$-$C_{10}$ less BTEX (F1) | 45 | - | 180 | | < 20 | < 20 | < 20 | < 20 | < 20 |
| TRH >$C_{10}$-$C_{16}$ | - | 1,000 | - | | < 50 | < 50 | < 50 | < 50 | < 50 |
| TRH >$C_{10}$-$C_{16}$ less Naphthalene (F2) | 110 | - | 120 | | < 50 | < 50 | < 50 | < 50 | < 50 |
| TRH >$C_{16}$-$C_{34}$ | - | 2,500 | 300 | | < 100 | 260 | **380** | **750** | < 100 |
| TRH >$C_{34}$-$C_{40}$ | - | 10,000 | 2,800 | | < 100 | < 100 | < 100 | 180 | < 100 |
| Benzene | 0.5 | - | 50 | | < 0.1 | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| Toluene | 160 | - | 85 | | < 0.1 | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| Ethylbenzene | 55 | - | 70 | | < 0.1 | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| m&p-Xylenes | - | - | - | | < 0.2 | < 0.2 | < 0.2 | < 0.2 | < 0.2 |
| o-Xylene | - | - | - | | < 0.1 | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| Xylenes - Total | 40 | - | 105 | | < 0.3 | < 0.3 | < 0.3 | < 0.3 | < 0.3 |
| Naphthalene | 3 | - | - | | < 0.5 | < 0.5 | < 0.5 | < 0.5 | < 0.5 |

**Notes:**

Criteria 1 = NEPC (1999) Amended, 'A/B' Residential Soil Health Screening Levels for vapour intrusion, sand 0 to <1m.
Criteria 2 = NEPC (1999) Amended, Residential and parkland Management Limits for TPH fractions in soil, coarse material.
Criteria 3 = NEPC (1999) Amended, Ecological Screening Levels for urban residential/public open space, coarse soil.
Total concentrations in mg/kg
- = assessment criteria not available
DS1 = duplicate of D1/0.0-0.15
TS1 = triplicate of D1/0.0-0.15
RPD = relative percent difference of duplicate/triplicate
nc = RPD not calculated, one or both samples below laboratory reporting limit
< # or ND = analyte(s) not detected in excess of laboratory reporting limit
-- = sample not analysed
Bold/red indicates exceedance of assessment criteria

# Table 1 : Summary of Soil Analytical Data - Petroleum Hydrocarbons

## Phase 2 Environmental Site Assessment Addendum

## Project No.: 1701010

230 Sixth Avenue
Austral NSW

| | Criteria 1 | Criteria 2 | Criteria 3 | Sample ID | D4/0.0-0.15 | D4/0.25-0.3 | D5/0.0-0.15 | D5/0.25-0.3 |
|---|---|---|---|---|---|---|---|---|
| | HSLs - A/B | Management | ESLs | Depth (m) | 0.0-0.15 | 0.25-0.3 | 0.0-0.15 | 0.25-0.3 |
| | Sand | Limits | Urban Res | Type | Fill | Fill | Fill | Fill |
| | 0 to <1 m | Res/Park | Coarse Soil | Date | 15-Feb-17 | 15-Feb-17 | 15-Feb-17 | 15-Feb-17 |
| TRH $C_6$-$C_{10}$ | - | 700 | - | | < 20 | < 20 | < 20 | < 20 |
| TRH $C_6$-$C_{10}$ less BTEX (F1) | 45 | - | 180 | | < 20 | < 20 | < 20 | < 20 |
| TRH >$C_{10}$-$C_{16}$ | - | 1,000 | - | | < 50 | < 50 | < 50 | < 50 |
| TRH >$C_{10}$-$C_{16}$ less Naphthalene (F2) | 110 | - | 120 | | < 50 | < 50 | < 50 | < 50 |
| TRH >$C_{16}$-$C_{34}$ | - | 2,500 | 300 | | 120 | 100 | < 100 | < 100 |
| TRH >$C_{34}$-$C_{40}$ | - | 10,000 | 2,800 | | < 100 | < 100 | < 100 | < 100 |
| Benzene | 0.5 | - | 50 | | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| Toluene | 160 | - | 85 | | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| Ethylbenzene | 55 | - | 70 | | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| m&p-Xylenes | - | - | - | | < 0.2 | < 0.2 | < 0.2 | < 0.2 |
| o-Xylene | - | - | - | | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| Xylenes - Total | 40 | - | 105 | | < 0.3 | < 0.3 | < 0.3 | < 0.3 |
| Naphthalene | 3 | - | - | | < 0.5 | < 0.5 | < 0.5 | < 0.5 |

**Notes:**

Criteria 1 = NEPC (1999) Amended, 'A/B' Residential Soil Health Screening Levels for vapour intrusion, sand 0 to <1m.
Criteria 2 = NEPC (1999) Amended, Residential and parkland Management Limits for TPH fractions in soil, coarse material.
Criteria 3 = NEPC (1999) Amended, Ecological Screening Levels for urban residential/public open space, coarse soil.
Total concentrations in mg/kg
- = assessment criteria not available
DS1 = duplicate of D1/0.0-0.15
TS1 = triplicate of D1/0.0-0.15
RPD = relative percent difference of duplicate/triplicate
nc = RPD not calculated, one or both samples below laboratory reporting limit
< # or ND = analyte(s) not detected in excess of laboratory reporting limit
-- = sample not analysed
Bold/red indicates exceedance of assessment criteria

# Table 2 : Summary of Soil Analytical Data - Asbestos

## Delineation Investigation

## Project No.: 1701010

230 Sixth Avenue,
Austral NSW 2179

| | Criteria 1 | Sample ID | TP1/0.0-0.3 | TP2/0.0-0.2 | TP3/0.0-0.3 | TP4/0.0-0.3 | TP5/0.0-0.2 |
|---|---|---|---|---|---|---|---|
| | HSLs - D | Depth (m) | 0.0-0.3 | 0.0-0.2 | 0.0-0.3 | 0.0-0.3 | 0.0-0.2 |
| | Asbestos | Type | Soil | Soil | Soil | Soil | Soil |
| | in Soil | Date | 20/02/2017 | 20/02/2017 | 20/02/2017 | 20/02/2017 | 20/02/2017 |
| | | | | | | | |
| **Gravimetric Analysis** | | | | | | | |
| Bulk Sample Volume (L) | - | | 10 | 10 | 10 | 10 | 10 |
| Calcualted Sample Mass (kg)* | - | | 16 | 16 | 16 | 16 | 16 |
| Bonded ACM Mass (kg) | - | | 0.025 | 0.009 | 0.013 | ND | 0.017 |
| Bonded Asbestos in Soil (ACM)** | 0.01 | | **0.023** | 0.008 | **0.012** | ND | **0.016** |

**Notes:**

Criteria 1 = NEPM (1999) Amended 'A' Residential Health Screening Levels for asbestos contamination in soil.
Total concentrations in %w/w
- = assessment criteria not available
ND = no asbestos detected
-- = sample not analysed
Bold/red indicates exceedance of assessment criteria
* A soil bulk density of 1.5 kg/L has been assumed
**An ACM asbestos content of 15 % by weight has been assumed

# Table 2 : Summary of Soil Analytical Data - Asbestos

## Delineation Investigation

## Project No.: 1701010

230 Sixth Avenue,
Austral NSW 2179

| | Criteria 1 | Sample ID | TP6/0.0-0.3 | TP7/0.0-0.4 | TP8/0.0-0.8 | TP9/0.0-0.4 | TP10/0.0-0.5 |
|---|---|---|---|---|---|---|---|
| | HSLs - D | Depth (m) | 0.0-0.3 | 0.0-0.4 | 0.0-0.8 | 0.0-0.4 | 0.0-0.5 |
| | Asbestos | Type | Soil | Soil | Soil | Soil | Soil |
| | in Soil | Date | 20/02/2017 | 20/02/2017 | 20/02/2017 | 20/02/2017 | 20/02/2017 |
| | | | | | | | |
| **Gravimetric Analysis** | | | | | | | |
| Bulk Sample Volume (L) | - | | 10 | 10 | 10 | 10 | 10 |
| Calcualted Sample Mass (kg)* | - | | 16 | 16 | 16 | 16 | 16 |
| Bonded ACM Mass (kg) | - | | ND | ND | ND | ND | ND |
| Bonded Asbestos in Soil (ACM)** | 0.01 | | ND | ND | ND | ND | ND |

**Notes:**

Criteria 1 = NEPM (1999) Amended 'A' Residential Health Screening Levels for asbestos contamination in soil.
Total concentrations in %w/w
- = assessment criteria not available
ND = no asbestos detected
-- = sample not analysed
Bold/red indicates exceedance of assessment criteria
* A soil bulk density of 1.5 kg/L has been assumed
**An ACM asbestos content of 15 % by weight has been assumed

# Table 2 : Summary of Soil Analytical Data - Asbestos

## Delineation Investigation

## Project No.: 1701010

230 Sixth Avenue,
Austral NSW 2179

| | Criteria 1 | Sample ID | TP11/0.0-0.8 | TP12/0.0-0.5 | TP13/0.0-0.5 | TP14/0.0-0.4 | TP15/0.0-0.6 |
|---|---|---|---|---|---|---|---|
| | HSLs - D | Depth (m) | 0.0-0.8 | 0.0-0.5 | 0.0-0.5 | 0.0-0.4 | 0.0-0.6 |
| | Asbestos | Type | Soil | Soil | Soil | Soil | Soil |
| | in Soil | Date | 20/02/2017 | 20/02/2017 | 20/02/2017 | 20/02/2017 | 20/02/2017 |
| | | | | | | | |
| **Gravimetric Analysis** | | | | | | | |
| Bulk Sample Volume (L) | - | | 10 | 10 | 10 | 10 | 10 |
| Calcualted Sample Mass (kg)* | - | | 16 | 16 | 16 | 16 | 16 |
| Bonded ACM Mass (kg) | - | | ND | ND | ND | ND | ND |
| Bonded Asbestos in Soil (ACM)** | 0.01 | | ND | ND | ND | ND | ND |

