Our Ref: 81019007_LRv1:BC
Contact: Bob Campbell

29 April 2019

Azusa Sekkei
C/- DWP
16 Telford Street
Newcastle NSW 2300
Attention: Katherine Daunt

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Dear Katherine,

NIHON UNIVERSITY NEWCASTLE CAMPUS
PHASE 1 ENVIRONMENTAL SITE ASSESSMENT – A TECHNICAL NOTE

General background

Azusa Sekkei, on behalf of Nihon University (herein the Client) are currently undertaking design works for the proposed Nihon University Newcastle Campus at 9 Church street Newcastle (the Site). Cardno (NSW/ACT) Pty Ltd (Cardno) was engaged by Azusa Sekkei (the Client) to assess the available environmental reports for the Site.

Cardno understands that the proposed development is a State Significant Development (SSD) comprising the demolition of two (2) existing building to the east and west of the former 1892 Newcastle Court house and the refurbishment of the courthouse for new purposes. Due to the Capital building investment value of the development, the consent authority is the NSW Department of Planning & Environment (DPE).

The potential Site contamination issues were addressed in the Environmental Impact Statement (EIS) which were largely based on the Phase 1 Contamination Report prepared by Coffey (2012) and further discussions within Cardno's Geotechnical report. The EIS committed to deferring the Phase 2 contamination testing until the two (2) existing buildings are demolished, as undertaking further testing now would be a difficult exercise due to the close proximity of the existing buildings.

This approach was rejected by DPE who stated that; *A contamination assessment also needs to be provided to address SEPP 55 and provide further justification from an appropriately qualified and experienced person in relation to whether the site is contaminated. As previously advised, if the site requires remediation works, it must form part of the development as it would be Category 1 remediation."*

Objective and purpose

The objective of this Technical Note is to provide Azusa Sekkei clear guidance in relation to site specific circumstances and procedures which are to be implemented for the future land contamination assessments at the site. This Technical Note should be read in conjunction with the referenced documents.

Review of available reports

Cardno reviewed the environmental reports listed below (see attachments) and determine, given the age of the reports, if the conclusions were still valid:

1. Coffey (2012) Phase 1 Environmental Site Assessment (ESA) Newcastle Courthouse And Former Newcastle East Public School; and
2. Prensa (2016) Detailed Site Investigation 9 Church St, Newcastle, NSW 2300.

Certified System Quality ISO 9001 SAI GLOBAL

This report should be read in conjunction with the reports listed above.

Coffey (2012) report:

The 2012 Coffey report was undertaken for due diligence purposes prior to the intended sale of the property. The report documented the results of a desktop study that assessed the available historical information and current planning documents to determine whether potential soil and/or groundwater have been impacted by past activities undertaken on, beneath or adjacent to the Site. As part of the desktop study, Coffey undertook:

- a site walkover to document the condition of the site and identify evidence of past or present potential sources of contamination; and
- reviewed the following:
  - Historical ownership of the site;
  - Six (6) aerial photographs dating from 1959 to 2004;
  - The Section 149 Planning Certificate for the site obtained from Newcastle City Council;
  - Office of Environment and Heritage (OEH) notices applying to the site and nearby properties; and
  - Site topography, geology, and hydrogeology including site drainage and regional groundwater usage through a search of registered groundwater bores.

Based on information obtained from the sources listed above Coffey concluded that there was a *low to medium* potential activities on/or adjacent to the site had affected site soil and or groundwater and no further action was required. However, Coffey qualified this statement by identifying that given the current site layout there was limited potential for exposure to soil. Coffey have further indicated that if the site is to be redeveloped and the existing structures will be removed the following issues warrant further investigations:

- The potential impacts from the weathering and or damage to hazardous building materials i.e. lead paints or asbestos;
- The potential use of unsuitable fill material on site; and
- The potential use of pesticides and insecticides across the site.

Prensa (2016) report

In 2016, Prensa undertook a limited Detailed Site Investigation (DSI) that involved the collection of soil samples from ten (10) readily accessible locations surrounding the Site. The objective of the DSI was to assess the contamination status of soil associated with previously identified Areas of potential Environmental Concern (AEC).

Prensa reported that several shallow (<1m) soil samples reported concentrations of TRH, benzo(a)pyrene and lead in excess of both the commercial and high density residential criteria.

Based on information obtained from Newcastle City Council, Coffey identified that the site was potentially affected by land contamination, however further enquiries by Prensa confirmed that engine works and fuel/oil storage were previously undertaken on the adjacent site, 1 Church Street (Police Station) which is situated to the east of the site.

Prensa concluded that existing concentrations of TRH, benzo(a)pyrene and lead do not preclude ongoing commercial use of the Site; should the Site be redeveloped for a more sensitive land, further assessment, management and/or remediation of fill material across the site is recommended in open areas and beneath slabs following any proposed demolition.

Cardno has reviewed both the Coffey Phase 1 ESA (2012) and Prensa (2016) DSI and concurs with the conclusions present in both reports; that while the site is suitable for ongoing use as a commercial facility, following demolition of the two buildings a Detailed Site Investigation (DSI) should be undertaken on exposed soils.

Cardno therefore recommend that:

1) The additional detailed investigations as recommended by both Coffey (2012) and Prensa (2016) be undertaken following demolition of the two (2) buildings to the east and west of the former 1892 Newcastle Court house building. This approach is advised as approximately 90% of the site is currently covered by either buildings or hardstand limiting access to soils. Any conclusions drawn from the results of sampling such a small portion of the site would not be representative of the site as a whole and therefore conclusions as to the Site's suitability would be unable to drawn. In particular, as the exact location and status of the former engine workshop and fuel/oil storage facilities reportedly located at 1 Church Street (Police Station) is unknown; investigations along the eastern boundary are currently hindered by the existing infrastructure.
2) If necessary, a Remediation Action Plan be prepared by a suitably qualified land contamination consultant and implemented following the post demolition DSI and prior to the proposed development.

Yours sincerely,

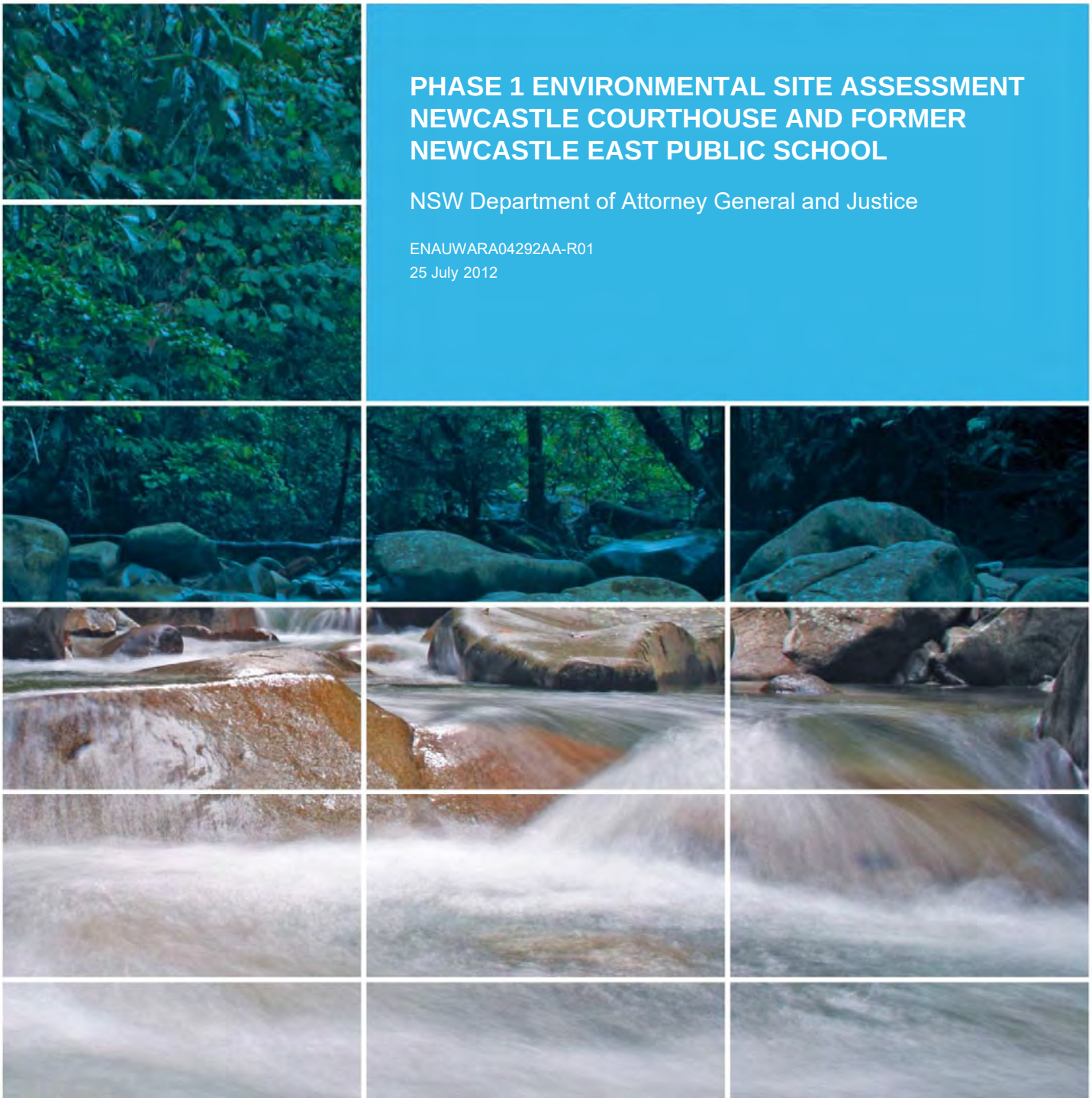


Bob Campbell
Senior Environmental Scientist
for Cardno
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Attachments

1. Coffey (2012) Phase 1 Environmental Site Assessment (ESA) Newcastle Courthouse And Former Newcastle East Public School; and
2. Prensa (2016) Detailed Site Investigation 9 Church St, Newcastle, NSW 2300.

coffey environments
SPECIALISTS IN ENVIRONMENTAL, SOCIAL AND SAFETY PERFORMANCE



PHASE 1 ENVIRONMENTAL SITE ASSESSMENT NEWCASTLE COURTHOUSE AND FORMER NEWCASTLE EAST PUBLIC SCHOOL

NSW Department of Attorney General and Justice

ENAUWARA04292AA-R01
25 July 2012

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SPECIALISTS IN ENVIRONMENTAL, SOCIAL AND SAFETY PERFORMANCE

PHASE 1 ENVIRONMENTAL SITE ASSESSMENT NEWCASTLE COURTHOUSE AND FORMER NEWCASTLE EAST PUBLIC SCHOOL

NSW Department of Attorney General and Justice

ENAUWARA04292AA-R01
25 July 2012

Written by:

James McMahon
Environmental Scientist

Reviewed by:

Laurie Fox
Principal Environmental Geologist

Coffey Environments Australia Pty Ltd ABN 65 140 765 902
19 Warabrook Boulevard Warabrook NSW 2304 Australia

coffey environments
SPECIALISTS IN ENVIRONMENTAL, SOCIAL AND SAFETY PERFORMANCE

25 July 2012

NSW Department of Attorney General and Justice
Justice Precinct Offices
160 Marsden St
PARRAMATTA NSW 2150

Attention: Alan Griffith

Dear Alan

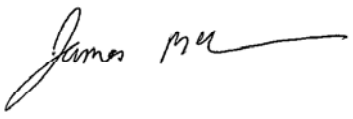
RE: PHASE 1 ENVIRONMENTAL SITE ASSESSMENT NEWCASTLE COURTHOUSE AND FORMER NEWCASTLE EAST PUBLIC SCHOOL CHURCH AND BOLTON STREETS NEWCASTLE NSW

Coffey Environments Australia Pty Ltd (Coffey) is pleased to provide our Phase 1 Environmental Site Assessment (ESA) report for the above site.

We draw your attention to the enclosed sheet entitled “Important Information about your Coffey Environmental Report” which should be read in conjunction with the report.

We trust that our report meets with your requirements. If you require any further information regarding our report, please do not hesitate to contact the undersigned.

For and on behalf of Coffey Environments Australia Pty Ltd



James McMahon

Associate Environmental Scientist

RECORD OF DISTRIBUTION

No of copies	Report File Name	Report Status	Date	Prepared for	Initials
1	ENAUWARA04292AA-R01.pdf	Final	25July 2012	NSW Department of Attorney General and Justice	AG
1	ENAUWARA04292AA-R01.doc	Final	25 July 2012	Coffey Environments Australia Pty Ltd	JM

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LIST OF ATTACHMENTS

Important Information About Your Coffey Environmental Report

Figures

Figure 1: Site Locality Plan

Figure 2: Site Features Plan

Appendices

Appendix A: Groundwater Bore Search

Appendix B: Historical Titles Search

Appendix C: Aerial Photographs

Appendix D: Site Photographs

Appendix E: Section 149 Planning Certificate

Appendix F: NSW OEH Records

ABBREVIATIONS

AEC	Area of Environmental Concern
AHD	Australian Height Datum
bgs	below ground surface
BTEX	Benzene, Toluene, Ethylbenzene and Xylenes
COC	Chemical of Concern
DA	Development Application
ESA	Environmental Site Assessment
ID	Identification
NEHF	National Environmental Health Forum
NEPM	National Environment Protection Measure
NSW DEC	NSW Department of Environment and Conservation (now NSW OEH)
NSW DECC	NSW Department of Environment and Climate Change (now NSW OEH)
NSW DECCW	NSW Department of Environment, Climate Change and Water (now NSW OEH)
NSW EPA	NSW Environment Protection Authority (part of NSW OEH)
NSW OEH	NSW Office of Environment and Heritage
OCP	Organochlorine Pesticide
OPP	Organophosphorous Pesticide
PAH	Polycyclic Aromatic Hydrocarbon
SOP	Standard Operating Procedures
TPH	Total Petroleum Hydrocarbon
VOC	Volatile Organic Compound

EXECUTIVE SUMMARY

This report presents the findings of a Preliminary Environmental Site Assessment (PESA) undertaken by Coffey Environments Australia Pty Ltd (Coffey) for the Newcastle Court House and the Former Newcastle East Public School.

The PESA was commissioned by NSW Department of Attorney General and Justice in response to a Coffey proposal (Reference ENAUWARA04292AA-P01 (dated 29 May 2012). The Newcastle Court House is located at 9 Church St, Newcastle (site 1) and the Former Newcastle East Public School is located at 58 Bolton St, Newcastle (site 2) (collectively "the sites"). It is understood that the sites are to be sold and the PESA was requested to form part of the due diligence documents for prospective purchasers of the sites.

The objectives of the PESA were to:

- Identify potentially contaminating activities that are currently being performed on the site and that may have been performed on the site in the past;
- Assess Areas of Environmental Concern (AEC's) and Chemicals of Concern (COC's) for the site;
- Provide recommendations on further assessment, if considered necessary.
- A desktop study and historical review of past activities at the site with the potential to cause contamination, including:
    - A review of historical ownership of the site;
    - A review of aerial photography from the past 50 to 60 years;
    - A review of the Section 149 Planning Certificate for the site obtained from Port Stephens Council; and
    - A review of NSW Office of Environment and Heritage (OEH) notices applying to the site and nearby properties.
- An assessment of the site topography, geology and hydrogeology including site drainage and regional groundwater usage through a search of registered groundwater bores;
- A site walkover including a visual assessment of current site activities, potential sources of contamination, property boundaries, surrounding land uses, topography, drainage, and nearby sensitive environments to help identify AECs and potential COCs; and
- Preparation of this PESA report.

Based on the information that was provided by the site history review and the site walkover, the two sites have been assessed as having a low to medium likelihood of having soil contamination. The potential contamination relates to:

- Weathering and or maintenance/demolition of hazardous building materials,
- Potential use of fill the sites site;
- Potential use of pesticides and insecticides.

Given that buildings and pavements cover the majority of the sites, particularly Site 1 Church Street, exposure to and/or offsite migration of potential soil contamination is limited. If the buildings and

pavements on the sites remain in their current configuration then further investigation is not required at this time.

Should re-development of the sites be proposed, including demolition of the non-heritage listed buildings and pavements,, Coffey recommends that a Phase 2 ESA be carried out by a suitably qualified environmental consultant targeting the identified AECs that are likely to impact on the proposed development. The assessment should include, but not necessarily be limited to, the collection of surface soil samples from fill, around the buildings and gardens and laboratory analysis of samples for the COCs identified.

1 INTRODUCTION

1.1 General

This report presents the findings of a Preliminary Environmental Site Assessment (PESA) undertaken by Coffey Environments Australia Pty Ltd (Coffey) for the Newcastle Court House and the Former Newcastle East Public School.

The PESA was commissioned by NSW Department of Attorney General and Justice in response to a Coffey proposal (Reference ENAUWARA04292AA-P01 (dated 29 May 2012). The Newcastle Court House is located at 9 Church St, Newcastle (site 1) and the Former Newcastle East Public School is located at 58 Bolton St, Newcastle (site 2) (collectively "the sites"). It is understood that the sites are to be sold and the PESA was requested to form part of the due diligence documents for prospective purchasers of the sites.

This report has been prepared in accordance with the relevant sections of the NSW OEH (2011) *Guidelines for Consultants Reporting on Contaminated Sites*. This report must be read in conjunction with the attached sheet entitled *"Important Information about your Coffey Environmental Report"*, which can be found at the end of this report.

1.2 Objectives

The objectives of the Phase 1 ESA were to:

- Identify potentially contaminating activities that are currently being performed on the site and that may have been performed on the site in the past;
- Assess Areas of Environmental Concern (AEC's) and Chemicals of Concern (COC's) for the site;
- Provide recommendations on further assessment, if considered necessary.

1.3 Scope of Work

In order to achieve the above objectives, the following scope of work was undertaken:

- A desktop study and historical review of past activities at the site with the potential to cause contamination, including:
  - A review of historical ownership of the site;
  - A review of aerial photography from the past 50 to 60 years;
  - A review of the Section 149 Planning Certificate for the site obtained from Port Stephens Council; and
  - A review of NSW Office of Environment and Heritage (OEH) notices applying to the site and nearby properties.
- An assessment of the site topography, geology and hydrogeology including site drainage and regional groundwater usage through a search of registered groundwater bores;

- A site walkover including a visual assessment of current site activities, potential sources of contamination, property boundaries, surrounding land uses, topography, drainage, and nearby sensitive environments to help identify AECs and potential COCs; and
- Preparation of this PESA report.

2 SITE DESCRIPTION

2.1 Site Location and Identification

General site information is provided below in Table 1.

TABLE 1 – SUMMARY OF SITE DETAILS

SITE ADDRESS:	Site 1 is located at 9 Church St, Newcastle NSW. The location of site 1 is shown on Figure 1.
	Site 2 is located at 58 Bolton St, Newcastle NSW. The location of site 2 is shown on Figure 1.
APPROXIMATE TOTAL SITE AREA:	Site 1: 4,750m^2
	Site 2: 2,566m^2
SITE IDENTIFICATION	Site 1 is identified as a portion of Lot 7002 DP 1077042. Site 1 is situated in the Newcastle Local Government Area, in the Parish of Newcastle and the County of Northumberland.
	Site 2 is identified as Lot 1 DP 709455. Site 2 is situated in the Newcastle Local Government Area, in the Parish of Newcastle and the County of Northumberland.
PREVIOUS LANDUSE:	Historical evidence indicates that Site 1 has operated as a court house since 1892.
	Historical evidence indicates that Site 2 has operated as a school from 1830s-1985.
CURRENT LANDUSE:	The sites currently consist of courthouse (Church Street) and related support services including administration and community services(Bolton Street)..
PROPOSED LANDUSE:	The proposed land use for the sites is unknown.
ADJOINING SITE USES:	Site 1: • Mixed commercial and residential to the north;

	• James Fletcher Hospital to the south; • Police Station to the east; and • Newcastle Grammar to the west.
	Site 2: • Multistorey car park to the north; • Court house and school to the south; • Mixed commercial to the east; and • Residential to the west.

2.2 Site Topography and Drainage

The sites are located on a spur on the lower slopes of an area known as The Hill. The Church St frontage of Site 1 is relatively level and the Bolton St frontage of Site 2 slopes down to the north. The general topography of the Site 1 is level whereas Site 2 appears to be terraced by cutting in to the natural slope. The natural topography of the Sites has been modified by historical development.

Surface water appears to be collected into onsite to stormwater pits and drain into the municipal underground drainage system. Stormwater from Bolton Street is likely to flow to the north and eventually discharge to the Hunter River located about 200m north of Site 2. Stormwater from Site 1 could flow down towards Newcastle Beach and discharge to the Pacific Ocean. Newcastle Beach is located about 200m to the east of Site 1.

2.3 Geology and Soils,

Reference to the Newcastle 1:50,000 Geological Sheet (9029 – 1:50,000) produced by the NSW Department of Mineral Resources (1974) indicates that the Site is likely to be underlain by the Newcastle Coal Measures. The Newcastle Coal Measures are described as sandstone siltstone, claystone, coal and tuff.

These rocks typically weather to form clayey sands and sandy clays of low to medium plasticity.

2.4 Hydrogeology and Groundwater Use

The NSW Department of Water and Energy operates a website listed as www.waterinfo.nsw.gov.au with search tools that provide summary reports on registered bores in NSW. Coffey Environments carried out a search of registered bores on this website on the 3 November 2009. The results of this search indicated that that there were two (2) registered bores within a 1 kilometre radius of the Site.

Bore GW200283 and GW200284 are registered for ‘Irrigation’ purposes and are located to the north of the Site in an inferred down gradient direction. These wells are located more than 700 metres from site and are most likely located in alluvial deposits associated with the Hunter River. The water bearing zones were between 1.2-4.1m in sand. The search results are included in Appendix A.

Based on observations of the surrounding topography, groundwater at the Site is expected to be located, within the underlying bedrock, at a depth between about 10m to 15m.Groundwater flow direction would be to the north and east discharging either to the Hunter River or Newcastle Beach.

3 SITE HISTORY REVIEW

A site history review was undertaken as part of the PESA, and included:

- A review of historical ownership of the site;
- A review of aerial photography from the past 50 to 60 years;
- A site walkover to help identify current and previous activities carried out on the site, to help identify AECs ad COCs and to identify surrounding land uses;
- A review of the Section 149 Planning Certificate for the site held by Newcastle City Council; and
- A review of NSW OEH notices applying to the site and nearby properties.

The information provided from the above review is summarised in the sections below.

3.1 Historical Titles Search

A search of historical titles for the site was undertaken by Advanced Legal Searchers Pty Ltd. A list of past registered proprietors for the lots was obtained dating back to 1883. The results of the search are included in Appendix B.

The historical titles search indicated the following:

- Site 1 Church Street
    - Site 1 was Crown Land until 1985;
    - The State of New South Wales is the current owner;
- Site 2 Bolton Street
    - During 1883-1892 parcels of Site 2 were reclaimed by order of resumption by the Colony of New South Wales for the purpose of erecting a Public School.
    - In 1985 Site 2 was transferred to the then Minister of Public Works and Ports for the purpose of Newcastle East Court Annexe;
    - The current owner is Her Most Gracious Majesty Queen Elizabeth the Second for and on behalf of the Minister for Justice for the Department of Courts Administration.

3.2 Aerial Photograph Review

Aerial photographs of the site were purchased from the NSW Land and Property Management Authority and reviewed by a Coffey Environmental Scientist. The results of the aerial photograph review are summarised below in Table 3. The aerial photographs are presented in Appendix C.

TABLE 2 – AERIAL PHOTOGRAPH REVIEW

YEAR	SITE	SURROUNDING LAND
1959	Site 1: Central Court House building is visible. The area where the western wing now stands appears vacant with some trees present. A building appears to be located where the current eastern wing stands	Buildings to the north east of Site 1 appear to be similar to the current configuration. Buildings to the east and south appear different to the current configuration. The property to the west appears vacant.
	Site 2: Old School building is visible. School yard appears to be sealed. One or two trees appear in the south eastern corner.	Buildings to the south west and south east appear to be similar to the current configuration. The western property appears to be vacant. The northern property appears to be used as a car park.
1965	Site 1: Similar to 1959 except a different building appears to be located to the east of the old court house.	Similar to 1959
	Site 2: Similar to 1959	Similar to 1959
1974	Site 1 Eastern wing has changed configuration. Remainder of site appears to remain unchanged.	The property to the east appears to have changed building configuration.
	Site 2: Similar to 1965. More trees are apparent in the south east corner. A building is visible in the north east corner	Similar to 1965
1983	Site 1: Building layout appears to be similar to the current configuration.	Similar to 1974 - the police station has been developed to the east of Site 1.
	Site 2: Building layout appears to be similar to the current configuration with the exception of the toilet block on the western boundary.	A multi storey car park has been built to the north of Site 2.

YEAR	SITE	SURROUNDING LAND
1993	Site 1: Similar to 1983	Large buildings have been added along the neighbouring southern border.
	Site 2: Similar to 1983.	Large building complex has been added to eastern neighbour across Bolton St and appears similar to the current configuration.
2004	Site 1: Similar to the current configuration.	Appears similar to the current configuration.
	Site 2: Toilet block is visible and the site appears similar to the current confuiguration.	Appears similar to the current configuration.

3.3 Site Observations

A Coffey Environmental Scientist visited the site on 13 June 2012 to observe the exterior of the buildings and the site condition. Site photographs were taken during the visit, and are shown in Appendix D. The current site layout and features are shown on Figure 2.

The observations noted during the site walkover are summarised below. For ease of reporting, the site has been divided into three sections (southern, middle and northern sections).

- Site 1:
    - Site 1 is largely occupied by the court house building. The court house is made up of three distinct structures.
    - The central structure is the original court house constructed of timber and sandstone. The original courthouse was constructed circa 1890 as indicated on the front facia of the building. The exterior of the building was painted and papered in good condition. The rear of the original court house is unpaved and overgrown with grass and several large trees.
    -
    - The eastern wing appeared to brick building in good condition. The eastern wing was founded approximately 0.5m below the footpath along Church St.
    - The western wing is cut into the slope upto approximately 1.8m and appears to be constructed from concrete.
    - The rear of site 1 may contain fill;
- Site 2
    - Contained a two storey brick school house at the front of the site which exterior was in fair condition. It was observed that window frames had cracked and peeling paint. Pink undercoat was noted;
    - Contained a temporary weatherboard building in the north-west corner of site. A weatherboard building on the southern boundary. Both buildings were in a state of disrepair and disused. The building on the southern boundary had missing, rotten and termite affected weatherboards. Pale yellow undercoat was noted. The corrugated metal roof was significantly rusted.
    - Contained a brick toilet block on the western;
    - The remainder of site appeared to be historically cut and filled to create level areas and is currently used as a court staff car park and is bitumen paved;
    - The surface of site was paved with asphalt that was weathered and root affected by the large trees present on site.

3.4 Section 149 Planning Certificate

Section 149 Planning Certificates were obtained from Newcastle City Council for the sites. A Copy of the certificate is provided in Appendix F. Table 4 (below) summarises the information contained within the certificate.

TABLE 3 – INFORMATION FROM SECTION 149 PLANNING CERTIFICATES

CURRENT ZONING	Site 1 5(a) Special Uses Zone- Hospital
	Site 2: B4 Mixed Use Zone
CRITICAL HABITATS	None
CONSERVATION AREAS	The sites are within conservation areas.
MINE SUBSIDENCE ISSUES	Site 1 is within a proclaimed mine subsidence district.
	Site 2 is not within a proclaimed mine subsidence district.
FLOODING ISSUES	The sites are not on flood prone land as defined by the Floodplain Development Manual.
SITE CONTAMINATION NOTICES	Council's information indicates that Site 1 may be affected by land contamination.
	Land contamination is neither excluded nor noted in the Section 149 certificate for Site 2. The Section 149 certificates notes that "Council has adopted a policy of restricting development or imposing conditions on properties affected by Land Contamination".
Potential Acid Sulfate Soils	Works carried out on the land must be undertaken in accordance with the LEP.

3.5 NSW OEH Records

A search of the NSW OEH database revealed that thirteen properties within the Newcastle Local Government Area are registered with notices. These properties are greater than 3km away from the sites. Coffey considers that these properties are not located within close proximity to the sites and are therefore unlikely to have a significant impact.

The NSW OEH database indicates the court house is heritage listed was extended to the east for offices and court rooms around 1949. Two trial courts were later added to the west of the building. There were extensive alterations and additions carried out to the 1892 and the 1949 buildings in 1982. Repairs following the 1989 earthquake were undertaken in 1991.

Former Newcastle East Public School is a State significant building and was built from 1908-1912 and constructed in face brick with a contrasting sandstone trim, abutments and string coursing. Original

slate roofing material has been replaced with tiles. Exterior materials: brick, sandstone, tiles. Interior materials: timber joinery.

A copy of the database searches are provided in Appendix F.

3.6 Summary of Site History

The information obtained from the site history review has been summarised below:

- Both Site 1 and Site 2 have been under government control for over 100 years.
- The Court House was constructed in 1890 and during the 1970and 1980s eastern and western wings were added to the original courthouse. The original Court House building is heritage listed.
- Site 2 appears to have gone little change with the exception of a demountable building and toilet block being placed on site.

3.7 Gaps in the Site History

The following gaps were identified during the site history review:

- Refurbishment and or maintenance practises of the past may have potentially contaminated the land with hazardous building materials such as lead in paint and asbestos;
- The type and amounts of fill used on the sites is unknown;
- The makeup and condition of underground services; and
- It is not known if pesticides or insecticides were used to maintain gardens;

4 POTENTIAL AREAS AND CHEMICALS OF ENVIRONMENTAL CONCERN

Based on the site history review and the site walkover, the potential AECs and COCs identified at the site are presented below in Table 5.

TABLE 4 – POTENTIAL AECS AND COCS

AEC	POTENTIAL CONTAMINATING ACTIVITY	POTENTIAL COCS	LIKELIHOOD OF CONTAMINATION*	COMMENT
1. Site 1 - entire site	Weathering and or maintenance/demolition of hazardous building materials. Infiltration of potential contaminants through poorly maintained pavements Potential use of fill onsite. Potential use of pesticides and insecticides.	TPH, PAH, BTEX,OCPs, OPPs, Metals, and Asbestos	Low-medium	Site 1 has been developed overtime. The only accessible soil on site is limited to an approximately 10m x 30m at the rear of site.
2. Site 2 - entire site	Weathering and or maintenance/demolition of hazardous building materials. Infiltration of potential contaminants through poorly maintained pavements Potential use of fill onsite. Potential use of pesticides and insecticides.	TPH, PAH, BTEX,OCPs, OPPs, Metals, and Asbestos	Low-medium	Contamination, if it exists, is likely to be beneath the asphalt and concrete pavements covering the majority of site
NOTES: ** = It is important to note that this is not an assessment of the financial risk associated with the AEC in the event contamination is detected, but a qualitative assessment of the probability of contamination being detected at the*				

AEC	POTENTIAL CONTAMINATING ACTIVITY	POTENTIAL COCS	LIKELIHOOD OF CONTAMINATION*	COMMENT
potential AEC. *Metals - Arsenic, Cadmium, Chromium, Copper, Lead, Mercury, Nickel and Zinc; TPH - Total Petroleum Hydrocarbons; PAH - Polycyclic Aromatic Hydrocarbons; OCP - Organochlorine Pesticides; OPP – Organophosphorus Pesticides*				

5 CONCLUSION AND RECOMMENDATIONS

Based on the information that was provided by the site history review and the site walkover, the two sites have been assessed as having a low to medium likelihood of having soil contamination. The potential contamination relates to:

- Weathering and or maintenance/demolition of hazardous building materials,
- Potential use of fill the sites site;
- Potential use of pesticides and insecticides.

Given that buildings and pavements cover the majority of the sites, particularly Site 1 Church Street, exposure to and/or offsite migration of potential soil contamination is limited. If the buildings and pavements on the sites remain in their current configuration then further investigation is not required at this time.

Should re-development of the sites be proposed, including demolition of the non-heritage listed buildings and pavements,, Coffey recommends that a Phase 2 ESA be carried out by a suitably qualified environmental consultant targeting the identified AECs that are likely to impact on the proposed development. The assessment should include, but not necessarily be limited to, the collection of surface soil samples from fill, around the buildings and gardens and laboratory analysis of samples for the COCs identified.