**Notes:**

Criteria 1 = NEPM (1999) Amended 'A' Residential Health Screening Levels for asbestos contamination in soil.
Total concentrations in %w/w
- = assessment criteria not available
ND = no asbestos detected
-- = sample not analysed
Bold/red indicates exceedance of assessment criteria
* A soil bulk density of 1.5 kg/L has been assumed
**An ACM asbestos content of 15 % by weight has been assumed

# Table 2 : Summary of Soil Analytical Data - Asbestos

## Delineation Investigation

## Project No.: 1701010

230 Sixth Avenue,
Austral NSW 2179

| | Criteria 1 | Sample ID | TP16/0.0-0.7 | TP17/0.0-0.4 | TP18/0.0-0.4 | TP19/0.0-0.4 | TP20/0.0-0.3 |
|---|---|---|---|---|---|---|---|
| | HSLs - D | Depth (m) | 0.0-0.7 | 0.0-0.4 | 0.0-0.4 | 0.0-0.4 | 0.0-0.3 |
| | Asbestos | Type | Soil | Soil | Soil | Soil | Soil |
| | in Soil | Date | 20/02/2017 | 20/02/2017 | 20/02/2017 | 20/02/2017 | 20/02/2017 |
| | | | | | | | |
| **Gravimetric Analysis** | | | | | | | |
| Bulk Sample Volume (L) | - | | 10 | 10 | 10 | 10 | 10 |
| Calcualted Sample Mass (kg)* | - | | 16 | 16 | 16 | 16 | 16 |
| Bonded ACM Mass (kg) | - | | ND | ND | ND | 0.229 | ND |
| Bonded Asbestos in Soil (ACM)** | 0.01 | | ND | ND | ND | **0.215** | ND |

**Notes:**

Criteria 1 = NEPM (1999) Amended 'A' Residential Health Screening Levels for asbestos contamination in soil.
Total concentrations in %w/w
- = assessment criteria not available
ND = no asbestos detected
-- = sample not analysed
Bold/red indicates exceedance of assessment criteria
* A soil bulk density of 1.5 kg/L has been assumed
**An ACM asbestos content of 15 % by weight has been assumed

# Table 2 : Summary of Soil Analytical Data - Asbestos

## Delineation Investigation

## Project No.: 1701010

230 Sixth Avenue,
Austral NSW 2179

| | Criteria 1 | Sample ID | TP21/0.0-0.2 | TP22/0.0-0.2 | TP23/0.0-0.4 | TP24/0.0-0.3 | TP25/0.0-0.35 |
|---|---|---|---|---|---|---|---|
| | HSLs - D | Depth (m) | 0.0-0.2 | 0.0-0.2 | 0.0-0.4 | 0.0-0.3 | 0.0-0.35 |
| | Asbestos | Type | Soil | Soil | Soil | Soil | Soil |
| | in Soil | Date | 24/02/2017 | 24/02/2017 | 24/02/2017 | 24/02/2017 | 24/02/2017 |
| | | | | | | | |
| **Gravimetric Analysis** | | | | | | | |
| Bulk Sample Volume (L) | - | | 10 | 10 | 10 | 10 | 10 |
| Calcualted Sample Mass (kg)* | - | | 16 | 16 | 16 | 16 | 16 |
| Bonded ACM Mass (kg) | - | | 0.045 | ND | ND | ND | ND |
| Bonded Asbestos in Soil (ACM)** | 0.01 | | **0.042** | ND | ND | ND | ND |

**Notes:**

Criteria 1 = NEPM (1999) Amended 'A' Residential Health Screening Levels for asbestos contamination in soil.
Total concentrations in %w/w
- = assessment criteria not available
ND = no asbestos detected
-- = sample not analysed
Bold/red indicates exceedance of assessment criteria
* A soil bulk density of 1.5 kg/L has been assumed
**An ACM asbestos content of 15 % by weight has been assumed

# Table 2 : Summary of Soil Analytical Data - Asbestos

## Delineation Investigation

## Project No.: 1701010

230 Sixth Avenue,
Austral NSW 2179

| | Criteria 1 | Sample ID | TP26/0.0-0.3 | TP27/0.0-0.3 | TP28/0.0-0.2 | TP29/0.0-0.3 |
|---|---|---|---|---|---|---|
| | HSLs - D | Depth (m) | 0.0-0.3 | 0.0-0.3 | 0.0-0.2 | 0.0-0.3 |
| | Asbestos | Type | Soil | Soil | Soil | Soil |
| | in Soil | Date | 24/02/2017 | 24/02/2017 | 24/02/2017 | 24/02/2017 |
| | | | | | | |
| **Gravimetric Analysis** | | | | | | |
| Bulk Sample Volume (L) | - | | 10 | 10 | 10 | 10 |
| Calcualted Sample Mass (kg)* | - | | 16 | 16 | 16 | 16 |
| Bonded ACM Mass (kg) | - | | 0.016 | ND | 0.006 | ND |
| Bonded Asbestos in Soil (ACM)** | 0.01 | | **0.015** | ND | 0.006 | ND |

**Notes:**

Criteria 1 = NEPM (1999) Amended 'A' Residential Health Screening Levels for asbestos contamination in soil.
Total concentrations in %w/w
- = assessment criteria not available
ND = no asbestos detected
-- = sample not analysed
Bold/red indicates exceedance of assessment criteria
* A soil bulk density of 1.5 kg/L has been assumed
**An ACM asbestos content of 15 % by weight has been assumed

# ATTACHMENT A

eurofins | mgt

# Certificate of Analysis

**Geo-Logix P/L**
**Bld Q2 Level 3, 2309/4 Daydream St**
**Warriewood**
**NSW 2102**

**NATA Accredited**
**Accreditation Number 1261**
**Site Number 18217**

Accredited for compliance with ISO/IEC 17025 – Testing
The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

**Attention:** **Tim Gunns**

**Report** **534598-S**
Project name AUSTRAL DELINEATION 230
Project ID 1701010
Received Date Feb 16, 2017

| **Client Sample ID** | | | **D1/0.0-0.15** | **D1/0.25-0.3** | **D2/0.0-0.15** | **D2/0.25-0.3** |
|---|---|---|---|---|---|---|
| **Sample Matrix** | | | **Soil** | **Soil** | **Soil** | **Soil** |
| **Eurofins \| mgt Sample No.** | | | **S17-Fe17237** | **S17-Fe17238** | **S17-Fe17239** | **S17-Fe17240** |
| **Date Sampled** | | | **Feb 15, 2017** | **Feb 15, 2017** | **Feb 15, 2017** | **Feb 15, 2017** |
| Test/Reference | LOR | Unit | | | | |
| **Total Recoverable Hydrocarbons - 1999 NEPM Fractions** | | | | | | |
| TRH C6-C9 | 20 | mg/kg | < 20 | < 20 | < 20 | < 20 |
| TRH C10-C14 | 20 | mg/kg | < 20 | < 20 | < 20 | < 20 |
| TRH C15-C28 | 50 | mg/kg | < 50 | < 50 | 78 | 200 |
| TRH C29-C36 | 50 | mg/kg | < 50 | < 50 | 180 | 190 |
| TRH C10-36 (Total) | 50 | mg/kg | < 50 | < 50 | 258 | 390 |
| **BTEX** | | | | | | |
| Benzene | 0.1 | mg/kg | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| Toluene | 0.1 | mg/kg | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| Ethylbenzene | 0.1 | mg/kg | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| m&p-Xylenes | 0.2 | mg/kg | < 0.2 | < 0.2 | < 0.2 | < 0.2 |
| o-Xylene | 0.1 | mg/kg | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| Xylenes - Total | 0.3 | mg/kg | < 0.3 | < 0.3 | < 0.3 | < 0.3 |
| 4-Bromofluorobenzene (surr.) | 1 | % | 68 | 71 | 71 | 71 |
| **Total Recoverable Hydrocarbons - 2013 NEPM Fractions** | | | | | | |
| Naphthalene[N02] | 0.5 | mg/kg | < 0.5 | < 0.5 | < 0.5 | < 0.5 |
| TRH >C10-C16 less Naphthalene (F2)[N01] | 50 | mg/kg | < 50 | < 50 | < 50 | < 50 |
| TRH C6-C10 | 20 | mg/kg | < 20 | < 20 | < 20 | < 20 |
| TRH C6-C10 less BTEX (F1)[N04] | 20 | mg/kg | < 20 | < 20 | < 20 | < 20 |
| **Total Recoverable Hydrocarbons - 2013 NEPM Fractions** | | | | | | |
| TRH >C10-C16 | 50 | mg/kg | < 50 | < 50 | < 50 | < 50 |
| TRH >C16-C34 | 100 | mg/kg | < 100 | < 100 | 260 | 380 |
| TRH >C34-C40 | 100 | mg/kg | < 100 | < 100 | < 100 | < 100 |
| | | | | | | |
| % Moisture | 1 | % | 4.1 | 5.4 | 9.8 | 3.8 |

| Client Sample ID | | | D3/0.0-0.15 | D3/0.25-0.3 | D4/0.0-0.15 | D4/0.25-0.3 |
|---|---|---|---|---|---|---|
| Sample Matrix | | | Soil | Soil | Soil | Soil |
| Eurofins \| mgt Sample No. | | | S17-Fe17241 | S17-Fe17242 | S17-Fe17243 | S17-Fe17244 |
| Date Sampled | | | Feb 15, 2017 | Feb 15, 2017 | Feb 15, 2017 | Feb 15, 2017 |
| Test/Reference | LOR | Unit | | | | |
| **Total Recoverable Hydrocarbons - 1999 NEPM Fractions** | | | | | | |
| TRH C6-C9 | 20 | mg/kg | < 20 | < 20 | < 20 | < 20 |
| TRH C10-C14 | 20 | mg/kg | < 20 | < 20 | < 20 | < 20 |
| TRH C15-C28 | 50 | mg/kg | 410 | < 50 | 84 | 64 |
| TRH C29-C36 | 50 | mg/kg | 350 | < 50 | < 50 | < 50 |
| TRH C10-36 (Total) | 50 | mg/kg | 760 | < 50 | 84 | 64 |
| **BTEX** | | | | | | |
| Benzene | 0.1 | mg/kg | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| Toluene | 0.1 | mg/kg | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| Ethylbenzene | 0.1 | mg/kg | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| m&p-Xylenes | 0.2 | mg/kg | < 0.2 | < 0.2 | < 0.2 | < 0.2 |
| o-Xylene | 0.1 | mg/kg | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| Xylenes - Total | 0.3 | mg/kg | < 0.3 | < 0.3 | < 0.3 | < 0.3 |
| 4-Bromofluorobenzene (surr.) | 1 | % | 74 | 73 | 71 | 73 |
| **Total Recoverable Hydrocarbons - 2013 NEPM Fractions** | | | | | | |
| Naphthalene[N02] | 0.5 | mg/kg | < 0.5 | < 0.5 | < 0.5 | < 0.5 |
| TRH >C10-C16 less Naphthalene (F2)[N01] | 50 | mg/kg | < 50 | < 50 | < 50 | < 50 |
| TRH C6-C10 | 20 | mg/kg | < 20 | < 20 | < 20 | < 20 |
| TRH C6-C10 less BTEX (F1)[N04] | 20 | mg/kg | < 20 | < 20 | < 20 | < 20 |
| **Total Recoverable Hydrocarbons - 2013 NEPM Fractions** | | | | | | |
| TRH >C10-C16 | 50 | mg/kg | < 50 | < 50 | < 50 | < 50 |
| TRH >C16-C34 | 100 | mg/kg | 750 | < 100 | 120 | 100 |
| TRH >C34-C40 | 100 | mg/kg | 180 | < 100 | < 100 | < 100 |
| | | | | | | |
| % Moisture | 1 | % | 5.5 | 19 | 10 | 9.4 |

| Client Sample ID | | | D5/0.0-0.15 | D5/0.25-0.3 | S13/0.25-0.3 | DS1 |
|---|---|---|---|---|---|---|
| Sample Matrix | | | Soil | Soil | Soil | Soil |
| Eurofins \| mgt Sample No. | | | S17-Fe17245 | S17-Fe17246 | S17-Fe17247 | S17-Fe17248 |
| Date Sampled | | | Feb 15, 2017 | Feb 15, 2017 | Feb 15, 2017 | Feb 15, 2017 |
| Test/Reference | LOR | Unit | | | | |
| **Total Recoverable Hydrocarbons - 1999 NEPM Fractions** | | | | | | |
| TRH C6-C9 | 20 | mg/kg | < 20 | < 20 | < 20 | < 20 |
| TRH C10-C14 | 20 | mg/kg | < 20 | < 20 | < 20 | < 20 |
| TRH C15-C28 | 50 | mg/kg | < 50 | < 50 | < 50 | < 50 |
| TRH C29-C36 | 50 | mg/kg | 57 | < 50 | < 50 | < 50 |
| TRH C10-36 (Total) | 50 | mg/kg | 57 | < 50 | < 50 | < 50 |
| **BTEX** | | | | | | |
| Benzene | 0.1 | mg/kg | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| Toluene | 0.1 | mg/kg | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| Ethylbenzene | 0.1 | mg/kg | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| m&p-Xylenes | 0.2 | mg/kg | < 0.2 | < 0.2 | < 0.2 | < 0.2 |
| o-Xylene | 0.1 | mg/kg | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| Xylenes - Total | 0.3 | mg/kg | < 0.3 | < 0.3 | < 0.3 | < 0.3 |
| 4-Bromofluorobenzene (surr.) | 1 | % | 72 | 73 | 72 | 72 |

| Client Sample ID | | | D5/0.0-0.15 | D5/0.25-0.3 | S13/0.25-0.3 | DS1 |
|---|---|---|---|---|---|---|
| **Sample Matrix** | | | **Soil** | **Soil** | **Soil** | **Soil** |
| **Eurofins \| mgt Sample No.** | | | **S17-Fe17245** | **S17-Fe17246** | **S17-Fe17247** | **S17-Fe17248** |
| **Date Sampled** | | | **Feb 15, 2017** | **Feb 15, 2017** | **Feb 15, 2017** | **Feb 15, 2017** |
| Test/Reference | LOR | Unit | | | | |
| **Total Recoverable Hydrocarbons - 2013 NEPM Fractions** | | | | | | |
| Naphthalene[N02] | 0.5 | mg/kg | < 0.5 | < 0.5 | < 0.5 | < 0.5 |
| TRH >C10-C16 less Naphthalene (F2)[N01] | 50 | mg/kg | < 50 | < 50 | < 50 | < 50 |
| TRH C6-C10 | 20 | mg/kg | < 20 | < 20 | < 20 | < 20 |
| TRH C6-C10 less BTEX (F1)[N04] | 20 | mg/kg | < 20 | < 20 | < 20 | < 20 |
| **Total Recoverable Hydrocarbons - 2013 NEPM Fractions** | | | | | | |
| TRH >C10-C16 | 50 | mg/kg | < 50 | < 50 | < 50 | < 50 |
| TRH >C16-C34 | 100 | mg/kg | < 100 | < 100 | < 100 | < 100 |
| TRH >C34-C40 | 100 | mg/kg | < 100 | < 100 | < 100 | < 100 |
| | | | | | | |
| % Moisture | 1 | % | 7.8 | 5.6 | 20 | 20 |

## Sample History

Where samples are submitted/analysed over several days, the last date of extraction and analysis is reported.
A recent review of our LIMS has resulted in the correction or clarification of some method identifications. Due to this, some of the method reference information on reports has changed. However, no substantive change has been made to our laboratory methods, and as such there is no change in the validity of current or previous results (regarding both quality and NATA accreditation).

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

| Description | Testing Site | Extracted | Holding Time |
|---|---|---|---|
| Eurofins \| mgt Suite B1 | | | |
| Total Recoverable Hydrocarbons - 1999 NEPM Fractions | Sydney | Feb 21, 2017 | 14 Day |
| - Method: TRH C6-C36 - LTM-ORG-2010 | | | |
| BTEX | Sydney | Feb 21, 2017 | 14 Day |
| - Method: TRH C6-C40 - LTM-ORG-2010 | | | |
| Total Recoverable Hydrocarbons - 2013 NEPM Fractions | Sydney | Feb 21, 2017 | 14 Day |
| - Method: TRH C6-C40 - LTM-ORG-2010 | | | |
| Total Recoverable Hydrocarbons - 2013 NEPM Fractions | Sydney | Feb 21, 2017 | 14 Day |
| - Method: TRH C6-C40 - LTM-ORG-2010 | | | |
| % Moisture | Sydney | Feb 17, 2017 | 14 Day |
| - Method: LTM-GEN-7080 Moisture | | | |

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NATA # 1261 Site # 20794

**Perth**
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Kewdale WA 6105
Phone : +61 8 9251 9600
NATA # 1261
Site # 18217

**Company Name:** Geo-Logix P/L
**Address:** Bld Q2 Level 3, 2309/4 Daydream St
Warriewood
NSW 2102

**Project Name:** AUSTRAL DELINEATION 230
**Project ID:** 1701010

**Order No.:**
**Report #:** 534598
**Phone:** 02 9979 1722
**Fax:** 02 9979 1222

**Received:** Feb 16, 2017 12:34 PM
**Due:** Feb 23, 2017
**Priority:** 5 Day
**Contact Name:** Tim Gunns

**Eurofins | mgt Analytical Services Manager : Nibha Vaidya**

| Sample Detail | | | | | | Asbestos Absence /Presence | Moisture Set | Eurofins \| mgt Suite B1 |
|---|---|---|---|---|---|---|---|---|
| **Melbourne Laboratory - NATA Site # 1254 & 14271** | | | | | | | | |
| **Sydney Laboratory - NATA Site # 18217** | | | | | | X | X | X |
| **Brisbane Laboratory - NATA Site # 20794** | | | | | | | | |
| **Perth Laboratory - NATA Site # 18217** | | | | | | | | |
| **External Laboratory** | | | | | | | | |
| **No** | **Sample ID** | **Sample Date** | **Sampling Time** | **Matrix** | **LAB ID** | | | |
| 1 | D1/0.0-0.15 | Feb 15, 2017 | | Soil | S17-Fe17237 | | X | X |
| 2 | D1/0.25-0.3 | Feb 15, 2017 | | Soil | S17-Fe17238 | | X | X |
| 3 | D2/0.0-0.15 | Feb 15, 2017 | | Soil | S17-Fe17239 | | X | X |
| 4 | D2/0.25-0.3 | Feb 15, 2017 | | Soil | S17-Fe17240 | | X | X |
| 5 | D3/0.0-0.15 | Feb 15, 2017 | | Soil | S17-Fe17241 | | X | X |
| 6 | D3/0.25-0.3 | Feb 15, 2017 | | Soil | S17-Fe17242 | | X | X |
| 7 | D4/0.0-0.15 | Feb 15, 2017 | | Soil | S17-Fe17243 | | X | X |
| 8 | D4/0.25-0.3 | Feb 15, 2017 | | Soil | S17-Fe17244 | | X | X |
| 9 | D5/0.0-0.15 | Feb 15, 2017 | | Soil | S17-Fe17245 | | X | X |