6 LIMITATIONS

It is the nature of contaminated site investigations that the degree of variability in site conditions cannot be known completely and no sampling and analysis program can eliminate all uncertainty concerning the condition of the site. Professional judgement must be exercised in the collection and interpretation of the data.

In preparing this report, current guidelines for assessment and management of contaminated land were followed. This work has been conducted in good faith in accordance with Coffey Environments understanding of the client's brief and general accepted practice for environmental consulting.

This report was prepared for NSW Department of Attorney General and Justice with the objective of assessing past and present potentially contaminating activities on the site that could potentially impact on the future use of the property. No warranty, expressed or implied, is made as to the information and professional advice included in this report. Anyone using this document does so at their own risk and should satisfy themselves concerning its applicability and, where necessary, should seek expert advice in relation to the particular situation.

7 REFERENCES

Department of Land and Water Conservation (1995) Newcastle 1:100,000 Soil Landscape Map, Sheet 9232.

Division of National Mapping (2001) Newcastle 1:100,000 Topographic Map, Sheet 9232, Edition 1.

Geological Survey of NSW (2008) 1:50,000 Newcastle Coalfields Geology Map Series

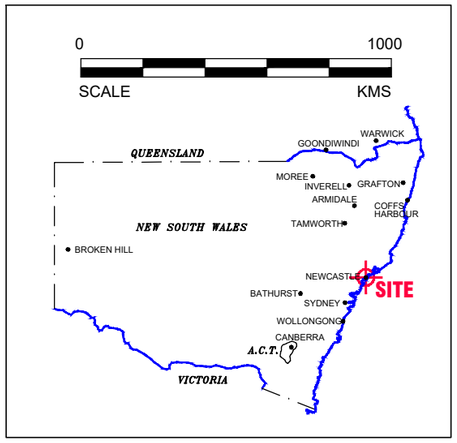
SP Hawley, RA Glen, and CJ Baker (1995) Newcastle Coalfield Regional Geology, series sheet 9231 and part 9131, 9132 and 9232, edition 1

Land and Property Management Authority (2011) Aerial Photographs for 1954, 1965, 1979, 1987, 1996 and 2001.

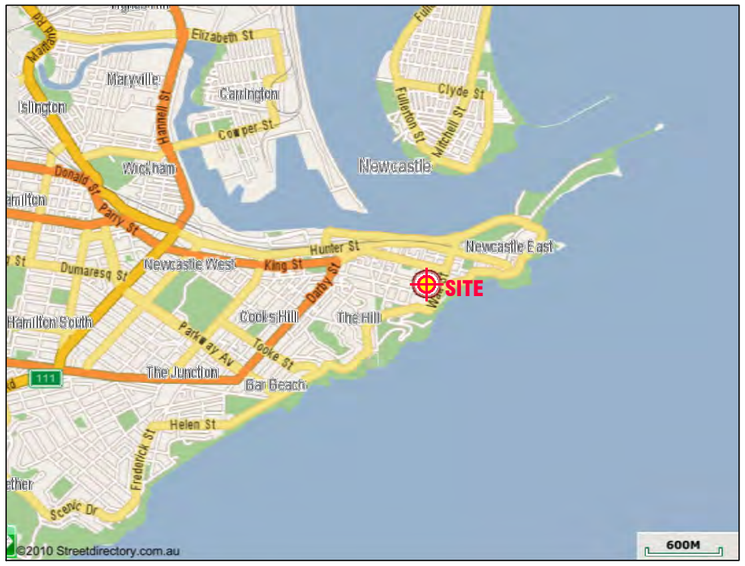
NSW Natural Resource Atlas (2011) Groundwater Bore Search, accessed from http://www.nratlas.nsw.gov.au on 15 May 2012.

NSW OEH (2011) Contaminated Sites: Guidelines for Consultants Reporting on Contaminated Sites, OEH 2011/0650, ISBN 0 7310 3892 4, Office of Environment and Heritage, Sydney.

Figures



GENERAL AREA MAP



REGIONAL AREA MAP



Aerial image source: Google Earth Pro 2012
Aerial image ©: Sinclair Knight Merz 2012

revision	description	drawn	approved	date

0 50 100 150 200 250
SCALE 1:5000 (A3) METRES

drawn	CGT
approved	JM
date	14.06.2012
scale	AS SHOWN
original size	

coffey environments
SPECIALISTS IN ENVIRONMENTAL, SOCIAL AND SAFETY PERFORMANCE

client: NSW DEPARTMENT OF ATTORNEY GENERAL AND JUSTICE

project: STAGE 1 ENVIRONMENTAL SITE ASSESSMENT - NEWCASTLE COURTHOUSE, AND FORMER NEWCASTLE EAST PUBLIC SCHOOL, NEWCASTLE, NSW

title: SITE LOCALITY PLAN

job no: ENAUWARA04292AA-D01

figure no: FIGURE 1



N

Aerial image source: Nearmap.com, 31/03/2012
Aerial image ©: Nearmap. com

revision	description	drawn	approved	date

0 7.5 15 22.5 30 37.5
SCALE 1:750 (A3) METRES

drawn	CGT
approved	JM
date	14.06.2012
scale	AS SHOWN
original size	

coffey environments
SPECIALISTS IN ENVIRONMENTAL, SOCIAL AND SAFETY PERFORMANCE

client: NSW DEPARTMENT OF ATTORNEY GENERAL AND JUSTICE

project: STAGE 1 ENVIRONMENTAL SITE ASSESSMENT - NEWCASTLE COURTHOUSE, AND FORMER NEWCASTLE EAST PUBLIC SCHOOL, NEWCASTLE, NSW

title: SITE FEATURES PLAN

job no: ENAUWARA04292AA-D01

figure no: FIGURE 2

Appendix A
Groundwater Bore Search

Groundwater Works Summary

For information on the meaning of fields please see Glossary
Document Generated on Thursday, July 26, 2012

Print Report

Works Details Site Details Form A Licensed Construction Water Bearing Zones Drillers Log

Work Requested -- GW200284

Works Details (top)

GROUNDWATER NUMBER	GW200284
LIC-NUM	20BL168739
AUTHORISED-PURPOSES	IRRIGATION
INTENDED-PURPOSES	IRRIGATION
WORK-TYPE	Bore
WORK-STATUS	
CONSTRUCTION-METHOD	Auger - Hollow Flight
OWNER-TYPE	
COMMENCE-DATE	
COMPLETION-DATE	2003-11-25
FINAL-DEPTH (metres)	4.00
DRILLED-DEPTH (metres)	4.00
CONTRACTOR-NAME	
DRILLER-NAME	
PROPERTY	NEWCASTLE FORESHORE
GWMA	-
GW-ZONE	-
STANDING-WATER-LEVEL	1.20
SALINITY	367.00
YIELD	6.00

Site Details (top)

REGION	20 - HUNTER
RIVER-BASIN	
AREA-DISTRICT	
CMA-MAP	
GRID-ZONE	
SCALE	
ELEVATION	
ELEVATION-SOURCE	
NORTHING	6356230.00
EASTING	386520.00
LATITUDE	32 55' 35"
LONGITUDE	151 47' 11"
GS-MAP	

AMG-ZONE	56
COORD-SOURCE	Map Interpretation
REMARK	

Form-A (top)

COUNTY	NORTHUMBERLAND
PARISH	NEWCASTLE
PORTION-LOT-DP	2/729028

Licensed (top)

COUNTY	NORTHUMBERLAND
PARISH	NEWCASTLE
PORTION-LOT-DP	2 729028

Construction (top)

Negative depths indicate Above Ground Level;H-Hole;P-Pipe;OD-Outside Diameter;
ID-Inside Diameter;C-Cemented;SL-Slot Length;A-Aperture;GS-Grain Size;Q-Quantity

HOLE-NO	PIPE-NO	COMPONENT-CODE	COMPONENT-TYPE	DEPTH-FROM (metres)	DEPTH-TO (metres)	OD (mm)	ID (mm)	INTERVAL	DETAIL
1		Hole	Hole	0.00	4.00	180			Auger - Hollow Flight
1	1	Casing	PVC Class 9	0.00	4.00	48	44		Glued; Seated on Bottom
1	1	Opening	Slots - Vertical	1.20	4.00	60			PVC Class 9; Casing - Drilled Holes; SL: 1.2mm
1		Annulus	Waterworn/Rounded	2.80	4.00				Graded; GS: 2-2.5mm; Q: 20m³

Water Bearing Zones (top)

FROM-DEPTH (metres)	TO-DEPTH (metres)	THICKNESS (metres)	ROCK-CAT-DESC	S-W-L	D-D-L	YIELD	TEST-HOLE-DEPTH (metres)	DURATION	SALINITY
1.20	4.00	2.80		1.20	1.58	2.00		0.50	

Drillers Log (top)

FROM	TO	THICKNESS	DESC	GEO-MATERIAL	COMMENT

0.00	1.30	1.30	fill (hard)
1.30	4.00	2.70	sand (coarse amber)

Warning To Clients: This raw data has been supplied to the Department of Infrastructure, Planning and Natural Resources (DIPNR) by drillers, licensees and other sources. The DIPNR does not verify the accuracy of this data. The data is presented for use by you at your own risk. You should consider verifying this data before relying on it. Professional hydrogeological advice should be sought in interpreting and using this data.

Groundwater Works Summary

For information on the meaning of fields please see Glossary
Document Generated on Thursday, July 26, 2012

Print Report

Works Details Site Details Form A Licensed Construction Water Bearing Zones Drillers Log

Work Requested -- GW200283

Works Details (top)

GROUNDWATER NUMBER	GW200283
LIC-NUM	20BL168742
AUTHORISED-PURPOSES	IRRIGATION
INTENDED-PURPOSES	IRRIGATION
WORK-TYPE	Bore
WORK-STATUS	
CONSTRUCTION-METHOD	Auger - Hollow Flight
OWNER-TYPE	
COMMENCE-DATE	
COMPLETION-DATE	2003-11-30
FINAL-DEPTH (metres)	4.10
DRILLED-DEPTH (metres)	4.10
CONTRACTOR-NAME	
DRILLER-NAME	
PROPERTY	NEWCASTLE FORESHORE
GWMA	-
GW-ZONE	-
STANDING-WATER-LEVEL	2.11
SALINITY	405.00
YIELD	3.00

Site Details (top)

REGION	20 - HUNTER
RIVER-BASIN	
AREA-DISTRICT	
CMA-MAP	
GRID-ZONE	
SCALE	
ELEVATION	
ELEVATION-SOURCE	
NORTHING	6356350.00
EASTING	386820.00
LATITUDE	32 55' 31"
LONGITUDE	151 47' 22"
GS-MAP	

AMG-ZONE	56
COORD-SOURCE	Map Interpretation
REMARK	

Form-A (top)

COUNTY	NORTHUMBERLAND
PARISH	NEWCASTLE
PORTION-LOT-DP	11/720672

Licensed (top)

COUNTY	NORTHUMBERLAND
PARISH	NEWCASTLE
PORTION-LOT-DP	11 720672

Construction (top)

Negative depths indicate Above Ground Level;H-Hole;P-Pipe;OD-Outside Diameter;
ID-Inside Diameter;C-Cemented;SL-Slot Length;A-Aperture;GS-Grain Size;Q-Quantity

HOLE-NO	PIPE-NO	COMPONENT-CODE	COMPONENT-TYPE	DEPTH-FROM (metres)	DEPTH-TO (metres)	OD (mm)	ID (mm)	INTERVAL	DETAIL
1		Hole	Hole	0.00	4.10	180			Auger - Hollow Flight
1	1	Casing	PVC Class 9	0.00	4.10	48	44		Glued; Seated on Bottom
1	1	Opening	Slots - Vertical	2.90	4.10	60			PVC Class 9; Casing - Drilled Holes; SL: 1.2mm
1		Annulus	Waterworn/Rounded	2.90	4.10				Graded; GS: 2-2.5mm; Q: 20m³

Water Bearing Zones (top)

FROM-DEPTH (metres)	TO-DEPTH (metres)	THICKNESS (metres)	ROCK-CAT-DESC	S-W-L	D-D-L	YIELD	TEST-HOLE-DEPTH (metres)	DURATION	SALINITY
1.40	4.10	2.70		2.11	2.54	1.50		0.50	

Drillers Log (top)

FROM	TO	THICKNESS	DESC	GEO-MATERIAL	COMMENT

0.00	1.40	1.40	fill (hard and loam)
1.40	2.60	1.20	sand (grey, with 5m stones)
2.60	4.10	1.50	sand (coarse, grey)

Warning To Clients: This raw data has been supplied to the Department of Infrastructure, Planning and Natural Resources (DIPNR) by drillers, licensees and other sources. The DIPNR does not verify the accuracy of this data. The data is presented for use by you at your own risk. You should consider verifying this data before relying on it. Professional hydrogeological advice should be sought in interpreting and using this data.

Groundwater Works Summary

For information on the meaning of fields please see Glossary
Document Generated on Thursday, July 26, 2012

Print Report

Works Details Site Details Form A Licensed Construction Water Bearing Zones Drillers Log

Work Requested -- GW200282

Works Details (top)

GROUNDWATER NUMBER	GW200282
LIC-NUM	20BL168738
AUTHORISED-PURPOSES	IRRIGATION
INTENDED-PURPOSES	IRRIGATION
WORK-TYPE	Bore
WORK-STATUS	
CONSTRUCTION-METHOD	Auger - Hollow Flight
OWNER-TYPE	
COMMENCE-DATE	
COMPLETION-DATE	2003-11-22
FINAL-DEPTH (metres)	4.00
DRILLED-DEPTH (metres)	4.00
CONTRACTOR-NAME	
DRILLER-NAME	
PROPERTY	NEWCASTLE FORESHORE
GWMA	-
GW-ZONE	-
STANDING-WATER-LEVEL	2.00
SALINITY	443.00
YIELD	3.50

Site Details (top)

REGION	20 - HUNTER
RIVER-BASIN	
AREA-DISTRICT	
CMA-MAP	
GRID-ZONE	
SCALE	
ELEVATION	
ELEVATION-SOURCE	
NORTHING	6356066.00
EASTING	386512.00
LATITUDE	32 55' 40"
LONGITUDE	151 47' 10"
GS-MAP	

AMG-ZONE	56
COORD-SOURCE	Map Interpretation
REMARK	

Form-A (top)

COUNTY	NORTHUMBERLAND
PARISH	NEWCASTLE
PORTION-LOT-DP	2/729028

Licensed (top)

COUNTY	NORTHUMBERLAND
PARISH	NEWCASTLE
PORTION-LOT-DP	2 729028

Construction (top)

Negative depths indicate Above Ground Level;H-Hole;P-Pipe;OD-Outside Diameter;
ID-Inside Diameter;C-Cemented;SL-Slot Length;A-Aperture;GS-Grain Size;Q-Quantity

HOLE-NO	PIPE-NO	COMPONENT-CODE	COMPONENT-TYPE	DEPTH-FROM (metres)	DEPTH-TO (metres)	OD (mm)	ID (mm)	INTERVAL	DETAIL
1		Hole	Hole	0.00	4.00	180			Auger - Hollow Flight
1	1	Casing	PVC Class 9	0.00	4.00	48	44		Glued; Seated on Bottom; Cap
1	1	Opening	Screen - Gauze/Mesh	2.80	4.00	60			PVC Class 9; SL: 80mm; Glued
1		Annulus	Waterworn/Rounded	2.80	4.00				Graded; GS: 2-2.5mm; Q: 20m³

Water Bearing Zones (top)

FROM-DEPTH (metres)	TO-DEPTH (metres)	THICKNESS (metres)	ROCK-CAT-DESC	S-W-L	D-D-L	YIELD	TEST-HOLE-DEPTH (metres)	DURATION	SALINITY
2.00	4.00	2.00		2.00	2.50	2.00		0.50	

Drillers Log (top)

FROM	TO	THICKNESS	DESC	GEO-MATERIAL	COMMENT
0.00	1.40	1.40	fill (hard)		

1.40	2.30	0.90	sand (grey with shells)
2.30	4.00	1.70	sand (coarse grey)

Warning To Clients: This raw data has been supplied to the Department of Infrastructure, Planning and Natural Resources (DIPNR) by drillers, licensees and other sources. The DIPNR does not verify the accuracy of this data. The data is presented for use by you at your own risk. You should consider verifying this data before relying on it. Professional hydrogeological advice should be sought in interpreting and using this data.