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NATA # 1261 Site # 18217

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NATA # 1261 Site # 20794

**Perth**
2/91 Leach Highway
Kewdale WA 6105
Phone : +61 8 9251 9600
NATA # 1261
Site # 18217

**Company Name:** Geo-Logix P/L
**Address:** Bld Q2 Level 3, 2309/4 Daydream St
Warriewood
NSW 2102

**Project Name:** AUSTRAL DELINEATION 230
**Project ID:** 1701010

**Order No.:**
**Report #:** 534598
**Phone:** 02 9979 1722
**Fax:** 02 9979 1222

**Received:** Feb 16, 2017 12:34 PM
**Due:** Feb 23, 2017
**Priority:** 5 Day
**Contact Name:** Tim Gunns

**Eurofins | mgt Analytical Services Manager : Nibha Vaidya**

| Sample Detail | | | | | | Asbestos Absence /Presence | Moisture Set | Eurofins \| mgt Suite B1 |
|---|---|---|---|---|---|---|---|---|
| **Melbourne Laboratory - NATA Site # 1254 & 14271** | | | | | | | | |
| **Sydney Laboratory - NATA Site # 18217** | | | | | | X | X | X |
| **Brisbane Laboratory - NATA Site # 20794** | | | | | | | | |
| **Perth Laboratory - NATA Site # 18217** | | | | | | | | |
| 10 | D5/0.25-0.3 | Feb 15, 2017 | | Soil | S17-Fe17246 | | X | X |
| 11 | S13/0.25-0.3 | Feb 15, 2017 | | Soil | S17-Fe17247 | | X | X |
| 12 | DS1 | Feb 15, 2017 | | Soil | S17-Fe17248 | | X | X |
| 13 | S19/0.25-0.3 | Feb 15, 2017 | | Soil | S17-Fe17249 | X | | |
| 14 | S19/D1/0.0-0.15 | Feb 15, 2017 | | Soil | S17-Fe17250 | X | | |
| 15 | S19/D2/0.0-0.15 | Feb 15, 2017 | | Soil | S17-Fe17251 | X | | |
| 16 | S19/D3/0.0-0.15 | Feb 15, 2017 | | Soil | S17-Fe17252 | X | | |
| 17 | D6/0.0-0.15 | Feb 15, 2017 | | Soil | S17-Fe17253 | X | | |
| 18 | D7/0.0-0.15 | Feb 15, 2017 | | Soil | S17-Fe17254 | X | | |
| 19 | D8/0.0-0.15 | Feb 15, 2017 | | Soil | S17-Fe17255 | X | | |

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NATA # 1261
Site # 18217

**Company Name:** Geo-Logix P/L
**Address:** Bld Q2 Level 3, 2309/4 Daydream St
Warriewood
NSW 2102

**Project Name:** AUSTRAL DELINEATION 230
**Project ID:** 1701010

**Order No.:**
**Report #:** 534598
**Phone:** 02 9979 1722
**Fax:** 02 9979 1222

**Received:** Feb 16, 2017 12:34 PM
**Due:** Feb 23, 2017
**Priority:** 5 Day
**Contact Name:** Tim Gunns

**Eurofins | mgt Analytical Services Manager : Nibha Vaidya**

| Sample Detail | | | | | | Asbestos Absence /Presence | Moisture Set | Eurofins \| mgt Suite B1 |
|---|---|---|---|---|---|---|---|---|
| **Melbourne Laboratory - NATA Site # 1254 & 14271** | | | | | | | | |
| **Sydney Laboratory - NATA Site # 18217** | | | | | | X | X | X |
| **Brisbane Laboratory - NATA Site # 20794** | | | | | | | | |
| **Perth Laboratory - NATA Site # 18217** | | | | | | | | |
| 20 | D9/0.0-0.15 | Feb 15, 2017 | | Soil | S17-Fe17256 | X | | |
| 21 | D10/0.0-0.15 | Feb 15, 2017 | | Soil | S17-Fe17257 | X | | |
| 22 | D11/0.0-0.15 | Feb 15, 2017 | | Soil | S17-Fe17258 | X | | |
| 23 | D12/0.0-0.15 | Feb 15, 2017 | | Soil | S17-Fe17259 | X | | |
| 24 | D13/0.0-0.15 | Feb 15, 2017 | | Soil | S17-Fe17260 | X | | |
| **Test Counts** | | | | | | 12 | 12 | 12 |

## Internal Quality Control Review and Glossary

### General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples are included in this QC report where applicable. Additional QC data may be available on request.
2. All soil results are reported on a dry basis, unless otherwise stated.
3. Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
4. Results are uncorrected for matrix spikes or surrogate recoveries.
5. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
6. Samples were analysed on an 'as received' basis. 7. This report replaces any interim results previously issued.

### Holding Times

Please refer to 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours prior to sample receipt deadlines as stated on the Sample Receipt Advice.

If the Laboratory did not receive the information in the required timeframe, and regardless of any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the date of sampling, therefore compliance to these may be outside the laboratory's control.

****NOTE:** pH duplicates are reported as a range NOT as RPD

### Units

**mg/kg:** milligrams per Kilogram

**ug/l:** micrograms per litre

**ppb:** Parts per billion

**org/100ml:** Organisms per 100 millilitres

**MPN/100mL:** Most Probable Number of organisms per 100 millilitres

**mg/l:** milligrams per litre

**ppm:** Parts per million

**%:** Percentage

**NTU:** Nephelometric Turbidity Units

### Terms

| | |
|---|---|
| **Dry** | Where a moisture has been determined on a solid sample the result is expressed on a dry basis. |
| **LOR** | Limit of Reporting. |
| **SPIKE** | Addition of the analyte to the sample and reported as percentage recovery. |
| **RPD** | Relative Percent Difference between two Duplicate pieces of analysis. |
| **LCS** | Laboratory Control Sample - reported as percent recovery |
| **CRM** | Certified Reference Material - reported as percent recovery |
| **Method Blank** | In the case of solid samples these are performed on laboratory certified clean sands.<br>In the case of water samples these are performed on de-ionised water. |
| **Surr - Surrogate** | The addition of a like compound to the analyte target and reported as percentage recovery. |
| **Duplicate** | A second piece of analysis from the same sample and reported in the same units as the result to show comparison. |
| **Batch Duplicate** | A second piece of analysis from a sample outside of the clients batch of samples but run within the laboratory batch of analysis. |
| **Batch SPIKE** | Spike recovery reported on a sample from outside of the clients batch of samples but run within the laboratory batch of analysis. |
| **USEPA** | United States Environmental Protection Agency |
| **APHA** | American Public Health Association |
| **TCLP** | Toxicity Characteristic Leaching Procedure |
| **COC** | Chain of Custody |
| **SRA** | Sample Receipt Advice |
| **CP** | Client Parent - QC was performed on samples pertaining to this report |
| **NCP** | Non-Client Parent - QC performed on samples not pertaining to this report, QC is representative of the sequence or batch that client samples were analysed within |
| **TEQ** | Toxic Equivalency Quotient |

### QC - Acceptance Criteria

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is 30% however the following acceptance guidelines are equally applicable:

Results <10 times the LOR : No Limit

Results between 10-20 times the LOR : RPD must lie between 0-50%

Results >20 times the LOR : RPD must lie between 0-30%

Surrogate Recoveries: Recoveries must lie between 50-150%-Phenols & PFASs 20-130%

### QC Data General Comments

1. Where a result is reported as a less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch, but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown is not data from your samples.
3. Organochlorine Pesticide analysis - where reporting LCS data, Toxaphene & Chlordane are not added to the LCS.
4. Organochlorine Pesticide analysis - where reporting Spike data, Toxaphene is not added to the Spike.
5. Total Recoverable Hydrocarbons - where reporting Spike & LCS data, a single spike of commercial Hydrocarbon products in the range of C12-C30 is added and it's Total Recovery is reported in the C10-C14 cell of the Report.
6. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling.Therefore laboratory analysis is unlikely to be completed within holding time. Analysis will begin as soon as possible after sample receipt.
7. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of Recovery the term "INT" appears against that analyte.
8. Polychlorinated Biphenyls are spiked only using Aroclor 1260 in Matrix Spikes and LCS.
9. For Matrix Spikes and LCS results a dash " -" in the report means that the specific analyte was not added to the QC sample.
10. Duplicate RPDs are calculated from raw analytical data thus it is possible to have two sets of data.

**Quality Control Results**

| Test | Units | Result 1 | | | Acceptance Limits | Pass Limits | Qualifying Code |
|---|---|---|---|---|---|---|---|
| **Method Blank** | | | | | | | |
| **Total Recoverable Hydrocarbons - 1999 NEPM Fractions** | | | | | | | |
| TRH C6-C9 | mg/kg | < 20 | | | 20 | Pass | |
| TRH C10-C14 | mg/kg | < 20 | | | 20 | Pass | |
| TRH C15-C28 | mg/kg | < 50 | | | 50 | Pass | |
| TRH C29-C36 | mg/kg | < 50 | | | 50 | Pass | |
| **Method Blank** | | | | | | | |
| **BTEX** | | | | | | | |
| Benzene | mg/kg | < 0.1 | | | 0.1 | Pass | |
| Toluene | mg/kg | < 0.1 | | | 0.1 | Pass | |
| Ethylbenzene | mg/kg | < 0.1 | | | 0.1 | Pass | |
| m&p-Xylenes | mg/kg | < 0.2 | | | 0.2 | Pass | |
| o-Xylene | mg/kg | < 0.1 | | | 0.1 | Pass | |
| Xylenes - Total | mg/kg | < 0.3 | | | 0.3 | Pass | |
| **Method Blank** | | | | | | | |
| **Total Recoverable Hydrocarbons - 2013 NEPM Fractions** | | | | | | | |
| Naphthalene | mg/kg | < 0.5 | | | 0.5 | Pass | |
| TRH C6-C10 | mg/kg | < 20 | | | 20 | Pass | |
| **Method Blank** | | | | | | | |
| **Total Recoverable Hydrocarbons - 2013 NEPM Fractions** | | | | | | | |
| TRH >C10-C16 | mg/kg | < 50 | | | 50 | Pass | |
| TRH >C16-C34 | mg/kg | < 100 | | | 100 | Pass | |
| TRH >C34-C40 | mg/kg | < 100 | | | 100 | Pass | |
| **LCS - % Recovery** | | | | | | | |
| **Total Recoverable Hydrocarbons - 1999 NEPM Fractions** | | | | | | | |
| TRH C6-C9 | % | 122 | | | 70-130 | Pass | |
| TRH C10-C14 | % | 108 | | | 70-130 | Pass | |
| **LCS - % Recovery** | | | | | | | |
| **BTEX** | | | | | | | |
| Benzene | % | 109 | | | 70-130 | Pass | |
| Toluene | % | 109 | | | 70-130 | Pass | |
| Ethylbenzene | % | 112 | | | 70-130 | Pass | |
| m&p-Xylenes | % | 113 | | | 70-130 | Pass | |
| o-Xylene | % | 112 | | | 70-130 | Pass | |
| Xylenes - Total | % | 112 | | | 70-130 | Pass | |
| **LCS - % Recovery** | | | | | | | |
| **Total Recoverable Hydrocarbons - 2013 NEPM Fractions** | | | | | | | |
| Naphthalene | % | 126 | | | 70-130 | Pass | |
| TRH C6-C10 | % | 118 | | | 70-130 | Pass | |
| **LCS - % Recovery** | | | | | | | |
| **Total Recoverable Hydrocarbons - 2013 NEPM Fractions** | | | | | | | |
| TRH >C10-C16 | % | 116 | | | 70-130 | Pass | |

| Test | Lab Sample ID | QA Source | Units | Result 1 | | | Acceptance Limits | Pass Limits | Qualifying Code |
|---|---|---|---|---|---|---|---|---|---|
| **Spike - % Recovery** | | | | | | | | | |
| **Total Recoverable Hydrocarbons - 1999 NEPM Fractions** | | | | Result 1 | | | | | |
| TRH C6-C9 | S17-Fe17241 | CP | % | 92 | | | 70-130 | Pass | |
| TRH C10-C14 | S17-Fe17241 | CP | % | 77 | | | 70-130 | Pass | |
| **Spike - % Recovery** | | | | | | | | | |
| **BTEX** | | | | Result 1 | | | | | |
| Benzene | S17-Fe17241 | CP | % | 112 | | | 70-130 | Pass | |
| Toluene | S17-Fe17241 | CP | % | 113 | | | 70-130 | Pass | |

| Test | Lab Sample ID | QA Source | Units | Result 1 | | | Acceptance Limits | Pass Limits | Qualifying Code |
|---|---|---|---|---|---|---|---|---|---|
| Ethylbenzene | S17-Fe17241 | CP | % | 116 | | | 70-130 | Pass | |
| m&p-Xylenes | S17-Fe17241 | CP | % | 117 | | | 70-130 | Pass | |
| o-Xylene | S17-Fe17241 | CP | % | 117 | | | 70-130 | Pass | |
| Xylenes - Total | S17-Fe17241 | CP | % | 117 | | | 70-130 | Pass | |
| **Spike - % Recovery** | | | | | | | | | |
| **Total Recoverable Hydrocarbons - 2013 NEPM Fractions** | | | | Result 1 | | | | | |
| Naphthalene | S17-Fe17241 | CP | % | 129 | | | 70-130 | Pass | |
| TRH C6-C10 | S17-Fe17241 | CP | % | 92 | | | 70-130 | Pass | |
| **Spike - % Recovery** | | | | | | | | | |
| **Total Recoverable Hydrocarbons - 2013 NEPM Fractions** | | | | Result 1 | | | | | |
| TRH >C10-C16 | S17-Fe17241 | CP | % | 76 | | | 70-130 | Pass | |
| **Test** | **Lab Sample ID** | **QA Source** | **Units** | **Result 1** | | | **Acceptance Limits** | **Pass Limits** | **Qualifying Code** |
| **Duplicate** | | | | | | | | | |
| **Total Recoverable Hydrocarbons - 1999 NEPM Fractions** | | | | Result 1 | Result 2 | RPD | | | |
| TRH C6-C9 | S17-Fe17240 | CP | mg/kg | < 20 | < 20 | <1 | 30% | Pass | |
| TRH C10-C14 | S17-Fe17240 | CP | mg/kg | < 20 | < 20 | <1 | 30% | Pass | |
| TRH C15-C28 | S17-Fe17240 | CP | mg/kg | 200 | 140 | 38 | 30% | Fail | Q15 |
| TRH C29-C36 | S17-Fe17240 | CP | mg/kg | 190 | 130 | 35 | 30% | Fail | Q15 |
| **Duplicate** | | | | | | | | | |
| **BTEX** | | | | Result 1 | Result 2 | RPD | | | |
| Benzene | S17-Fe17240 | CP | mg/kg | < 0.1 | < 0.1 | <1 | 30% | Pass | |
| Toluene | S17-Fe17240 | CP | mg/kg | < 0.1 | < 0.1 | <1 | 30% | Pass | |
| Ethylbenzene | S17-Fe17240 | CP | mg/kg | < 0.1 | < 0.1 | <1 | 30% | Pass | |
| m&p-Xylenes | S17-Fe17240 | CP | mg/kg | < 0.2 | < 0.2 | <1 | 30% | Pass | |
| o-Xylene | S17-Fe17240 | CP | mg/kg | < 0.1 | < 0.1 | <1 | 30% | Pass | |
| Xylenes - Total | S17-Fe17240 | CP | mg/kg | < 0.3 | < 0.3 | <1 | 30% | Pass | |
| **Duplicate** | | | | | | | | | |
| **Total Recoverable Hydrocarbons - 2013 NEPM Fractions** | | | | Result 1 | Result 2 | RPD | | | |
| Naphthalene | S17-Fe17240 | CP | mg/kg | < 0.5 | < 0.5 | <1 | 30% | Pass | |
| TRH C6-C10 | S17-Fe17240 | CP | mg/kg | < 20 | < 20 | <1 | 30% | Pass | |
| **Duplicate** | | | | | | | | | |
| **Total Recoverable Hydrocarbons - 2013 NEPM Fractions** | | | | Result 1 | Result 2 | RPD | | | |
| TRH >C10-C16 | S17-Fe17240 | CP | mg/kg | < 50 | < 50 | <1 | 30% | Pass | |
| TRH >C16-C34 | S17-Fe17240 | CP | mg/kg | 380 | 250 | 39 | 30% | Fail | Q15 |
| TRH >C34-C40 | S17-Fe17240 | CP | mg/kg | < 100 | < 100 | <1 | 30% | Pass | |
| **Duplicate** | | | | | | | | | |
| | | | | Result 1 | Result 2 | RPD | | | |
| % Moisture | S17-Fe17240 | CP | % | 3.8 | 4.6 | 18 | 30% | Pass | |

## Comments

### Sample Integrity

| | |
|---|---|
| Custody Seals Intact (if used) | N/A |
| Attempt to Chill was evident | Yes |
| Sample correctly preserved | Yes |
| Appropriate sample containers have been used | Yes |
| Sample containers for volatile analysis received with minimal headspace | Yes |
| Samples received within HoldingTime | Yes |
| Some samples have been subcontracted | No |

### Qualifier Codes/Comments

| Code | Description |
|---|---|
| N01 | F2 is determined by arithmetically subtracting the "naphthalene" value from the ">C10-C16" value. The naphthalene value used in this calculation is obtained from volatiles (Purge & Trap analysis). |
| N02 | Where we have reported both volatile (P&T GCMS) and semivolatile (GCMS) naphthalene data, results may not be identical. Provided correct sample handling protocols have been followed, any observed differences in results are likely to be due to procedural differences within each methodology. Results determined by both techniques have passed all QAQC acceptance criteria, and are entirely technically valid. |
| N04 | F1 is determined by arithmetically subtracting the "Total BTEX" value from the "C6-C10" value. The "Total BTEX" value is obtained by summing the concentrations of BTEX analytes. The "C6-C10" value is obtained by quantitating against a standard of mixed aromatic/aliphatic analytes. |
| Q15 | The RPD reported passes Eurofins \| mgt's QC - Acceptance Criteria as defined in the Internal Quality Control Review and Glossary page of this report. |

## Authorised By

| | |
|---|---|
| Nibha Vaidya | Analytical Services Manager |
| Nibha Vaidya | Senior Analyst-Asbestos (NSW) |
| Ryan Hamilton | Senior Analyst-Inorganic (NSW) |
| Ryan Hamilton | Senior Analyst-Metal (NSW) |
| Ryan Hamilton | Senior Analyst-Organic (NSW) |
| Ryan Hamilton | Senior Analyst-Volatile (NSW) |

**Glenn Jackson**

**National Operations Manager**

Final report - this Report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.