Appendix B
Historical Titles Search

ADVANCE LEGAL SEARCHERS PTY LIMITED

(ACN 47 943 842)
ABN 82 147 943 842

P.O. Box 149
Yagoona NSW 2199

Telephone: +612 9754 1590
Mobile: 0412 169 809
Facsimile: +612 9754 1364
Email: alsearch@optusnet.com.au

12th June, 2012

COFFEY ENVIRONMENTS PTY LTD
19 Warabrook Boulevarde
WARABROOK NSW 2304

Attention: James McMahon,

RE: **39 Church Street, Newcastle**
58 Bolton Street, Newcastle
PO WARA12-01087

Note 1: **Lot 7002 DP 1077042 (Church Street)**
Note 2: **Lot 1 DP 709455 (Bolton Street)**

Note 1

Current Search

Folio Identifier 7002/1077042 (title attached)
DP 1077042 (plan attached)
Dated 7th June, 2012
Registered Proprietor:
THE STATE OF NEW SOUTH WALES

Title Tree
Lot 7002 DP 1077042

Folio Identifier 7002/1077042

CROWN LAND

****

Summary of proprietor(s)
Lot 7002 DP 1077042

Year **Proprietor**

	(Lot 7002 DP 1077042)
2004 – todate	The State of New South Wales
Prior – 1985	CROWN LAND
(Prior – 1971)	*(Revocation of Reserve from Sale or Lease Generally, Reserve No. 88089, being area 11 Acres 0 Roods 35 Perches, Government Gazette 8/1/1971 Fol 24)*

****

Note 2

Current Search

Folio Identifier 1/709455 (title attached)
DP 709455 (plan attached)
Dated 07th June, 2012
Registered Proprietor:
HER MOST GRACIOUS MAJESTY QUEEN ELIZABETH THE SECOND FOR AND ON BEHALF OF THE MINISTER FOR JUSTICE FOR THE DEPARTMENT OF COURTS ADMINISTRATION

Title Tree
Lot 1 DP 709455

Folio Identifier 1/709455

PA 58767

See Notes (a) to (e) inclusive

(a)

Conveyance Book 495 No. 165

***

(b)

Conveyance Book 474 No. 285

***

(c)

Conveyance Book 307 No. 455

***

(d)

Conveyance Book 192 No. 487

***

(e)

Conveyance Book 267 No. 549

***

Summary of proprietor(s)
Lot 1 DP 709455

Year **Proprietor**

	(Lot 1 DP 709455)
1994 – todate	Her Most Gracious Majesty Queen Elizabeth the Second for and on behalf of the Minister for Justice for the Department of Courts Administration
1985 – 1994	Minister for Public Works & Ports acquisition of land for the purpose of Newcastle East Court Annexe, Government Gazette 17/4/1984 Fol 1835

See Notes (a) to (e) inclusive

Note (a)

	(That piece or parcel of land, Parish of Newcastle, part of allotment 80 – Conv Bk 495 No. 165)
1892 – 1985	The Minister of Public Instruction of the Colony of New South Wales, by notification of Resumption, Government Gazette 6/5/1891 for the purpose of erection thereon of a Public School
1892 – 1892	John Paton, wharfinger

*****

Note (b)

	(That piece or parcel of land, Parish of Newcastle, part of allotment 80 – Conv Bk 474 No. 285)
1891 – 1985	The Minister of Public Instruction of the Colony of New South Wales, by notification of Resumption, Government Gazette 6/5/1891 for the purpose of erection thereon of a Public School
1891 – 1891	James Russell, contractor Margaret Russell, wife

*****

Note (c)

	(That piece or parcel of land, Parish of Newcastle, allotment 82 – Area – 36 Perches - Conv Bk 307 No. 455)
1885 – 1985	The Minister of Public Instruction of the Colony of New South Wales, by notification of Resumption, Government Gazette 27/7/1883 for the purpose of erection thereon of a Public School
1884 – 1885	John Broughton, trustee and sole executor Frederick Alcoch, trustee of the estate of James Cann
1866 – 1884	James Cann
1866 – 1866	John Ponsford Luke

*****

Note (d)

	(That piece or parcel of land, Parish of Newcastle, part of allotment 84 – Conv Bk 192 No. 487)
1883 – 1985	The Minister of Public Instruction of the Colony of New South Wales, by notification of Resumption, Government Gazette 31/3/1883 for the purpose of erection thereon of a Public School

*****

Note (e)

	(That piece or parcel of land, Parish of Newcastle, part of allotment 85 – Area 24 Perches – Conv Bk 267 No. 549)
1883 – 1985	The Minister of Public Instruction of the Colony of New South Wales, by notification of Resumption, Government Gazette 31/3/1883 for the purpose of erection thereon of a Public School

*****

Req:R007601 /Doc:DP 1077042 P /Rev:08-Dec-2004 /Sts:SC.OK /Prt:07-Jun-2012 17:51 /Pgs:ALL /Seq:1 of 1
Ref:ALS /Src:T

PLAN OF CROWN LAND SHOWING FORMER ARTIFICIAL ID

480/7001//755247/88093 480/7002//755247/88094

Shire/City NEWCASTLE

Town/Locality NEWCASTLE

Parish NEWCASTLE

County NORTHUMBERLAND

Not to Scale

DP1077042

Registered 3.12.2004

Title System CROWN LAND

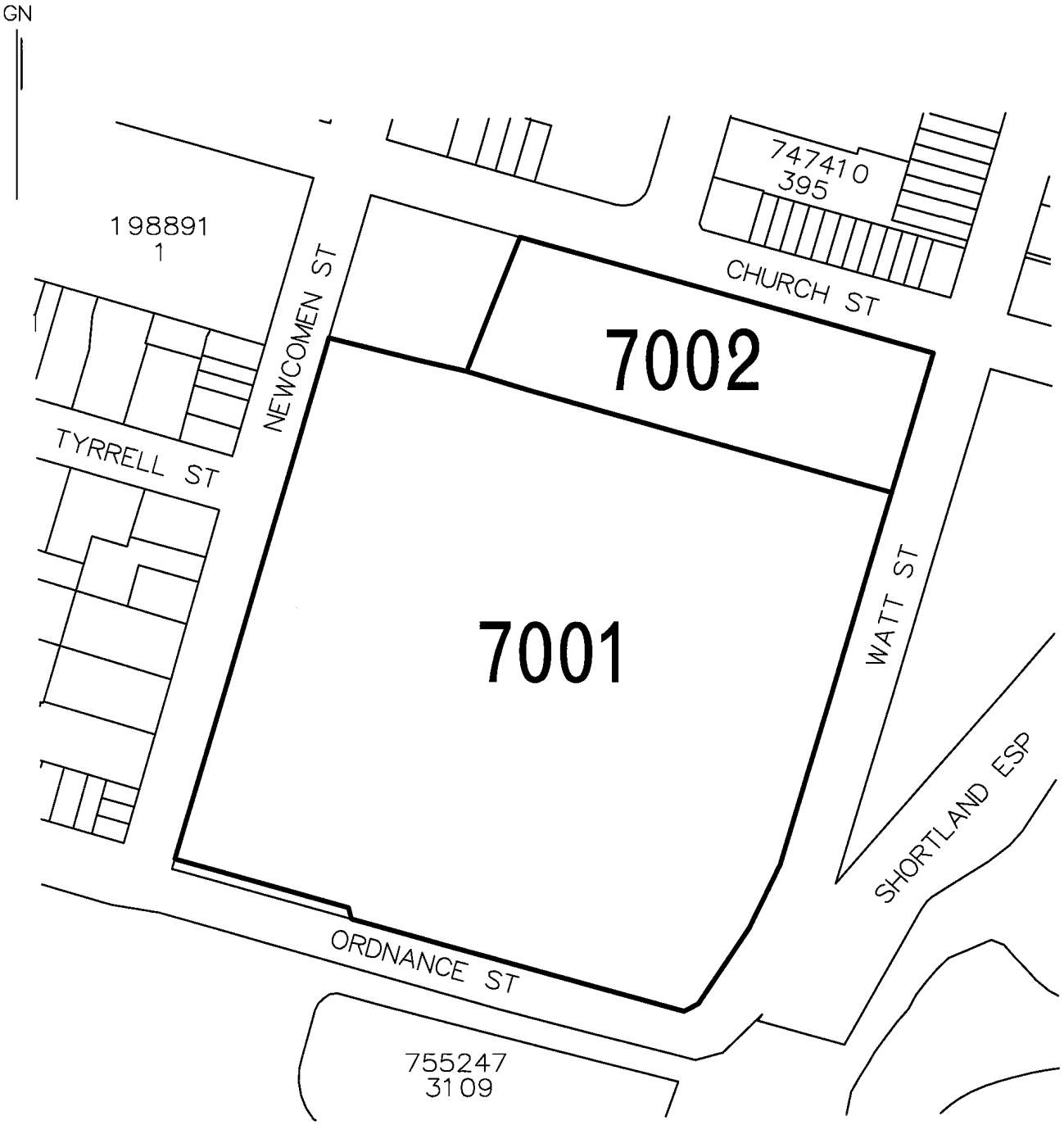
Purpose DEPARTMENTAL

Reference Map U 7250 - 412

DCDB Partition NEWC2343S NEWC2342S

Last Plan -

DIAGRAM FOR IDENTIFICATION PURPOSES ONLY ... NOT TO BE USED FOR FOLIO CREATION
THIS IS NOT A SUBDIVISION OF THE CROWN ESTATE. STATUS MAY NEED TO BE VERIFIED.
NOT INVESTIGATED IN LAND AND PROPERTY INFORMATION AS TO LOCATION OF BOUNDARIES

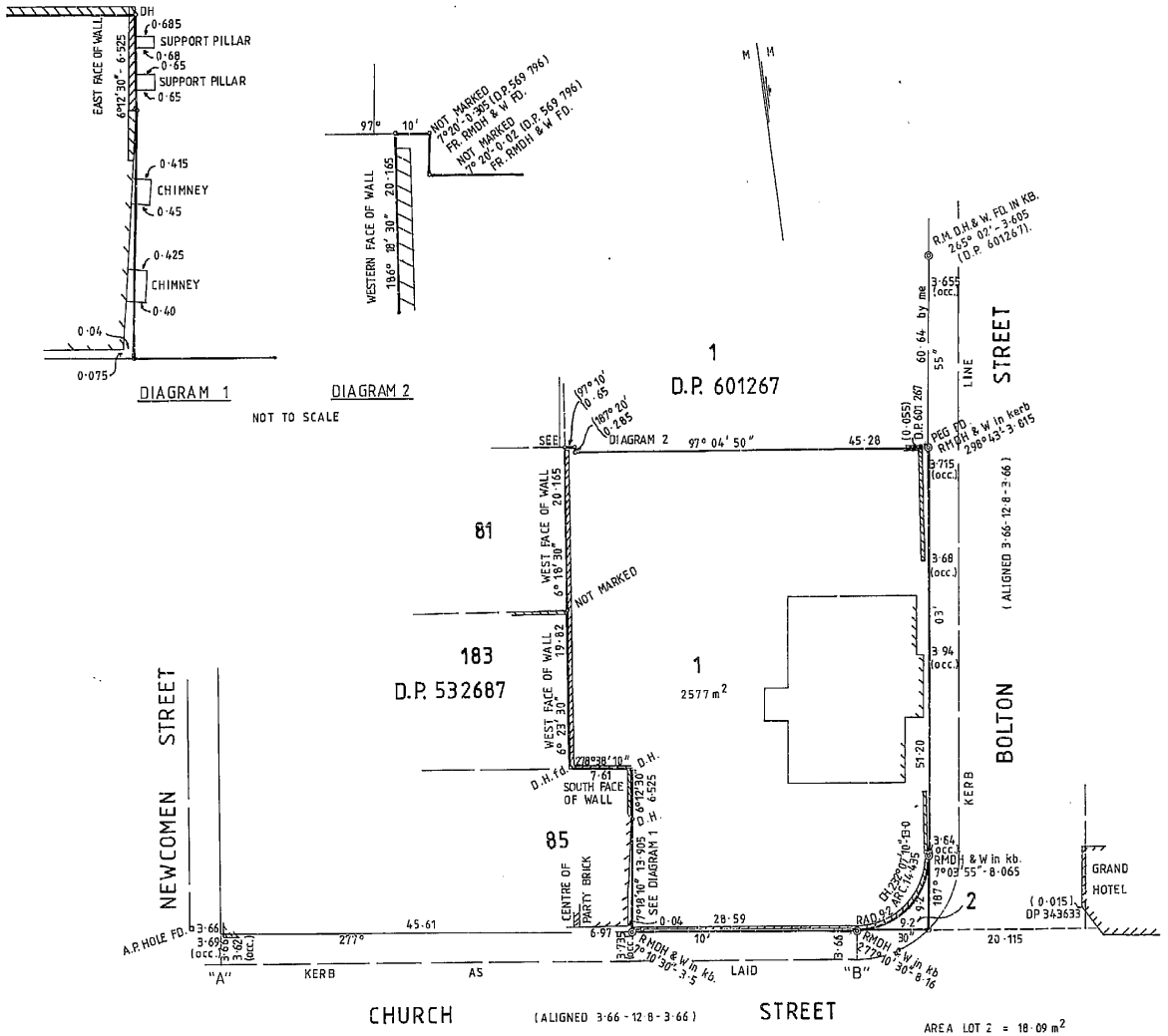


PLAN FORM 2

Plan Drawing only to appear in this space

*OFFICE USE ONLY

Signatures and seals only.



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. 709455

Registered: 17·1·1985

C.A.: _____

Title System: OLD SYSTEM

Purpose: ACQUISITION (NOT A CURRENT PLAN AT REGN VIDE SEC 327AA L.G. ACT 1919)

Ref. Map: U7250-412.*

Last Plan: _____

PLAN OF SUBDIVISION OF ALLOTMENTS 80, 82 & 84 AND PART OF ALLOTMENT 85 CONV. 487 BOOK 192. BOOK 267 No. 547 ~~BOOK 457 No 192~~ BOOK 307 No. 455 BOOK 495 No 165 BOOK 474 No 285

Reduction Ratio 1: 400

Lengths are in metres.

~~Mun./Shire~~ City: NEWCASTLE

Locality: NEWCASTLE

Parish: NEWCASTLE

County: NORTHUMBERLAND

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

I, EDWARD J. BRAY

of PUBLIC WORKS DEPARTMENT, NEWCASTLE

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 † .....

7th August, 1984.

Signature ..... Edward J. Bray

Surveyor registered under Surveyors Act, 1929, as amended.

Datum Line of Azimuth: "A"-"B"

*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.

Lot 1 Proposed to be Acquired.

M.P.D. SB 30944R

WARNING: CREASING OR FOLDING WILL LEAD TO REJECTION

SB 30944R

SURVEYOR'S REFERENCE: 7356

This negative is a photograph made as a permanent record of a document in the custody of the Registrar General this day.