# Certificate of Analysis

**NATA Accredited**
**Accreditation Number 1261**
**Site Number 18217**

Accredited for compliance with ISO/IEC 17025–Testing
The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

**Geo-Logix P/L**
**Bld Q2 Level 3, 2309/4 Daydream St**
**Warriewood**
**NSW 2102**

| | |
|---|---|
| **Attention:** | Tim Gunns |
| **Report** | 534598-AID |
| **Project Name** | AUSTRAL DELINEATION 230 |
| **Project ID** | 1701010 |
| **Received Date** | Feb 16, 2017 |
| **Date Reported** | Feb 24, 2017 |

**Methodology:**

| | |
|---|---|
| Asbestos ID | Conducted in accordance with the Australian Standard AS 4964 – 2004: Method for the Qualitative Identification of Asbestos in Bulk Samples and in-house Method LTM-ASB-8020 by polarised light microscopy (PLM) and dispersion staining (DS) techniques. Bulk samples include building materials, soils and ores. |
| Subsampling Soil Samples | The whole sample submitted is first dried and then sieved through a 10mm sieve followed by a 2mm sieve. All fibrous matter viz greater than 10mm, greater than 2mm as well as the material passing through the 2mm sieve are retained and analysed for the presence of asbestos. If the sub 2mm fraction is greater than approximately 30 to 60g then a sub-sampling routine based on ISO 3082:2009(E) Iron ores - Sampling and Sample preparation procedures is employed. Depending on the nature and size of the soil sample, the sub-2 mm residue material may need to be sub-sampled for trace analysis in accordance with AS 4964-2004. |
| Bonded asbestos-containing material (ACM) | The material is first examined and any fibres isolated and where required interfering organic fibres or matter may be removed by treating the sample for several hours at a temperature not exceeding 400 ± 30°C. The resultant material is then ground and examined in accordance with AS 4964-2004. |
| Limit of Reporting | The nominal detection limit of the AS4964 method is around 0.01%. The examination of large sample sizes (at least 500 ml is recommended) may improve the likelihood of identifying asbestos material in the greater than 2 mm fraction. The NEPM screening level of 0.001% w/w asbestos in soil for FA and AF (i.e. non-bonded/friable asbestos) only applies where the FA and AF are able to be quantified by gravimetric procedures. This screening level is not applicable to free fibres. NOTE: NATA News, September 2011 – page 34, states, “Weighing of fibres is problematic and can lead to loss of fibres and potential exposure for laboratory analysts. To request laboratories to report information which is outside the scope of AS 4964-2004 and the scope of their accreditation is misleading and is most unwise” therefore such values reported are outside the scope of Eurofins \| mgt NATA accreditation as designated by an asterisk. |

**Project Name** AUSTRAL DELINEATION 230
**Project ID** 1701010
**Date Sampled** Feb 15, 2017
**Report** 534598-AID

| Client Sample ID | Eurofins \| mgt Sample No. | Date Sampled | Sample Description | Result |
|---|---|---|---|---|
| S19/0.25-0.3 | 17-Fe17249 | Feb 15, 2017 | Approximate Sample 494g<br>Sample consisted of: Brown coarse grain soil, rocks and organic debris | Chrysotile asbestos detected in fibre cement fragments.<br>Approximate raw weight of asbestos containing material = 0.23g<br>Organic fibre detected.<br>No respirable fibres detected. |
| S19/D1/0.0-0.15 | 17-Fe17250 | Feb 15, 2017 | Approximate Sample 459g<br>Sample consisted of: Dark brown coarse grain soil, rocks and organic debris | No asbestos detected.<br>Organic fibre detected.<br>No respirable fibres detected. |
| S19/D2/0.0-0.15 | 17-Fe17251 | Feb 15, 2017 | Approximate Sample 532g<br>Sample consisted of: Dark brown fine grain soil, rocks and organic debris | No asbestos detected.<br>Organic fibre detected.<br>No respirable fibres detected. |
| S19/D3/0.0-0.15 | 17-Fe17252 | Feb 15, 2017 | Approximate Sample 694g<br>Sample consisted of: Dark brown coarse grain soil, rocks and organic debris | No asbestos detected.<br>Organic fibre detected.<br>No respirable fibres detected. |
| D6/0.0-0.15 | 17-Fe17253 | Feb 15, 2017 | Approximate Sample 608g<br>Sample consisted of: Dark brown coarse grain soil, rocks and organic debris | No asbestos detected.<br>Organic fibre detected.<br>No respirable fibres detected. |
| D7/0.0-0.15 | 17-Fe17254 | Feb 15, 2017 | Approximate Sample 312g<br>Sample consisted of: Dark brown coarse grain soil, rocks and organic debris | No asbestos detected.<br>Organic fibre detected.<br>No respirable fibres detected. |
| D8/0.0-0.15 | 17-Fe17255 | Feb 15, 2017 | Approximate Sample 497g<br>Sample consisted of: Dark brown coarse grain soil, rocks and organic debris | No asbestos detected.<br>Organic fibre detected.<br>No respirable fibres detected. |
| D9/0.0-0.15 | 17-Fe17256 | Feb 15, 2017 | Approximate Sample 403g<br>Sample consisted of: Dark brown coarse grain soil, rocks and organic debris | No asbestos detected.<br>Organic fibre detected.<br>No respirable fibres detected. |
| D10/0.0-0.15 | 17-Fe17257 | Feb 15, 2017 | Approximate Sample 214<br>Sample consisted of: Dark brown coarse grain soil, rocks and organic debris | Chrysotile and amosite asbestos detected in fibre cement fragments.<br>Approximate raw weight of asbestos containing material = 2.5g<br>Organic fibre detected.<br>No respirable fibres detected. |

| Client Sample ID | Eurofins \| mgt Sample No. | Date Sampled | Sample Description | Result |
|---|---|---|---|---|
| D11/0.0-0.15 | 17-Fe17258 | Feb 15, 2017 | Approximate Sample 349g<br>Sample consisted of: Dark brown coarse grain soil, rocks and organic debris | No asbestos detected.<br>Organic fibre detected.<br>No respirable fibres detected. |
| D12/0.0-0.15 | 17-Fe17259 | Feb 15, 2017 | Approximate Sample 338g<br>Sample consisted of: Dark brown coarse grain soil, rocks and organic debris | No asbestos detected.<br>Organic fibre detected.<br>No respirable fibres detected. |
| D13/0.0-0.15 | 17-Fe17260 | Feb 15, 2017 | Approximate Sample 273g<br>Sample consisted of: Dark brown coarse grain soil, rocks and organic debris | No asbestos detected.<br>Organic fibre detected.<br>No respirable fibres detected. |

## Sample History

Where samples are submitted/analysed over several days, the last date of extraction and analysis is reported.
A recent review of our LIMS has resulted in the correction or clarification of some method identifications. Due to this, some of the method reference information on reports has changed. However, no substantive change has been made to our laboratory methods, and as such there is no change in the validity of current or previous results (regarding both quality and NATA accreditation).

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

| Description | Testing Site | Extracted | Holding Time |
|---|---|---|---|
| Asbestos - LTM-ASB-8020 | Sydney | Feb 17, 2017 | Indefinite |

eurofins | mgt

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NATA # 1261 Site # 20794

**Perth**
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NATA # 1261
Site # 18217

**Company Name:** Geo-Logix P/L
**Address:** Bld Q2 Level 3, 2309/4 Daydream St
Warriewood
NSW 2102

**Project Name:** AUSTRAL DELINEATION 230
**Project ID:** 1701010

**Order No.:**
**Report #:** 534598
**Phone:** 02 9979 1722
**Fax:** 02 9979 1222

**Received:** Feb 16, 2017 12:34 PM
**Due:** Feb 23, 2017
**Priority:** 5 Day
**Contact Name:** Tim Gunns

**Eurofins | mgt Analytical Services Manager : Nibha Vaidya**

| Sample Detail | | | | | | Asbestos Absence /Presence | Moisture Set | Eurofins \| mgt Suite B1 |
|---|---|---|---|---|---|---|---|---|
| **Melbourne Laboratory - NATA Site # 1254 & 14271** | | | | | | | | |
| **Sydney Laboratory - NATA Site # 18217** | | | | | | X | X | X |
| **Brisbane Laboratory - NATA Site # 20794** | | | | | | | | |
| **Perth Laboratory - NATA Site # 18217** | | | | | | | | |
| **External Laboratory** | | | | | | | | |
| **No** | **Sample ID** | **Sample Date** | **Sampling Time** | **Matrix** | **LAB ID** | | | |
| 1 | D1/0.0-0.15 | Feb 15, 2017 | | Soil | S17-Fe17237 | | X | X |
| 2 | D1/0.25-0.3 | Feb 15, 2017 | | Soil | S17-Fe17238 | | X | X |
| 3 | D2/0.0-0.15 | Feb 15, 2017 | | Soil | S17-Fe17239 | | X | X |
| 4 | D2/0.25-0.3 | Feb 15, 2017 | | Soil | S17-Fe17240 | | X | X |
| 5 | D3/0.0-0.15 | Feb 15, 2017 | | Soil | S17-Fe17241 | | X | X |
| 6 | D3/0.25-0.3 | Feb 15, 2017 | | Soil | S17-Fe17242 | | X | X |
| 7 | D4/0.0-0.15 | Feb 15, 2017 | | Soil | S17-Fe17243 | | X | X |
| 8 | D4/0.25-0.3 | Feb 15, 2017 | | Soil | S17-Fe17244 | | X | X |
| 9 | D5/0.0-0.15 | Feb 15, 2017 | | Soil | S17-Fe17245 | | X | X |

eurofins | mgt

ABN – 50 005 085 521
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web : www.eurofins.com.au

**Melbourne**
3-5 Kingston Town Close
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Site # 1254 & 14271

**Sydney**
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NATA # 1261 Site # 18217

**Brisbane**
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Murarrie QLD 4172
Phone : +61 7 3902 4600
NATA # 1261 Site # 20794

**Perth**
2/91 Leach Highway
Kewdale WA 6105
Phone : +61 8 9251 9600
NATA # 1261
Site # 18217

**Company Name:** Geo-Logix P/L
**Address:** Bld Q2 Level 3, 2309/4 Daydream St
Warriewood
NSW 2102

**Project Name:** AUSTRAL DELINEATION 230
**Project ID:** 1701010

**Order No.:**
**Report #:** 534598
**Phone:** 02 9979 1722
**Fax:** 02 9979 1222

**Received:** Feb 16, 2017 12:34 PM
**Due:** Feb 23, 2017
**Priority:** 5 Day
**Contact Name:** Tim Gunns

**Eurofins | mgt Analytical Services Manager : Nibha Vaidya**

| Sample Detail | | | | | | Asbestos Absence /Presence | Moisture Set | Eurofins \| mgt Suite B1 |
|---|---|---|---|---|---|---|---|---|
| **Melbourne Laboratory - NATA Site # 1254 & 14271** | | | | | | | | |
| **Sydney Laboratory - NATA Site # 18217** | | | | | | X | X | X |
| **Brisbane Laboratory - NATA Site # 20794** | | | | | | | | |
| **Perth Laboratory - NATA Site # 18217** | | | | | | | | |
| 10 | D5/0.25-0.3 | Feb 15, 2017 | | Soil | S17-Fe17246 | | X | X |
| 11 | S13/0.25-0.3 | Feb 15, 2017 | | Soil | S17-Fe17247 | | X | X |
| 12 | DS1 | Feb 15, 2017 | | Soil | S17-Fe17248 | | X | X |
| 13 | S19/0.25-0.3 | Feb 15, 2017 | | Soil | S17-Fe17249 | X | | |
| 14 | S19/D1/0.0-0.15 | Feb 15, 2017 | | Soil | S17-Fe17250 | X | | |
| 15 | S19/D2/0.0-0.15 | Feb 15, 2017 | | Soil | S17-Fe17251 | X | | |
| 16 | S19/D3/0.0-0.15 | Feb 15, 2017 | | Soil | S17-Fe17252 | X | | |
| 17 | D6/0.0-0.15 | Feb 15, 2017 | | Soil | S17-Fe17253 | X | | |
| 18 | D7/0.0-0.15 | Feb 15, 2017 | | Soil | S17-Fe17254 | X | | |
| 19 | D8/0.0-0.15 | Feb 15, 2017 | | Soil | S17-Fe17255 | X | | |

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Phone : +61 8 9251 9600
NATA # 1261
Site # 18217

| | | | | | |
|---|---|---|---|---|---|
| **Company Name:** | Geo-Logix P/L | **Order No.:** | | **Received:** | Feb 16, 2017 12:34 PM |
| **Address:** | Bld Q2 Level 3, 2309/4 Daydream St<br>Warriewood<br>NSW 2102 | **Report #:** | 534598 | **Due:** | Feb 23, 2017 |
| | | **Phone:** | 02 9979 1722 | **Priority:** | 5 Day |
| | | **Fax:** | 02 9979 1222 | **Contact Name:** | Tim Gunns |
| **Project Name:** | AUSTRAL DELINEATION 230 | | | | |
| **Project ID:** | 1701010 | | | | |

**Eurofins | mgt Analytical Services Manager : Nibha Vaidya**

| Sample Detail | | | | | | Asbestos Absence /Presence | Moisture Set | Eurofins \| mgt Suite B1 |
|---|---|---|---|---|---|---|---|---|
| **Melbourne Laboratory - NATA Site # 1254 & 14271** | | | | | | | | |
| **Sydney Laboratory - NATA Site # 18217** | | | | | | X | X | X |
| **Brisbane Laboratory - NATA Site # 20794** | | | | | | | | |
| **Perth Laboratory - NATA Site # 18217** | | | | | | | | |
| 20 | D9/0.0-0.15 | Feb 15, 2017 | | Soil | S17-Fe17256 | X | | |
| 21 | D10/0.0-0.15 | Feb 15, 2017 | | Soil | S17-Fe17257 | X | | |
| 22 | D11/0.0-0.15 | Feb 15, 2017 | | Soil | S17-Fe17258 | X | | |
| 23 | D12/0.0-0.15 | Feb 15, 2017 | | Soil | S17-Fe17259 | X | | |
| 24 | D13/0.0-0.15 | Feb 15, 2017 | | Soil | S17-Fe17260 | X | | |
| **Test Counts** | | | | | | 12 | 12 | 12 |

## Internal Quality Control Review and Glossary

### General

1. QC data may be available on request.
2. All soil results are reported on a dry basis, unless otherwise stated.
3. Samples were analysed on an 'as received' basis.
4. This report replaces any interim results previously issued.

### Holding Times

Please refer to 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours prior to sample receipt deadlines as stated on the Sample Receipt Advice.

If the Laboratory did not receive the information in the required timeframe, and regardless of any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the date of sampling, therefore compliance to these may be outside the laboratory's control.

### Units

| | |
|---|---|
| **% w/w:** weight for weight basis | grams per kilogram |
| Filter loading: | fibres/100 graticule areas |
| Reported Concentration: | fibres/mL |
| Flowrate: | L/min |

### Terms

| | |
|---|---|
| **Dry** | Where a moisture has been determined on a solid sample the result is expressed on a dry basis. |
| **LOR** | Limit of Reporting. |
| **COC** | Chain of custody |
| **SRA** | Sample Receipt Advice |
| **ISO** | International Stardards Organisation |
| **AS** | Australian Standards |
| **WA DOH** | Western Australia Department of Health |
| **NOHSC** | National Occupational Health and Safety Commission |
| **ACM** | Bonded asbestos-containing material means any material containing more than 1% asbestos and comprises asbestos-containing-material which is in sound condition, although possibly broken or fragmented, and where the asbestos is bound in a matrix such as cement or resin. Common examples of ACM include but are not limited to: pipe and boiler insulation, sprayed-on fireproofing, troweled-on acoustical plaster, floor tile and mastic, floor linoleum, transite shingles, roofing materials, wall and ceiling plaster, ceiling tiles, and gasket materials. This term is restricted to material that cannot pass a 7 mm x 7 mm sieve. This sieve size is selected because it approximates the thickness of common asbestos cement sheeting and for fragments to be smaller than this would imply a high degree of damage and hence potential for fibre release. |
| **FA** | FA comprises friable asbestos material and includes severely weathered cement sheet, insulation products and woven asbestos material. This type of friable asbestos is defined here as asbestos material that is in a degraded condition such that it can be broken or crumbled by hand pressure. This material is typically unbonded or was previously bonded and is now significantly degraded (crumbling). |
| **PACM** | Presumed Asbestos-Containing Material means thermal system insulation and surfacing material found in buildings, vessels, and vessel sections constructed no later than 1980 that are assumed to contain greater than one percent asbestos but have not been sampled or analyzed to verify or negate the presence of asbestos. |
| **AF** | Asbestos fines (AF) are defined as free fibres, or fibre bundles, smaller than 7mm. It is the free fibres which present the greatest risk to human health, although very small fibres (< 5 microns in length) are not considered to be such a risk. AF also includes small fragments of bonded ACM that pass through a 7 mm x 7 mm sieve. (Note that for bonded ACM fragments to pass through a 7 mm x 7 mm sieve implies a substatntial degree of damage which increases the potential for fibre release.) |
| **AC** | Asbestos cement means a mixture of cement and asbestos fibres (typically 90:10 ratios). |

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NATA # 1261 Site # 18217

ABN – 50 005 085 521 e.mail : EnviroSales@eurofins.com web : www.eurofins.com.au

# Sample Receipt Advice

Company name: **Geo-Logix P/L**

Contact name: Tim Gunns
Project name: AUSTRAL DELINEATION 230
Project ID: 1701010
COC number: Not provided
Turn around time: 5 Day
Date/Time received: Feb 16, 2017 12:34 PM
Eurofins | mgt reference: **534598**

## Sample information

☑ A detailed list of analytes logged into our LIMS, is included in the attached summary table.

☑ Sample Temperature of a random sample selected from the batch as recorded by Eurofins | mgt Sample Receipt : 9.5 degrees Celsius.

☑ All samples have been received as described on the above COC.

☑ COC has been completed correctly.

☑ Attempt to chill was evident.

☑ Appropriately preserved sample containers have been used.

☑ All samples were received in good condition.

☑ Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.

☑ Appropriate sample containers have been used.

☒ Some samples have been subcontracted.

N/A Custody Seals intact (if used).

## Contact notes

If you have any questions with respect to these samples please contact:

Nibha Vaidya on Phone : +61 (2) 9900 8400 or by e.mail: NibhaVaidya@eurofins.com

Results will be delivered electronically via e.mail to Tim Gunns - tgunns@geo-logix.com.au.