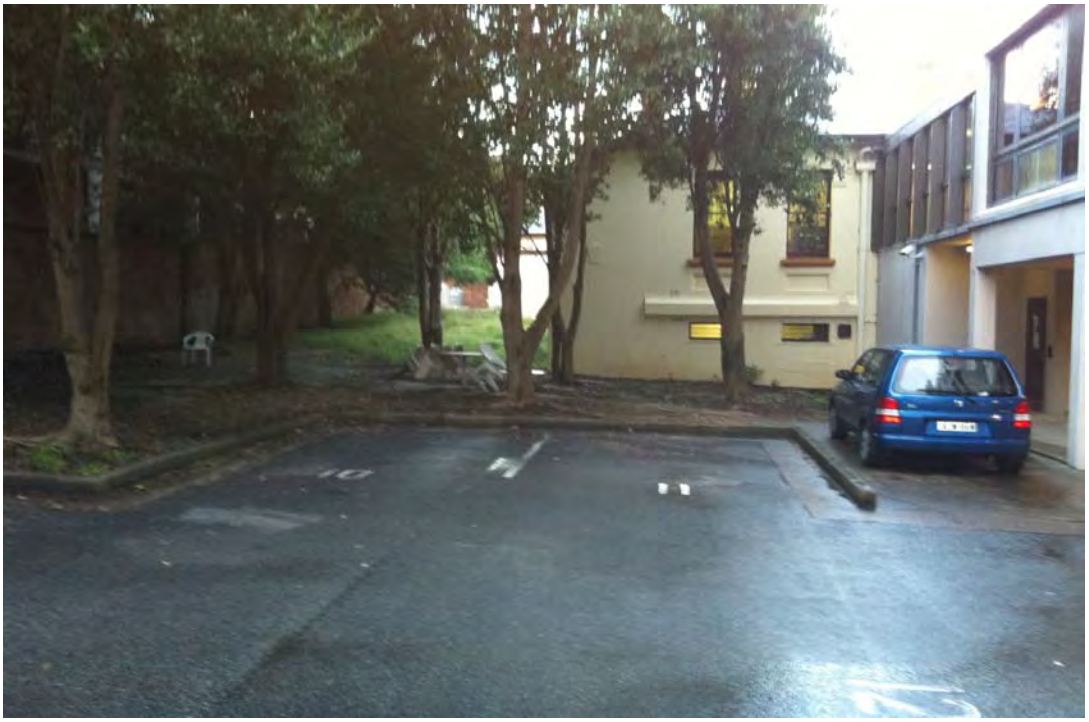
Date 18th January, 1985

Req:R007605 /Doc:DP 0709455 P /Rev:20-Oct-1992 /Sts:OK.OK /Prt:07-Jun-2012 17:51 /Pgs:ALL /Seq:1 of 1
Ref:ALS /Src:T

Appendix D
Site Photographs



Photograph 1: 1890 Court House Building



Photograph 2: View from rear from the eastern wing

drawn	**JAM**	coffey environments SPECIALISTS IN ENVIRONMENTAL, SOCIAL AND SAFETY PERFORMANCE	client:	**NSW Department of Attorney General and Justice**
approved			project:	**PHASE 1 ENVIRONMENTAL SITE ASSESSMENT CHURCH AND BOLTON ST NECASTLE**
date of photos	**19/06/2012**			
scale	**NTS**		title:	**SITE PHOTOGRAPHS**
original size	**A4**		project no: **ENAUWARA04292AA**	photo no: **1 & 2**



Photograph 3: Former Newcastle East School Building



Photograph 4:Southern end of site 2

drawn	**JAM**	coffey environments SPECIALISTS IN ENVIRONMENTAL, SOCIAL AND SAFETY PERFORMANCE	client:	**NSW Department of Attorney General and Justice**
approved			project:	**PHASE 1 ENVIRONMENTAL SITE ASSESSMENT CHURCH AND BOLTON ST NECASTLE**
date of photos	**19/06/2012**			
scale	**NTS**		title:	**SITE PHOTOGRAPHS**
original size	**A4**		project no: **ENAUWARA04292AA**	photo no: **3 & 4**



Photograph 5: Deteriotated weatherboards on southern building in site 2. Flaking lead paint



Photograph 6: Flaking lead paint on the window sill of former school building.

drawn	**JAM**	coffey environments SPECIALISTS IN ENVIRONMENTAL, SOCIAL AND SAFETY PERFORMANCE	client: **NSW Department of Attorney General and Justice**	
approved			project: **PHASE 1 ENVIRONMENTAL SITE ASSESSMENT CHURCH AND BOLTON ST NECASTLE**	
date of photos	**19/06/2012**			
scale	**NTS**		title: **SITE PHOTOGRAPHS**	
original size	**A4**		project no: **ENAUWARA04292AA**	photo no: **5 & 6**

Appendix E
Section 149 Planning Certificate

PLANNING CERTIFICATE

The City of Newcastle

Section 149, Environmental Planning and Assessment Act 1979

To: COFFEY ENVIRONMENTS
19 WARABROOK BOULEVARDE
WARABROOK NSW 2304

Certificate No: 163487
Fees Paid: $133.00
Receipt No(s): 3457135

Your Reference: JAMES MCMAHON ENAUWARA04292AA

Date of Issue: 07/06/2012

The Land: LOT: 7002 DP: 1077042
1-9 CHURCH STREET NEWCASTLE 2300

Advice provided on this Certificate:

Advice under section 149(2): see items 1 – 17
Additional advice under section 149 (5): see Items 18 – 27

IMPORTANT: Please read this certificate carefully

This certificate contains important information about the land.

Please check for any item which could be inconsistent with the proposed use or development of the land. If there is anything you do not understand, phone Council's **Customer Enquiry Centre** on (02) 4974 2030, or come in and see us.

The information provided in this certificate relates only to the land described above. If you need information about adjoining or nearby land, or about the Council's development policies for the general area, contact Council's **Customer Enquiry Centre**.

All information provided is correct as at 07/06/2012. However, it's possible for changes to occur within a short time. We recommend that you only rely upon a very recent certificate.

The City of Newcastle

PO Box 489
NEWCASTLE 2300

Phone: (02) 4974 2000
Facsimile: (02) 4974 2222

Customer Enquiry Centre
Ground floor,
282 King Street
Newcastle NSW 2300

Phone: (02) 4974 2030
Facsimile: (02) 4974 2001

Office hours:
Mondays to Fridays 8.30 am to 5.00 pm

PART 1:

ADVICE PROVIDED UNDER SECTION 149(2)

ATTENTION: The explanatory notes appearing in italic print within Part 1 are provided to assist understanding, but do not form part of the advice provided under section 149(2). These notes shall be taken as being advice provided under section 149(5).

1. Names of relevant planning instruments and DCPs

The following environmental planning instruments, proposed environmental planning instruments and development control plans apply to the land, either in full or in part.

State Environmental Planning Policy No. 1 - Development Standards

State Environmental Planning Policy No. 4 - Development Without Consent and Miscellaneous Exempt and Complying Development

State Environmental Planning Policy No. 6 - Number of Storeys in a Building

State Environmental Planning Policy No. 21 - Caravan Parks

State Environmental Planning Policy No. 30 - Intensive Agriculture

State Environmental Planning Policy No. 32 - Urban Consolidation (Redevelopment of Urban Land)

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

State Environmental Planning Policy No. 36 - Manufactured Home Estates

State Environmental Planning Policy No. 44 - Koala Habitat Protection

State Environmental Planning Policy No. 50 - Canal Estate Development

State Environmental Planning Policy No. 55 - Remediation of Land

State Environmental Planning Policy No. 62 - Sustainable Aquaculture

State Environmental Planning Policy No. 64 - Advertising and Signage

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

State Environmental Planning Policy No. 71 - Coastal Protection

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

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

State Environmental Planning Policy (Major Development) 2005

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

State Environmental Planning Policy (Temporary Structures) 2007

State Environmental Planning Policy (Infrastructure) 2007

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

State Environmental Planning Policy (Affordable Rental Housing) 2009

Newcastle Local Environmental Plan 2003

Draft Newcastle Local Environmental Plan 2011

Newcastle Development Control Plan 2005

2. Zoning and land use under relevant LEPs

Newcastle Local Environmental Plan 2003

Zoning: The LEP identifies the land as being within the following zone(s):

5(a) Special Uses Zone - Hospital

Note: Refer to www.newcastle.nsw.gov.au or www.legislation.nsw.gov.au web site for LEP instrument and zoning maps.

The following is an extract from the zoning provisions contained in the LEP:

Zone 5(a) Special Uses Zone

- **Manner shown on zoning map**

  Land in this zone is edged heavy black and marked "5(a)" or coloured dark blue on the zoning map, followed by a particular land use nominated in respect of the site.

- **Zone objectives**

  (a) To accommodate major transport networks and facilities.
  (b) To accommodate large scale facilities and services, together with ancillary activities.
  (c) To accommodate large scale community establishments, together with ancillary activities.
  (d) To require development to be integrated and reasonably consistent in scale and character with surrounding natural, rural or urban environments.

- **Development without consent**

  Except as otherwise provided by this plan, the following do not require consent:
  (a) exempt development identified in clause 10,
  (b) utility undertakings described in Schedule 4 when carried out by a public authority,
  (c) anything specified in section 4B (3) of the Act,
  (d) development below high water mark for purposes related to the operation of the Port of Newcastle by the Newcastle Port Authority,
  (e) environmental protection works,
  (f) emergency bush fire hazard reduction work or fire fighting acts,
  (g) managed bush fire hazard reduction work on land other than excluded land.

- **Development only with consent**

  Any development not identified in, development without consent or prohibited development.

- **Prohibited development**

  Development for the purpose of:
  advertising structures
  aerodromes
  airstrips
  animal establishments
  automotive services
  brothels
  bulky goods retail outlets
  camping grounds or caravan parks
  car repair stations
  clubs
  commercial premises
  exhibition villages
  extractive industries
  hazardous industries
  hazardous storage establishments
  heliports
  hotels

industries other than light industries
intensive agriculture
liquid fuel depots
marinas
mines
motor showrooms
natural water-based aquaculture
offensive industries
offensive storage establishments
places of assembly
pond-based aquaculture
ports
roadside stalls
sex aid establishments
sexual entertainment establishments
shops
tank-based aquaculture
transport depots
warehouses

NOTE: The above advice relates only to restrictions that apply by virtue of the zones indicated. The LEP includes additional provisions that require development consent for particular types of development, or in particular circumstances, irrespective of zoning.

Minimum land dimensions for erection of a dwelling-house: The LEP does not contain any development standards relating to minimum land dimensions for the erection of a dwelling-house.

Critical habitat: The LEP does not identify the land as including or comprising critical habitat.

Heritage conservation area: The land is situated within The Hill Heritage Conservation Area. Refer to the LEP for provisions relating to development within a heritage conservation area.

Heritage items: A heritage item listed in the LEP is situated on the land. Refer to the LEP for provisions relating to development involving a heritage item.

Draft Newcastle Local Environmental Plan 2011

Zoning: The Draft LEP contains amending provisions that have the effect of altering the current zoning of the land. If the draft amendment were to be approved, the land would be within the following zone(s):

B4 Mixed Use Zone

Zone B4 Mixed Use Zone

- **Objectives of zone**
  - To provide a mixture of compatible land uses.
  - To integrate suitable business, office, residential, retail and other development in accessible locations so as to maximise public transport patronage and encourage walking and cycling.
  - To support the Commercial Core zone and Local Centre zone while providing for the daily needs of the Mixed Use zone.
- **Permitted without consent**

  Building identification sign; Business identification sign; Environmental protection works; Home occupations.
- **Permitted with consent**

  Boarding houses; Business premises; Child care centres; Community facilities; Educational establishments; Entertainment facilities; Function centres; Hotel or motel accommodation; Information and education facilities; Office premises; Passenger transport facilities; Recreation facilities (indoor); Registered clubs; Retail premises; Roads; Seniors housing; Shop top housing; Any other development not identified in, permitted without consent or prohibited.

- **Prohibited**

  Agriculture; Airstrips; Air transport facilities; Caravan parks; Cemeteries; Dwelling houses; Dual occupancies; Electricity generating works; Exhibition villages; Extractive industries; Forestry; Freight transport facilities; Hazardous industries; Hazardous storage establishments; Heavy industries; Liquid fuel depots; Mining; Offensive industries; Offensive storage establishments; Rural industries; Rural supplies; Secondary dwellings; Semi detached dwellings; Sewerage systems; Truck depots Vehicle body repair workshops; Waste or resource management facilities; Water supply systems.

Minimum land dimensions for erection of a dwelling-house: The Draft LEP does not contain any development standards relating to minimum land dimensions for the erection of a dwelling-house.

Critical habitat: The Draft LEP does not identify the land as including or comprising critical habitat.

Heritage conservation area: The land is situated within a Heritage Conservation Area. Refer to the Draft LEP for provisions relating to development within a heritage conservation area.

Heritage items: A heritage item listed in the Draft LEP is situated on the land. Refer to the Draft LEP for provisions relating to development involving a heritage item.

3. Complying development

Note Other requirements: *The advice below for all Complying Development Codes, is limited to identifying whether or not the* ***land****, the subject of the certificate, is land on which complying development may be carried out because of Clauses 1.17A(c) & (d) and 1.19 of State Environmental Planning Policy (Exempt and Complying Development Codes) 2008 (the Codes SEPP). There are other requirements under the Codes SEPP that must also be satisfied to be considered as complying development. Clauses 1.17 and 1.18 of the Codes SEPP identify the general requirements to be classified as complying development.*

General Housing Code

Complying development under the General Housing Code may NOT be carried out on this land. The land is affected by:

General land exemptions being land that comprises or, on which there is, an item that is listed on the State Heritage Register under the Heritage Act 1977 or that is subject to an Interim Heritage Order under the Heritage Act 1977.

General land exemptions being land that comprises, or on which there is, a Heritage Item or a Draft Heritage Item.

Specific land exemptions being land within a Heritage Conservation Area or a Draft Heritage Conservation Area unless the development is for a detached outbuilding.

Rural Housing Code

Complying development under the Rural Housing Code may NOT be carried out on this land. The land is affected by:

General land exemptions being land that comprises or, on which there is, an item that is listed on the State Heritage Register under the Heritage Act 1977 or that is subject to an Interim Heritage Order under the Heritage Act 1977: Unless complying development is carried out on the part of the lot to which clause 1.19 of State Environmental Planning Policy (Exempt and Complying Development Codes) 2008 does not apply.

General land exemptions being land that comprises, or on which there is, a Heritage Item or a Draft Heritage Item. Unless complying development is carried out on the part of the lot to which clause 1.19 of State Environmental Planning Policy (Exempt and Complying Development Codes) 2008 does not apply.

Specific land exemptions being land within a Heritage Conservation Area or a Draft Heritage Conservation Area unless the development is for a detached outbuilding. Unless complying development is carried out on the part of the lot to which clause 1.19 of State Environmental Planning Policy (Exempt and Complying Development Codes) 2008 does not apply.

Housing Alterations Code

Complying development under the Housing Alterations Code may NOT be carried out on this land. The land is affected by:

General land exemptions being land that comprises or, on which there is, an item that is listed on the State Heritage Register under the Heritage Act 1977 or that is subject to an Interim Heritage Order under the Heritage Act 1977.

General land exemptions being land that comprises, or on which there is, a Heritage Item or a Draft Heritage Item.

General Development Code

Complying development under the General Development Code may NOT be carried out on this land. The land is affected by:

General land exemptions being land that comprises or, on which there is, an item that is listed on the State Heritage Register under the Heritage Act 1977 or that is subject to an Interim Heritage Order under the Heritage Act 1977.

General land exemptions being land that comprises, or on which there is, a Heritage Item or a Draft Heritage Item.

General Commercial and Industrial Code

Complying development under the General Commercial and Industrial Code may NOT be carried out on this land. The land is affected by:

General land exemptions being land that comprises or, on which there is, an item that is listed on the State Heritage Register under the Heritage Act 1977 or that is subject to an Interim Heritage Order under the Heritage Act 1977.

General land exemptions being land that comprises, or on which there is, a Heritage Item or a Draft Heritage Item.

Subdivision Code

Complying development under the Subdivision Code may NOT be carried out on this land. The land is affected by:

General land exemptions being land that comprises or, on which there is, an item that is listed on the State Heritage Register under the Heritage Act 1977 or that is subject to an Interim Heritage Order under the Heritage Act 1977.

General land exemptions being land that comprises, or on which there is, a Heritage Item or a Draft Heritage Item.

Demolition Code

Complying development under the Demolition Code may NOT be carried out on this land. The land is affected by:

General land exemptions being land that comprises or, on which there is, an item that is listed on the State Heritage Register under the Heritage Act 1977 or that is subject to an Interim Heritage Order under the Heritage Act 1977.

General land exemptions being land that comprises, or on which there is, a Heritage Item or a Draft Heritage Item.

4. Coastal Protection Act 1979

The land IS AFFECTED by the operation of sections 38 or 39 of the Coastal Protection Act 1979.

4A. Certain information relating to beaches and coasts

The land IS NOT AFFECTED by an order under Part 4D of the Coastal Protection Act 1979 in relation to emergency coastal protection works (within the meaning of that Act) on the land (or on public land adjacent to that land), except where the council is satisfied that such an order has been fully complied with.

The Council HAS NOT been notified under section 55X of the Coastal Protection Act 1979 that emergency coastal protection works (within the meaning of that Act) have been placed on the land (or on public land adjacent to that land).

4B. Annual charges under Local Government Act 1993 for coastal protection services that relate to existing coastal protection works

The land IS NOT subject to an agreement for annual charges under section 496B of the Local Government Act 1993 for coastal protection services (within the meaning of section 553B of that Act).