## Comments

### Sample Integrity

| | |
|---|---|
| Custody Seals Intact (if used) | N/A |
| Attempt to Chill was evident | Yes |
| Sample correctly preserved | Yes |
| Appropriate sample containers have been used | Yes |
| Sample containers for volatile analysis received with minimal headspace | Yes |
| Samples received within HoldingTime | Yes |
| Some samples have been subcontracted | No |

### Qualifier Codes/Comments

| Code | Description |
|---|---|
| N/A | Not applicable |

### Authorised by:

Nibha Vaidya Senior Analyst - Asbestos(NSW)

**Glenn Jackson**
**National Operations Manager**

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Uncertainty data is available on request

# CHAIN OF CUSTODY

Geo-Logix

Geo-Logix Pty Ltd
Building Q2, Level 3 Unit 2309/4
Daydream St, Warriewood
NSW 2102

ABN: 86 116 892 936

P: (02) 9979 1722



Project Manager: Tim Gunns

Contact Email: tgunns@geo-logix.com.au

Project Name: Austral Delineation 230

Project Number: 1701010

Date Submitted: 16-02-17

Purchase Order No: PO1766

Quote Reference:

Invoice to: accounts@geo-logix.com.au

TAT required: STD

## ANALYSIS REQUIRED

| Lab ID | Sample ID | Date | Matrix: Soil | Water | Air | Paint / ACM | Other | Comments | B1 | ASBESTOS ID |
|---|---|---|---|---|---|---|---|---|---|---|
| | D1/0 0-0.15 | 15-02-17 | X | | | | | | X | |
| | D1/0.25-0.3 | 15-02-17 | X | | | | | | X | |
| | D2/0.0-0.15 | 15-02-17 | X | | | | | | X | |
| | D2/0.25-0.3 | 15-02-17 | X | | | | | | X | |
| | D3/0.0-0.15 | 15-02-17 | X | | | | | | X | |
| | D3/0.25-0.3 | 15-02-17 | X | | | | | | X | |
| | D4/0.0-0.15 | 15-02-17 | X | | | | | | X | |
| | D4/0.25-0.3 | 15-02-17 | X | | | | | | X | |
| | D5/0.0-0.15 | 15-02-17 | X | | | | | | X | |
| | D5/0.25-0.3 | 15-02-17 | X | | | | | | X | |
| | S13/0.25-0.3 | 15-02-17 | X | | | | | | X | |
| | DS1 | 15-02-17 | X | | | | | | X | |
| | S19/0.25-0.3 | 15-02-17 | X | | | | | | | X |
| | S19/D1/0.0-0.15 | 15-02-17 | X | | | | | | | X |
| | S19/D2/0.0-0.15 | 15-02-17 | X | | | | | | | X |
| | S19/D3/0.0-0.15 | 15-02-17 | X | | | | | | | X |
| | D6/0.0-0.15 | 15-02-17 | X | | | | | | | X |
| | D7/0.0-0.15 | 15-02-17 | X | | | | | | | X |
| | D8/0.0-0.15 | 15-02-17 | X | | | | | | | X |
| | D9/0.0-0.15 | 15-02-17 | X | | | | | | | X |
| | D10/0.0-0.15 | 15-02-17 | X | | | | | | | X |

### Eurofins | MGT Suite Codes

| | |
|---|---|
| B1 | TRH/BTEXN |
| B1A | TRH/MAH |
| B2 | TRH/BTEXN/Pb |
| B2A | TRH/MAH/Pb |
| B3 | PAH/Phenols |
| B4 | TRH/BTEXN/PAH |
| B4A | TRH/BTEXN/PAH/Phenols |
| B5 | TRH/BTEXN/M7 |
| B6 | TRH/BTEXN/M8 |
| B7 | TRH/BTEXN/PAH/M8 |
| B7A | TRH/BTEXN/PAH/Phenols/M8 |
| B8 | TRH/VOC/PAH/M8 |
| B9 | TRH/BTEXN/PAH/OCP/M8 |
| B10 | TRH/BTEXN/PAH/OCP/OPP/M8 |
| B11 | Na/K/Ca/Mg/Cl/SO4/CO3/HCO3/NH3/NO3 |
| B11A | B11/Alkalinity |
| B11B | B11/EC/TDS |
| B12 | TRH/BTEXN/Oxygenates/Ethanol |
| B12A | TRH/BTEXN/Oxygenates |
| B13 | OCP/PCB |
| B14 | OCP/OPP |
| B15 | OCP/OPP/PCB |
| B16 | TDS/SO4/CH4/Alk/BOD/COD/HPC/CUB |
| B17 | SO4/NO3/Fe++/HPC/CUB |
| B18 | Cl-/SO4/pH |
| B19 | N/P/K |
| B20 | CEC/%ESP/Ca/Ma/Na/K |
| R21 | %Fe/ CEC/ pH(CaCl2)/ TOC/ % Clay |

## CHAIN OF CUSTODY

Relinquished by: TG Date/Time: 16-2-17 Signature

Received by: Date/Time: 16-2-17 Signature



534598

# CHAIN OF CUSTODY



Geo-Logix

Geo-Logix Pty Ltd
Building Q2, Level 3 Unit 2309/4
Daydream St, Warriewood
NSW 2102

ABN: 86 116 892 936

P: (02) 9979 1722

Project Manager: Tim Gunns
Contact Email: tgunns@geo-logix.com.au
Project Name: Austral Delineation 230
Project Number: 1701010
Date Submitted: 16-02-17

Purchase Order No: PO1766
Quote Reference:
Invoice to: accounts@geo-logix.com.au
TAT required: STD

## ANALYSIS REQUIRED

| Lab ID | Sample ID | Date | Matrix: Soil | Water | Air | Paint / ACM | Other | Comments | B1 | ASBESTOS ID |
|---|---|---|---|---|---|---|---|---|---|---|
| | D11/0.0-0.15 | 15-02-17 | X | | | | | | | X |
| | D12/0.0-0.15 | 15-02-17 | X | | | | | | | X |
| | D13/0 0-0.15 | 15-02-17 | X | | | | | | | X |
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### Eurofins | MGT Suite Codes

| | |
|---|---|
| B1 | TRH/BTEXN |
| B1A | TRH/MAH |
| B2 | TRH/BTEXN/Pb |
| B2A | TRH/MAH/Pb |
| B3 | PAH/Phenols |
| B4 | TRH/BTEXN/PAH |
| B4A | TRH/BTEXN/PAH/Phenols |
| B5 | TRH/BTEXN/M7 |
| B6 | TRH/BTEXN/M8 |
| B7 | TRH/BTEXN/PAH/M8 |
| B7A | TRH/BTEXN/PAH/Phenols/M8 |
| B8 | TRH/VOC/PAH/M8 |
| B9 | TRH/BTEXN/PAH/OCP/M8 |
| B10 | TRH/BTEXN/PAH/OCP/OPP/M8 |
| B11 | Na/K/Ca/Mg/Cl/SO4/CO3/HCO3/NH3/NO3 |
| B11A | B11/Alkalinity |
| B11B | B11/EC/TDS |
| B12 | TRH/BTEXN/Oxygenates/Ethanol |
| B12A | TRH/BTEXN/Oxygenates |
| B13 | OCP/PCB |
| B14 | OCP/OPP |
| B15 | OCP/OPP/PCB |
| B16 | TDS/SO4/CH4/Alk/BOD/COD/HPC/CUB |
| B17 | SO4/NO3/Fe++/HPC/CUB |
| B18 | Cl-/SO4/pH |
| B19 | N/P/K |
| B20 | CEC/%ESP/Ca/Ma/Na/K |
| R21 | %Fe/ CEC/ pH(CaCl2)/ TOC/ % Clay |

## CHAIN OF CUSTODY

Relinquished by: TG Date/Time: 16-2-17 Signature:

Received by: Date/Time: 16-2-17 Signature:



534598

## Smriti Uprety

**From:** Nibha Vaidya
**Sent:** Friday, 24 February 2017 12:11 PM
**To:** Smriti Uprety
**Cc:** Matthew Quigley
**Subject:** RE: Samples Insufficient for Asbestos WA Guidelines

**Categories:** Red Category

Smriti – Has this been sorted?

Smriti 24/02/2017 12:22 pm am

Kind Regards,

Nibha Vaidya
Phone : +61 2 9900 8415
Mobile : +61 499 900 805
Email : NibhaVaidya@eurofins.com

---

**From:** Nibha Vaidya
**Sent:** Friday, 24 February 2017 9:37 AM
**To:** Smriti Uprety
**Cc:** Matthew Quigley
**Subject:** FW: Samples Insufficient for Asbestos WA Guidelines

Smriti – Can you please change the test in ELVIS as per Tim's email below and inform Vivian? Client needs the results ASAP.

Kind Regards,

Nibha Vaidya
Phone : +61 2 9900 8415
Mobile : +61 499 900 805
Email : NibhaVaidya@eurofins.com

---

**From:** Tim Gunns [mailto:tgunns@geo-logix.com.au]
**Sent:** Friday, 24 February 2017 8:24 AM
**To:** Nibha Vaidya
**Subject:** RE: Samples Insufficient for Asbestos WA Guidelines

Hi Nibha

Don't worry about running Report 534598 for WA DOH just asbestos ID is fine.

For report 534533 please only run Fe16684 to Fe16692 for WA DOH

Thanks

Tim

**Tim Gunns | Project Scientist**
Unit 2309/4 Daydream St, Warriewood NSW 2102
T: 02 9979 1722 | M: 0411 724 429 | W: www.geo-logix.com.au