5. Mine Subsidence Compensation Act 1961

The land IS within a proclaimed Mine Subsidence District under the Mine Subsidence Compensation Act 1961. The approval of the Mine Subsidence Board is required for all subdivision and building, except for certain minor structures. Surface development controls are in place to prevent damage from old, current or future mining. It is strongly recommended prospective purchasers consult with the Mine Subsidence Board regarding mine subsidence and any surface development guidelines. The Board can assist with information about mine subsidence and advise whether existing structures comply with the requirements of the Act.

NOTE: Plans of existing and abandoned mine workings are available for viewing at the Mine Subsidence Board's offices. For further clarification and details, contact the Mine Subsidence Board, 117 Bull Street, Newcastle West. Ph (02) 49084300.

6. Road widening or realignment

NOTE: The Roads and Maritime Services (RMS) may have proposals that are not referred to in this item. For advice about affectation by RMS proposals, contact the Roads and Maritime Services, Locked Mail Bag 30 Newcastle 2300. Ph: 131 782.

The land IS NOT AFFECTED by any road widening or road realignment under Division 2 of Part 3 of the Roads Act 1993.

The land IS NOT AFFECTED by any road widening or road realignment under an environmental planning instrument.

The land IS NOT AFFECTED by any road widening or road realignment under a resolution of the Council.

7. Policies on hazard risk restrictions

Except as stated below, the land is not affected by a policy referred to in Item 7 of Schedule 4 of the Environmental Planning and Assessment Regulation 2000 that restricts the development of the land because of the likelihood of land slip, bushfire, tidal inundation, subsidence, acid sulphate soils or any other risk (other than flooding).

Potential acid sulphate soils: Works carried out on the land must be undertaken in accordance with the LEP.

Land Contamination: Council's information currently indicates that the property may be affected by land contamination. Council has adopted a policy of restricting development or imposing conditions on properties affected by land contamination. Refer to the Newcastle Development Control Plan 2005, which may be inspected or purchased at Council's Customer Enquiry Centre.

NOTE: The absence of a policy to restrict development of the land because of the likelihood of a particular risk does not imply that the land is free from that risk. The Council considers the likelihood of natural and man-made risks when determining development applications under section 79C of the Environmental Planning and Assessment Act 1979. Detailed investigation carried out in conjunction with the preparation or assessment of a development application may result in the Council either refusing development consent or imposing conditions of consent on the basis of risks that are not identified above.

7A. Flood related development controls information

Council's current information indicates the property is not flood prone land as defined in the Floodplain Development Manual: the management of flood liable land, April 2005 published by the NSW Government.

8. Land reserved for acquisition

The land is not identified for acquisition by a public authority (as referred to in section 27 of the Act) by any environmental planning instrument or proposed environmental planning instrument applying to the land.

9. Contributions plans

The following contribution plan/s apply to the land.

Section 94A Development Contributions Plan 2009 - Updated March 2011:

The Plan specifies section 94A contributions that may be imposed as a condition of development consent.

NOTE: Contributions plans are available on Council's website or may be inspected or purchased at Council's Customer Enquiry Centre.

9A. Biodiversity certified land

The land IS NOT biodiversity certified land within the meaning of Part 7AA of the Threatened Species Conservation Act 1995.

10. Biobanking agreements

The land IS NOT land to which a biobanking agreement under Part 7A of the Threatened Species Conservation Act 1995 relates.

11. Bush fire prone land

The land IS NOT bush fire prone land for the purposes of the Environmental Planning and Assessment Act 1979.

12. Property vegetation plans

Not applicable. The Native Vegetation Act 2003 does not apply to the Newcastle local government area.

13. Orders under Trees (Disputes Between Neighbours) Act 2006

Council HAS NOT been notified that an order has been made under the Trees (Disputes between Neighbours) Act 2006 to carry out work in relation to a tree on the land.

14. Directions under Part 3A

The land IS NOT AFFECTED by a direction by the Minister in force under section 75P (2) (c1) of the Act.

15. Site compatibility certificates and conditions for seniors housing

(a) The land IS NOT AFFECTED by a current site compatibility certificate (of which the Council is aware) issued under the State Environmental Planning Policy (Housing for Seniors and People with a Disability) 2004.

(b) The land IS NOT AFFECTED by any terms of kind referred to in clause 18(2) of the State Environmental Planning Policy (Housing for Seniors or People with a Disability) 2004, that have been imposed as a condition of consent to a development application granted after 11 October, 2007 in respect of the land.

16. Site compatibility certificates for infrastructure

The land IS NOT AFFECTED by a valid site compatibility certificate (of which the Council is aware) issued under the State Environmental Planning Policy (Infrastructure) 2007.

17. Site compatibility certificates and conditions for affordable rental housing

The land IS NOT AFFECTED by a valid site compatibility certificate (of which the Council is aware) issued under the State Environmental Planning Policy (Affordable Rental Housing) 2009.

Note: *There are no matters prescribed by section 59(2) of the Contaminated Land Management Act 1997 to be disclosed, however if other contamination information is held by the Council this may be provided under a section 149(5) certificate.*

PART 2:

ADVICE PROVIDED UNDER SECTION 149(5)

ATTENTION: Section 149(6) of the Act states that a Council shall not incur any liability in respect of advice provided in good faith pursuant to sub-section 149(5).

18. Outstanding Notices and Orders issued by Council.

Council records indicate that this premise IS NOT AFFECTED by an outstanding notice or order (excluding the notices or orders mentioned in the note below).

NOTE: The Council has not inspected the premises immediately prior to the issue of this certificate. It is possible that the premises are affected by matters of which the Council is unaware.

NOTE: This Certificate does not include any advice regarding outstanding notices or orders issued under the Environmental Planning and Assessment Act 1979 or the Local Government Act 1993. To obtain advice regarding these matters, you should lodge an application for a Certificate as to Outstanding Notices and Orders (accompanied by the appropriate fee). For further information, please contact the Customer Enquiry Centre on (02) 4974 2030.

19. Further consent requirements under the LEP.

The following provisions of the Newcastle Local Environmental Plan 2003 affect the carrying out of development on the land. These provisions are in addition to those required to be disclosed at Item 2 of this Certificate.

Development that does not require consent: Clause 13 provides that, except as otherwise provided by this plan, the following do not require development consent:

(a) exempt development identified in clause 10,

(b) utility undertakings described in Schedule 4 when carried out by a public authority,

(c) anything specified in section 4B (3) of the Act,

(d) development below high water mark for purposes related to the operation of the Port of Newcastle by the Newcastle Port Authority,

(e) environmental protection works,

(f) emergency bush fire hazard reduction work or fire fighting acts,

(g) managed bush fire hazard reduction work on land other than excluded land.

Development that requires consent: Clause 14 provides that, except as otherwise provided by this plan, the following may be carried out only with development consent:

(a) a use of land,

(b) the subdivision of land,

(c) the erection of a building,

(d) the carrying out of a work, including:

(i) the excavation, filling or dredging of land, and

(ii) the disposal of waste,

(e) the removal or pruning of a tree or the clearing of native vegetation,

(f) the injuring or poisoning of a tree,

(g) the demolition or removal of a building, work, relic or place in whole or in part,

(h) works involving a heritage item or within a heritage conservation area involving the alteration of a building, work or relic by making structural or non-structural changes to the detail, fabric, finish or appearance of its exterior, except changes resulting from any maintenance necessary for its ongoing protective care which would not adversely affect any heritage significance it may have,

(i) altering a heritage item by making structural or non-structural changes to the detail, fabric, finish or appearance of its interior, except changes resulting from any maintenance necessary for its ongoing protective care which would not adversely affect any heritage significance it may have,

(j) disturbing or excavating a place of Aboriginal heritage significance or an archaeological site while knowing, or having reasonable cause to suspect, that the disturbance or excavation will or is likely to result in a relic being discovered, exposed, moved or destroyed,

(k) the moving to another location of a building or relic,

(l) the display of an advertising sign,

(m) the carrying out of a utility undertaking described in Schedule 4 otherwise than by a public authority.

Development that is prohibited: Clause 15 provides that, except as otherwise provided by this plan, the following development is prohibited:

(a) development for the purpose of hazardous industries, hazardous storage establishments, offensive industries or offensive storage establishments,

(b) the carrying out of particular land uses within a zone if nominated as prohibited development in the zone *(refer to Item 2 of this Certificate)*.

Existing uses: 'Existing uses' (as defined in section 106 of the Environmental Planning and Assessment Act 1979) may in specified circumstances, be enlarged, expanded, intensified, altered, extended, rebuilt or changed with development consent. See Part 5 of the Environmental Planning and Assessment Regulation 2000. These provisions are deemed by section 108(2) of the Act to be incorporated in the Newcastle Local Environmental Plan 2003.

NOTE: There are other provisions within the Newcastle Local Environmental Plan 2003 that affect the carrying out of development. If you propose to carry out development on the land, you should consider the need to obtain further professional advice regarding the full effect of the Newcastle Local Environment Plan 2003 and other environmental planning instruments.

20. Suspension of covenants.

Under the LEP, any covenant, agreement or like instrument, which is contrary to development that is permitted and for which consent has been granted under the Plan, does not apply to the extent to which the covenant, agreement or instrument would prevent or restrict the development from being undertaken in accordance with the consent.

NOTE: Covenants that burden neighbouring land (and which benefit the subject land) may also have been suspended. In determining a development application, the Council is not required to take into consideration whether the proposed development would comply with any applicable covenant. The Council holds no records on the existence of covenants, nor does it carry out a title search when assessing applications. The enforcement of covenants is a private matter between covenantees.

21. Unexhibited proposed environmental planning instruments.

The land IS NOT AFFECTED by a resolution of the Council to endorse a planning proposal which has yet to have a gateway determination pursuant to section 56(2) of the Act.

22. Draft development control plans.

The following draft development control plan/s APPLY to the land. The draft plan/s has been exhibited pursuant to Part 3 of the Environmental Planning and Assessment Regulation 2000.

Draft Newcastle Development Control Plan 2011

23. Heritage Act 1977.

The land IS AFFECTED by a listing on the State Heritage Register or an Interim Heritage Order that is in force under the Heritage Act 1977, as follows:

This land is affected by a listing on the State Heritage Register - Newcastle Court House - 9 Church Street, Newcastle.

The Office of Environment and Heritage administers a grants program for items affected by a listing on the State Heritage Register. Contact the Office for further information.

Office of Environment and Heritage
PO Box A290
South Sydney NSW 1232
Phone 02-9995 5000
Facsimile 02-9995 5999

The land IS AFFECTED by a listing on the State Heritage Register or an Interim Heritage Order that is in force under the Heritage Act 1977, as follows:

This land is affected by a listing on the State Heritage Register - SHR No. 1841. GG 22 March 2011 - Newcastle Government House and Domain

The Office of Environment and Heritage administers a grants program for items affected by a listing on the State Heritage Register. Contact the Office for further information.

Office of Environment and Heritage
PO Box A290
South Sydney NSW 1232
Phone 02-9995 5000
Facsimile 02-9995 5999

NOTE: The above advice is provided to the extent that Council has been notified by the Heritage Council of NSW. For up-to-date details, contact the Office of Environment and Heritage, PO Box A290, South Sydney NSW 1232 Ph: (02) 9995 5000.

24. Listing by National Trust of Australia.

The land IS AFFECTED by a listing of the National Trust of Australia (NSW).

NOTE: The above advice is provided to the extent that Council has been notified by the National Trust of Australia (NSW). For up-to-date details, contact the National Trust.

25. Australian Heritage Database.

The land IS AFFECTED by its entry on the Australian Heritage Database (formerly known as the Register of the National Estate).

Item affected: Newcastle Courthouse.

The Commonwealth Department of Sustainability, Environment, Water, Population and Communities administers the non-statutory database and any enquires in this regard should be forwarded directly to:

Department of Sustainability, Environment, Water, Population and Communities
GPO Box 787
Canberra ACT 2601
Phone 02-6274 1111

The land IS AFFECTED by its entry on the Australian Heritage Database (formerly known as the Register of the National Estate). The land is within the Newcastle Conservation Area, which constitutes an entry on the Database. Buildings or other items located on the land are not specifically listed.

The Commonwealth Department of Sustainability, Environment, Water, Population and Communities administers the non-statutory database and any enquires in this regard should be forwarded directly to:

Department of Sustainability, Environment, Water, Population and Communities
GPO Box 787
Canberra ACT 2601
Phone 02-6274 1111

NOTE: The above advice is provided to the extent that Council has been notified by the Department of the Environment, Heritage, Water and the Arts. For up-to-date details, contact the Department of the Environment, Heritage, Water and the Arts, King Edward Terrace, Parkes ACT 2600. Ph (02) 6274 1111.

26. Environment Protection & Biodiversity Conservation Act 1999 (Cth)

Under the (Commonwealth) Environment Protection and Biodiversity Conservation Act 1999, actions which have, may have or are likely to have, a significant impact on a matter of national environmental significance may be taken only with the approval of the Commonwealth Minister for the Environment.

Approval is also required for actions that have a significant effect on the environment of Commonwealth land. These actions may be on Commonwealth land or other land.

This approval is in addition to any approvals under the (NSW) Environmental Planning and Assessment Act 1979 or other NSW legislation.

Matters of national environmental significance are:

- declared World Heritage areas
- declared Ramsar wetlands
- listed threatened species and ecological communities
- listed migratory species
- nuclear actions
- the environment of Commonwealth marine areas.

Locations within the City of Newcastle that are a declared Ramsar wetland include Kooragang Nature Reserve and Shortland Wetlands. Listed threatened species and listed migratory species are known to occur within the City of Newcastle.

27. Other matters

The land is affected by the following:

Newcastle earthquake

Earthquakes occurred in the vicinity of Newcastle on 28th December 1989 and 6 August 1994. Buildings on the land may have suffered damage as a consequence of the earthquakes. Prospective purchasers are advised to make their own enquiries as to whether the property is affected by any damage.

Newcastle Urban Strategy

The Newcastle Urban Strategy was adopted by the Council on 11 March 1998. The contents of the Strategy will be taken into account when the Council determines development applications.

Note: The Strategy is available for purchase from Council's Customer Enquiry Centre.

Contaminated land information

Council is in possession of contaminated land information relating to this property. Appendix A contains a list of this information. You can contact Council's Compliance Services Unit on 02 4974 2525 to arrange to view any documents listed.

Issued without alterations or additions, 07/06/12

for:
PHIL PEARCE
GENERAL MANAGER

Contaminated Land Information **ECM Number**

Council records indicate the following potentially contaminating landuse(s) may have been carried out on the land:

1. engine works
2. fuel/oil storage

Persons relying on the certificate are advised to make their own investigations as to whether the land is affected by elevated concentrations of soil or groundwater contaminants in relation to proposed purchase or use of land.

PLANNING CERTIFICATE

The City of Newcastle

Section 149, Environmental Planning and Assessment Act 1979

To: COFFEY ENVIRONMENTS
19 WARABROOK BOULEVARDE
WARABROOK NSW 2304

Certificate No: 163486
Fees Paid: $133.00
Receipt No(s): 3457131

Your Reference: JAMES MCMAHON ENAUWARA04292AA

Date of Issue: 07/06/2012

The Land: LOT: 1 DP: 709455
58 BOLTON STREET NEWCASTLE 2300

Advice provided on this Certificate:

Advice under section 149(2): see items 1 – 17
Additional advice under section 149 (5): see Items 18 – 27

IMPORTANT: Please read this certificate carefully

This certificate contains important information about the land.

Please check for any item which could be inconsistent with the proposed use or development of the land. If there is anything you do not understand, phone Council's **Customer Enquiry Centre** on (02) 4974 2030, or come in and see us.

The information provided in this certificate relates only to the land described above. If you need information about adjoining or nearby land, or about the Council's development policies for the general area, contact Council's **Customer Enquiry Centre**.

All information provided is correct as at 07/06/2012. However, it's possible for changes to occur within a short time. We recommend that you only rely upon a very recent certificate.

The City of Newcastle

PO Box 489
NEWCASTLE 2300

Phone: (02) 4974 2000
Facsimile: (02) 4974 2222

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Ground floor,
282 King Street
Newcastle NSW 2300

Phone: (02) 4974 2030
Facsimile: (02) 4974 2001

Office hours:
Mondays to Fridays 8.30 am to 5.00 pm

PART 1:

ADVICE PROVIDED UNDER SECTION 149(2)

ATTENTION: The explanatory notes appearing in italic print within Part 1 are provided to assist understanding, but do not form part of the advice provided under section 149(2). These notes shall be taken as being advice provided under section 149(5).

1. Names of relevant planning instruments and DCPs

The following environmental planning instruments, proposed environmental planning instruments and development control plans apply to the land, either in full or in part.

State Environmental Planning Policy No. 6 - Number of Storeys in a Building

State Environmental Planning Policy No. 21 - Caravan Parks

State Environmental Planning Policy No. 22 - Shops and Commercial Premises

State Environmental Planning Policy No. 30 - Intensive Agriculture

State Environmental Planning Policy No. 32 - Urban Consolidation (Redevelopment of Urban Land)

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

State Environmental Planning Policy No. 36 - Manufactured Home Estates

State Environmental Planning Policy No. 44 - Koala Habitat Protection

State Environmental Planning Policy No. 50 - Canal Estate Development

State Environmental Planning Policy No. 55 - Remediation of Land

State Environmental Planning Policy No. 62 - Sustainable Aquaculture

State Environmental Planning Policy No. 64 - Advertising and Signage

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

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

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

State Environmental Planning Policy (Major Development) 2005

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

State Environmental Planning Policy (Temporary Structures) 2007

State Environmental Planning Policy (Infrastructure) 2007

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

State Environmental Planning Policy (Affordable Rental Housing) 2009

State Environmental Planning Policy (Urban Renewal) 2010

Newcastle City Centre Local Environmental Plan 2008

Draft Newcastle Local Environmental Plan 2011

Newcastle Development Control Plan 2005

2. Zoning and land use under relevant LEPs

Newcastle City Centre Local Environmental Plan 2008

Zoning: The LEP identifies the land as being within the following zone(s):

B4 Mixed Use Zone

Note: Refer to www.newcastle.nsw.gov.au or www.legislation.nsw.gov.au web site for LEP instrument and zoning maps.

The following is an extract from the zoning provisions contained in the LEP:

Zone B4 Mixed Use Zone

- **Objectives of zone**
  - To provide a mixture of compatible land uses.
  - To integrate suitable business, office, residential, retail and other development in accessible locations so as to maximise public transport patronage and encourage walking and cycling.
  - To support the higher order Commercial Core zone, while providing for the daily needs of the Mixed Use zone.
  - To encourage a diverse and compatible range of activities including:
    - commercial and retail development, and
    - cultural and entertainment facilities, and
    - tourism, leisure and recreation facilities, and
    - social, education and health services, and
    - higher density residential development.
  - To allow development along the coastline to take advantage of and retain view corridors whilst avoiding a continuous built edge along the waterfront.
  - To create opportunities to improve the public domain and pedestrian links within the Mixed Use zone.
  - To protect and enhance the unique qualities and character of special areas within the Newcastle city centre.
- **Permitted without consent**

  Nil
- **Permitted with consent**

  Any other development not otherwise specified in development permitted without consent and development prohibited.
- **Prohibited**

  Bulky goods premises having a gross floor area greater than 400 square metres; Car parks (other than car parks required by this Plan or public car parks provided by or on behalf of the Council); Caravan parks; Cemeteries; Extractive industries; Hazardous industries; Hazardous storage establishments; Industries (excluding light industries); Liquid fuel depots; Mines; Offensive industries; Offensive storage establishments; Roadside stalls; Warehouses or distribution centres; Waste management facilities.

NOTE: The above advice relates only to restrictions that apply by virtue of the zones indicated. The LEP includes additional provisions that require development consent for particular types of development, or in particular circumstances, irrespective of zoning.

Minimum land dimensions for erection of a dwelling-house: The LEP does not contain any development standards relating to minimum land dimensions for the erection of a dwelling-house.

Critical habitat: The LEP does not identify the land as including or comprising critical habitat.

Heritage conservation area: The land is situated within The Hill Heritage Conservation Area. Refer to the LEP for provisions relating to development within a heritage conservation area.

Heritage items: A heritage item listed in the LEP is situated on the land. Refer to the LEP for provisions relating to development involving a heritage item.

Draft Newcastle Local Environmental Plan 2011

Zoning: The Draft LEP contains amending provisions that have the effect of altering the current zoning of the land. If the draft amendment were to be approved, the land would be within the following zone(s):

B4 Mixed Use Zone

Zone B4 Mixed Use Zone

- **Objectives of zone**
  - To provide a mixture of compatible land uses.
  - To integrate suitable business, office, residential, retail and other development in accessible locations so as to maximise public transport patronage and encourage walking and cycling.
  - To support the Commercial Core zone and Local Centre zone while providing for the daily needs of the Mixed Use zone.
- **Permitted without consent**

  Building identification sign; Business identification sign; Environmental protection works; Home occupations.
- **Permitted with consent**

  Boarding houses; Business premises; Child care centres; Community facilities; Educational establishments; Entertainment facilities; Function centres; Hotel or motel accommodation; Information and education facilities; Office premises; Passenger transport facilities; Recreation facilities (indoor); Registered clubs; Retail premises; Roads; Seniors housing; Shop top housing; Any other development not identified in, permitted without consent or prohibited.
- **Prohibited**

  Agriculture; Airstrips; Air transport facilities; Caravan parks; Cemeteries; Dwelling houses; Dual occupancies; Electricity generating works; Exhibition villages; Extractive industries; Forestry; Freight transport facilities; Hazardous industries; Hazardous storage establishments; Heavy industries; Liquid fuel depots; Mining; Offensive industries; Offensive storage establishments; Rural industries; Rural supplies; Secondary dwellings; Semi detached dwellings; Sewerage systems; Truck depots Vehicle body repair workshops; Waste or resource management facilities; Water supply systems.

Minimum land dimensions for erection of a dwelling-house: The Draft LEP does not contain any development standards relating to minimum land dimensions for the erection of a dwelling-house.

Critical habitat: The Draft LEP does not identify the land as including or comprising critical habitat.

Heritage conservation area: The land is situated within a Heritage Conservation Area. Refer to the Draft LEP for provisions relating to development within a heritage conservation area.

Heritage items: A heritage item listed in the Draft LEP is situated on the land. Refer to the Draft LEP for provisions relating to development involving a heritage item.

3. Complying development

Note Other requirements: *The advice below for all Complying Development Codes, is limited to identifying whether or not the* ***land****, the subject of the certificate, is land on which complying development may be carried out because of Clauses 1.17A(c) & (d) and 1.19 of State Environmental Planning Policy (Exempt and Complying Development Codes) 2008 (the Codes SEPP). There are other requirements under the Codes SEPP that must also be satisfied to be considered as complying development. Clauses 1.17 and 1.18 of the Codes SEPP identify the general requirements to be classified as complying development.*

General Housing Code

Complying development under the General Housing Code may NOT be carried out on this land. The land is affected by:

General land exemptions being land that comprises or, on which there is, an item that is listed on the State Heritage Register under the Heritage Act 1977 or that is subject to an Interim Heritage Order under the Heritage Act 1977.

General land exemptions being land that comprises, or on which there is, a Heritage Item or a Draft Heritage Item.

Specific land exemptions being land within a Heritage Conservation Area or a Draft Heritage Conservation Area unless the development is for a detached outbuilding.

Rural Housing Code

Complying development under the Rural Housing Code may NOT be carried out on this land. The land is affected by:

General land exemptions being land that comprises or, on which there is, an item that is listed on the State Heritage Register under the Heritage Act 1977 or that is subject to an Interim Heritage Order under the Heritage Act 1977: Unless complying development is carried out on the part of the lot to which clause 1.19 of State Environmental Planning Policy (Exempt and Complying Development Codes) 2008 does not apply.

General land exemptions being land that comprises, or on which there is, a Heritage Item or a Draft Heritage Item. Unless complying development is carried out on the part of the lot to which clause 1.19 of State Environmental Planning Policy (Exempt and Complying Development Codes) 2008 does not apply.

Specific land exemptions being land within a Heritage Conservation Area or a Draft Heritage Conservation Area unless the development is for a detached outbuilding. Unless complying development is carried out on the part of the lot to which clause 1.19 of State Environmental Planning Policy (Exempt and Complying Development Codes) 2008 does not apply.

Housing Alterations Code

Complying development under the Housing Alterations Code may NOT be carried out on this land. The land is affected by:

General land exemptions being land that comprises or, on which there is, an item that is listed on the State Heritage Register under the Heritage Act 1977 or that is subject to an Interim Heritage Order under the Heritage Act 1977.

General land exemptions being land that comprises, or on which there is, a Heritage Item or a Draft Heritage Item.

General Development Code

Complying development under the General Development Code may NOT be carried out on this land. The land is affected by:

General land exemptions being land that comprises or, on which there is, an item that is listed on the State Heritage Register under the Heritage Act 1977 or that is subject to an Interim Heritage Order under the Heritage Act 1977.

General land exemptions being land that comprises, or on which there is, a Heritage Item or a Draft Heritage Item.

General Commercial and Industrial Code

Complying development under the General Commercial and Industrial Code may NOT be carried out on this land. The land is affected by:

General land exemptions being land that comprises or, on which there is, an item that is listed on the State Heritage Register under the Heritage Act 1977 or that is subject to an Interim Heritage Order under the Heritage Act 1977.

General land exemptions being land that comprises, or on which there is, a Heritage Item or a Draft Heritage Item.

Subdivision Code

Complying development under the Subdivision Code may NOT be carried out on this land. The land is affected by:

General land exemptions being land that comprises or, on which there is, an item that is listed on the State Heritage Register under the Heritage Act 1977 or that is subject to an Interim Heritage Order under the Heritage Act 1977.

General land exemptions being land that comprises, or on which there is, a Heritage Item or a Draft Heritage Item.

Demolition Code

Complying development under the Demolition Code may NOT be carried out on this land. The land is affected by:

General land exemptions being land that comprises or, on which there is, an item that is listed on the State Heritage Register under the Heritage Act 1977 or that is subject to an Interim Heritage Order under the Heritage Act 1977.

General land exemptions being land that comprises, or on which there is, a Heritage Item or a Draft Heritage Item.

4. Coastal Protection Act 1979

The land IS AFFECTED by the operation of sections 38 or 39 of the Coastal Protection Act 1979.

4A. Certain information relating to beaches and coasts

The land IS NOT AFFECTED by an order under Part 4D of the Coastal Protection Act 1979 in relation to emergency coastal protection works (within the meaning of that Act) on the land (or on public land adjacent to that land), except where the council is satisfied that such an order has been fully complied with.

The Council HAS NOT been notified under section 55X of the Coastal Protection Act 1979 that emergency coastal protection works (within the meaning of that Act) have been placed on the land (or on public land adjacent to that land).

4B. Annual charges under Local Government Act 1993 for coastal protection services that relate to existing coastal protection works

The land IS NOT subject to an agreement for annual charges under section 496B of the Local Government Act 1993 for coastal protection services (within the meaning of section 553B of that Act).

5. Mine Subsidence Compensation Act 1961

The land IS NOT within a proclaimed Mine Subsidence District under the Mine Subsidence Compensation Act 1961.

NOTE: The above advice is provided to the extent that Council has been notified by the Mine Subsidence Board. For up-to-date details, contact the Mine Subsidence Board, 117 Bull Street, Newcastle West. Ph (02) 49084300.

6. Road widening or realignment

NOTE: The Roads and Maritime Services (RMS) may have proposals that are not referred to in this item. For advice about affectation by RMS proposals, contact the Roads and Maritime Services, Locked Mail Bag 30 Newcastle 2300. Ph: 131 782.

The land IS NOT AFFECTED by any road widening or road realignment under Division 2 of Part 3 of the Roads Act 1993.

The land IS NOT AFFECTED by any road widening or road realignment under an environmental planning instrument.

The land IS NOT AFFECTED by any road widening or road realignment under a resolution of the Council.

7. Policies on hazard risk restrictions

Except as stated below, the land is not affected by a policy referred to in Item 7 of Schedule 4 of the Environmental Planning and Assessment Regulation 2000 that restricts the development of the land because of the likelihood of land slip, bushfire, tidal inundation, subsidence, acid sulphate soils or any other risk (other than flooding).

Potential acid sulphate soils: Works carried out on the land must be undertaken in accordance with the LEP.

Land Contamination: Council has adopted a policy of restricting development or imposing conditions on properties affected by Land Contamination. Refer to the Newcastle Development Control Plan 2005, which may be inspected or purchased at Council's Customer Enquiry Centre.

NOTE: The absence of a policy to restrict development of the land because of the likelihood of a particular risk does not imply that the land is free from that risk. The Council considers the likelihood of natural and man-made risks when determining development applications under section 79C of the Environmental Planning and Assessment Act 1979. Detailed investigation carried out in conjunction with the preparation or assessment of a development application may result in the Council either refusing development consent or imposing conditions of consent on the basis of risks that are not identified above.

7A. Flood related development controls information

Council's current information indicates the property is not flood prone land as defined in the Floodplain Development Manual: the management of flood liable land, April 2005 published by the NSW Government.

8. Land reserved for acquisition

The land is not identified for acquisition by a public authority (as referred to in section 27 of the Act) by any environmental planning instrument or proposed environmental planning instrument applying to the land.

9. Contributions plans

The following contribution plan/s apply to the land.

Section 94A Development Contributions Plan 2009 - Updated March 2011:

The Plan specifies section 94A contributions that may be imposed as a condition of development consent.

NOTE: Contributions plans are available on Council's website or may be inspected or purchased at Council's Customer Enquiry Centre.

9A. Biodiversity certified land

The land IS NOT biodiversity certified land within the meaning of Part 7AA of the Threatened Species Conservation Act 1995.

10. Biobanking agreements

The land IS NOT land to which a biobanking agreement under Part 7A of the Threatened Species Conservation Act 1995 relates.

11. Bush fire prone land

The land IS NOT bush fire prone land for the purposes of the Environmental Planning and Assessment Act 1979.

12. Property vegetation plans

Not applicable. The Native Vegetation Act 2003 does not apply to the Newcastle local government area.

13. Orders under Trees (Disputes Between Neighbours) Act 2006

Council HAS NOT been notified that an order has been made under the Trees (Disputes between Neighbours) Act 2006 to carry out work in relation to a tree on the land.

14. Directions under Part 3A

The land IS NOT AFFECTED by a direction by the Minister in force under section 75P (2) (c1) of the Act.

15. Site compatibility certificates and conditions for seniors housing

(a) The land IS NOT AFFECTED by a current site compatibility certificate (of which the Council is aware) issued under the State Environmental Planning Policy (Housing for Seniors and People with a Disability) 2004.

(b) The land IS NOT AFFECTED by any terms of kind referred to in clause 18(2) of the State Environmental Planning Policy (Housing for Seniors or People with a Disability) 2004, that have been imposed as a condition of consent to a development application granted after 11 October, 2007 in respect of the land.

16. Site compatibility certificates for infrastructure

The land IS NOT AFFECTED by a valid site compatibility certificate (of which the Council is aware) issued under the State Environmental Planning Policy (Infrastructure) 2007.

17. Site compatibility certificates and conditions for affordable rental housing

The land IS NOT AFFECTED by a valid site compatibility certificate (of which the Council is aware) issued under the State Environmental Planning Policy (Affordable Rental Housing) 2009.

Note: *There are no matters prescribed by section 59(2) of the Contaminated Land Management Act 1997 to be disclosed, however if other contamination information is held by the Council this may be provided under a section 149(5) certificate.*

PART 2:

ADVICE PROVIDED UNDER SECTION 149(5)

ATTENTION: Section 149(6) of the Act states that a Council shall not incur any liability in respect of advice provided in good faith pursuant to sub-section 149(5).

18. Outstanding Notices and Orders issued by Council.

Council records indicate that this premise IS NOT AFFECTED by an outstanding notice or order (excluding the notices or orders mentioned in the note below).

NOTE: The Council has not inspected the premises immediately prior to the issue of this certificate. It is possible that the premises are affected by matters of which the Council is unaware.

NOTE: This Certificate does not include any advice regarding outstanding notices or orders issued under the Environmental Planning and Assessment Act 1979 or the Local Government Act 1993. To obtain advice regarding these matters, you should lodge an application for a Certificate as to Outstanding Notices and Orders (accompanied by the appropriate fee). For further information, please contact the Customer Enquiry Centre on (02) 4974 2030.

19. Further consent requirements under the LEP

Attention is drawn to the following provisions of the Newcastle City Centre Local Environmental Plan 2008 that affect the need to obtain consent before carrying out of development on the land. These provisions are in addition to those required to be disclosed at Item 2 of this Certificate.

Clause 16 Subdivision - consent requirements.

Clause 17: Temporary use of land.

Clause 18 Exempt development.

Clause 19: Complying development.

Clause 44: Excavation and filling of land.

Clause 45: Preservation of trees or vegetation.

Clause 48: Development of group homes.

Clause 49: Crown development and public utilities.

Clause 50: Council development.

Existing uses: 'Existing uses' (as defined in section 106 of the Environmental Planning and Assessment Act 1979) may in specified circumstances, be enlarged, expanded, intensified, altered, extended, rebuilt or changed with development consent. See Part 5 of the Environmental Planning and Assessment Regulation 2000. These provisions are deemed by section 108(2) of the Act to be incorporated in the Newcastle City Centre Local Environmental Plan 2008.

NOTE: There are other provisions within the Newcastle City Centre Local Environmental Plan 2008 that affect the carrying out of development. If you propose to carry out development on the land, you should consider the need to obtain further professional advice regarding the full effect of the Newcastle City Centre Local Environment Plan 2008 and other environmental planning instruments.

20. Suspension of covenants.

Under clause 9 of the Newcastle City Centre Local Environmental Plan 2008, any covenant, agreement or like instrument, which is contrary to development that is permitted and for which consent has been granted under the Plan, does not apply to the extent to which the covenant, agreement or instrument would prevent or restrict the development from being undertaken in accordance with the consent.

NOTE: Covenants that burden neighbouring land (and which benefit the subject land) may also have been suspended. In determining a development application, the Council is not required to take into consideration whether the proposed development would comply with any applicable covenant. The Council holds no records on the existence of covenants, nor does it carry out a title search when assessing applications. The enforcement of covenants is a private matter between covenantees.

21. Unexhibited proposed environmental planning instruments.

The land IS NOT AFFECTED by a resolution of the Council to endorse a planning proposal which has yet to have a gateway determination pursuant to section 56(2) of the Act.

22. Draft development control plans.

The following draft development control plan/s APPLY to the land. The draft plan/s has been exhibited pursuant to Part 3 of the Environmental Planning and Assessment Regulation 2000.

Draft Newcastle Development Control Plan 2011

23. Heritage Act 1977.

The land IS AFFECTED by a listing on the State Heritage Register or an Interim Heritage Order that is in force under the Heritage Act 1977, as follows:

This land is affected by a listing on the State Heritage Register - Newcastle Annexe - Church Street, Newcastle.

The Office of Environment and Heritage administers a grants program for items affected by a listing on the State Heritage Register. Contact the Office for further information.

Office of Environment and Heritage
PO Box A290
South Sydney NSW 1232
Phone 02-9995 5000
Facsimile 02-9995 5999

NOTE: The above advice is provided to the extent that Council has been notified by the Heritage Council of NSW. For up-to-date details, contact the Office of Environment and Heritage, PO Box A290, South Sydney NSW 1232 Ph: (02) 9995 5000.

24. Listing by National Trust of Australia.

The land IS AFFECTED by a listing of the National Trust of Australia (NSW).

NOTE: The above advice is provided to the extent that Council has been notified by the National Trust of Australia (NSW). For up-to-date details, contact the National Trust.

25. Australian Heritage Database.

The land IS AFFECTED by its entry on the Australian Heritage Database (formerly known as the Register of the National Estate).

Item affected: Former Newcastle East Public School.

The Commonwealth Department of Sustainability, Environment, Water, Population and Communities administers the non-statutory database and any enquires in this regard should be forwarded directly to:

Department of Sustainability, Environment, Water, Population and Communities
GPO Box 787
Canberra ACT 2601
Phone 02-6274 1111

The land IS AFFECTED by its entry on the Australian Heritage Database (formerly known as the Register of the National Estate). The land is within the Newcastle Conservation Area, which constitutes an entry on the Database. Buildings or other items located on the land are not specifically listed.

The Commonwealth Department of Sustainability, Environment, Water, Population and Communities administers the non-statutory database and any enquires in this regard should be forwarded directly to:

Department of Sustainability, Environment, Water, Population and Communities
GPO Box 787
Canberra ACT 2601
Phone 02-6274 1111

NOTE: The above advice is provided to the extent that Council has been notified by the Department of the Environment, Heritage, Water and the Arts. For up-to-date details, contact the Department of the Environment, Heritage, Water and the Arts, King Edward Terrace, Parkes ACT 2600. Ph (02) 6274 1111.

26. Environment Protection & Biodiversity Conservation Act 1999 (Cth)

Under the (Commonwealth) Environment Protection and Biodiversity Conservation Act 1999, actions which have, may have or are likely to have, a significant impact on a matter of national environmental significance may be taken only with the approval of the Commonwealth Minister for the Environment.

Approval is also required for actions that have a significant effect on the environment of Commonwealth land. These actions may be on Commonwealth land or other land.

This approval is in addition to any approvals under the (NSW) Environmental Planning and Assessment Act 1979 or other NSW legislation.

Matters of national environmental significance are:

- declared World Heritage areas
- declared Ramsar wetlands
- listed threatened species and ecological communities
- listed migratory species
- nuclear actions
- the environment of Commonwealth marine areas.

Locations within the City of Newcastle that are a declared Ramsar wetland include Kooragang Nature Reserve and Shortland Wetlands. Listed threatened species and listed migratory species are known to occur within the City of Newcastle.

27. Other matters

The land is affected by the following:

Newcastle earthquake

Earthquakes occurred in the vicinity of Newcastle on 28th December 1989 and 6 August 1994. Buildings on the land may have suffered damage as a consequence of the earthquakes. Prospective purchasers are advised to make their own enquiries as to whether the property is affected by any damage.

Newcastle Urban Strategy

The Newcastle Urban Strategy was adopted by the Council on 11 March 1998. The contents of the Strategy will be taken into account when the Council determines development applications.

Note: The Strategy is available for purchase from Council's Customer Enquiry Centre.

Parking permit policy

This property is within the Permit Exclusion Area of the City Centre Parking Strategy adopted by Council on 25 June 2002 and updated on 16 May 2005. Residents within the Permit Exclusion Area are not eligible for resident parking permit stickers. For further information please contact Parking Services Coordinator Michael Heather on 4974 5008.

Issued without alterations or additions, 07/06/12

for:
PHIL PEARCE
GENERAL MANAGER

Appendix F
NSW OEH Records

Rate this site

Search results

Your search for: LGA: Newcastle City Council

Matched relating to

Notice Type: Declaration of Significantly Contaminated Land

Suburb	Address	Site Name
Hamilton	116 Tudor Street	Hamilton - former service station
Hamilton	5 Chatham Street	Shell Depot
Hamilton North	Corner Clyde and Chatham Street	AGL Hamilton North
Hamilton North	56 Clyde Street	Former Black and Decker Site
Hamilton North	54 Clyde Street	Former ELMA Factory
Kooragang	15 Greenleaf Road	Orica - Kooragang Island
Mayfield	Industrial Drive	BHP Closure Site / Adjacent Hunter River Sediments
Mayfield	Industrial Drive	BHP Supply Area
Mayfield	Woodstock Street	Koppers Coal Tar Products Mayfield
Mayfield	Industrial Drive	OneSteel Site
Mayfield	Industrial Drive	Steel River Industrial Estate
Shortland	1, 2, 28 Astra Street	Astra Street Landfill
Tighes Hill	110 Elizabeth Street	Former Mobil Terminal

Page 1 of 1

Newcastle Court House

Item

Name of Item: Newcastle Court House
Type of Item: Built
Group/Collection: Law Enforcement
Category: Courthouse
Location: Lat:151.78217605 Long:-32.92949126
Primary Address: 9 Church Street, Newcastle, NSW 2300
Local Govt. Area: Newcastle

Property Description:

Lot/Volume Code	Lot/Volume Number	Section Number	Plan/Folio Code	Plan/Folio Number
PART LOT	7002	-	DP	1077042

All Addresses

Street Address	Suburb/Town	LGA	Parish	County	Type
9 Church Street	Newcastle	Newcastle	Newcastle	Northumberland	Primary

Owner/s

Organisation Name	Owner Category	Date Ownership Updated
Attorney General's Department	State Government	28 Jan 99

Statement of Significance

The Newcastle Court House is a fine and impressive building sited prominently in Bolton Street, Newcastle. Designed in the Victorian Italianate style it remains substantially intact and a grand example of late 19th century civic architecture within the town. The building has a lengthy association with the provision of justice in the district.

Note: There are incomplete details for a number of items listed in NSW. The Heritage Branch intends to develop or upgrade statements of significance and other information for these items as resources become available.

Description

Designer/Maker: James Barnet; Walter Liberty Vernon
Builder/Maker: C Coghill
Construction Years: 1890 - 1892
Physical Description: The Newcastle Court House is a grand Victorian Italianate building which provides an impressive terminating focal point to Bolton Street. The design is symmetrical comprising a large arched tower

	entrance to the central Court Room with a recessed portico decorated with classically derived moulded details. This building is flanked on either side with single storey wing buildings which also have impressive decorative mouldings with raised pediments and pilasters dividing the window openings. The Newcastle Court House is constructed in rendered brick with applied cement moulded details. Architectural style: Victorian Italianate. Exterior: Rendered brick Interior: Joinery
Physical Condition and/or Archaeological Potential:	Good condition **Date Condition Updated:** 30 Oct 00
Modifications and Dates:	The court house of 1890-2 was extended to the east for offices and court rooms. Two trial courts were later added to the west of the building. There were extensive alterations and additions carried out to the 1892 and the 1949 buildings in 1982. Repairs following the 1989 earthquake were undertaken in 1991. A new court house is under construction at the Civic Place and it is proposed to vacate this court house by 2015 (Newcastle Herald, 11/1/2011)
Current Use:	courthouse
Former Use:	courthouse

History

Historical Notes:

Historical period; 1876 - 1900
The Newcastle Court House was designed by the Colonial Architect, J Barnet and construction was supervised by his successor, Walter Liberty Vernon. The Court House was constructed by the contractor C Coghill and completed in 1892 at a cost of 14, 798/12/2 pounds. This building replaced an earlier Court House built in 1841 which after several additions had outgrown its usefulness.

A new court house is under construction at the Civic Place and it is proposed to vacate this court house by 2015. New uses for the existing court house could include a boutique hotel or residential development (Newcastle Herald, 11/1/2011)

Historic Themes

Australian Theme (abbrev)	New South Wales Theme	Local Theme
4. Settlement - Building settlements, towns and cities	Land tenure - Activities and processes for identifying forms of ownership and occupancy of land and water, both Aboriginal and non-Aboriginal	Illustrates early ownership and occupancy of land within the Hunter Region -
4. Settlement - Building settlements, towns and cities	Towns, suburbs and villages - Activities associated with creating, planning and managing urban functions, landscapes and lifestyles in towns, suburbs and villages	Decentralising metropolitan activities to provincial cities -
4. Settlement - Building settlements, towns and cities	Towns, suburbs and villages - Activities associated with creating, planning and managing urban functions, landscapes and lifestyles in towns, suburbs and villages	Planning relationships between key structures and town plans -
4. Settlement - Building settlements, towns and cities	Towns, suburbs and villages - Activities associated with creating, planning and managing urban functions, landscapes and lifestyles in towns, suburbs and villages	Planned towns serving a specific industry -
4. Settlement - Building settlements, towns	Towns, suburbs and villages - Activities associated with creating, planning and managing urban functions, landscapes and lifestyles in towns, suburbs and villages	Developing civic infrastructure and amenity -

and cities		
4. Settlement - Building settlements, towns and cities	Towns, suburbs and villages - Activities associated with creating, planning and managing urban functions, landscapes and lifestyles in towns, suburbs and villages	Creating landmark structures and places in regional settings -
4. Settlement - Building settlements, towns and cities	Towns, suburbs and villages - Activities associated with creating, planning and managing urban functions, landscapes and lifestyles in towns, suburbs and villages	Indicators of early town planning and the disposition of people within the emerging settlement -
7. Governing - Governing	Law and order - Activities associated with maintaining, promoting and implementing criminal and civil law and legal processes	Dispensing justice -
7. Governing - Governing	Law and order - Activities associated with maintaining, promoting and implementing criminal and civil law and legal processes	Policing and enforcing the law -
8. Culture - Developing cultural institutions and ways of life	Creative endeavour - Activities associated with the production and performance of literary, artistic, architectural and other imaginative, interpretive or inventive works; and/or associated with the production and expression of cultural phenomena; and/or environments that have inspired such creative activities.	Architectural styles and periods - Victorian Italianate -
9. Phases of Life - Marking the phases of life	Persons - Activities of, and associations with, identifiable individuals, families and communal groups	Associations with James Barnet, architect -

Assessment Criteria

Items are assessed against the **State Heritage Register (SHR) Criteria** to determine the level of significance. Refer to the Listings below for the level of statutory protection.

Recommendations

Management Category	Description	Date Updated
Recommended Management	Produce a Conservation Management Plan (CMP)	
Recommended Management	Prepare a maintenance schedule or guidelines	
Recommended Management	Carry out interpretation, promotion and/or education	

Procedures / Exemptions

Section of Act	Description	Title	Comments	Action Date
57(2)	Exemption to allow work	Standard Exemptions	SCHEDULE OF STANDARD EXEMPTIONS HERITAGE ACT 1977 Notice of Order Under Section 57 (2) of the Heritage Act 1977 I, the Minister for Planning, pursuant to subsection 57 (2) of the Heritage Act 1977, on the recommendation of the Heritage Council of New South Wales, do by this Order: 1. revoke the Schedule of Exemptions to subsection 57 (1) of the Heritage Act made under subsection 57(2) and published in the Government Gazette on 22 February 2008; and 2. grant standard exemptions from subsection 57(1) of the Heritage Act 1977, described in the Schedule attached. FRANK SARTOR	Sep 5 2008

			Minister for Planning Sydney, 11 July 2008 To view the schedule click on the Standard Exemptions for Works Requiring Heritage Council Approval link below.	

Standard Exemptions for Works Requiring Heritage Council Approval

Listings

Heritage Listing	Listing Title	Listing Number	Gazette Date	Gazette Number	Gazette Page
Heritage Act - State Heritage Register		00796	02 Apr 99	27	1546
Heritage Act - s.170 NSW State agency heritage register					
Local Environmental Plan			03 Jul 92		
Register of the National Estate			21 Mar 78		

References, Internet links & Images

None

Note: Internet links may be to web pages, documents or images.







(Click on Thumbnail for Full Size Image and Image Details)

Data Source

The information for this entry comes from the following source:

Name: Heritage Office

Database Number: 5045560

File Number: S95/00338/1

Every effort has been made to ensure that information contained in the State Heritage Inventory is correct. If you find any errors or omissions please send your comments to the **Database Manager**.

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Newcastle Annexe

Item

Name of Item: Newcastle Annexe
Type of Item: Built
Group/Collection: Law Enforcement
Category: Courthouse
Location: Lat:151.78217605 Long:-32.92949126
Primary Address: Church Street, Newcastle, NSW 2300
Local Govt. Area: Newcastle

Property Description:

Lot/Volume Code	Lot/Volume Number	Section Number	Plan/Folio Code	Plan/Folio Number
LOT	1	-	DP	709455

All Addresses

Street Address	Suburb/Town	LGA	Parish	County	Type
Church Street	Newcastle	Newcastle	Newcastle	Northumberland	Primary
Bolton Street	Newcastle	Newcastle	Newcastle	Northumberland	Alternate

Owner/s

Organisation Name	Owner Category	Date Ownership Updated
Attorney General's Department	State Government	28 Jan 99

Statement of Significance

The Newcastle Annexe is of considerable historical, social and townscape significance being reputably the oldest continuously existing school in Australia until its closure in 1980. The substantial Federation Free style designed building is a good example of Vernon's work. It is prominently located on a corner site within the centre of Newcastle.

Note: There are incomplete details for a number of items listed in NSW. The Heritage Branch intends to develop or upgrade statements of significance and other information for these items as resources become available.

Description

Designer/Maker: WL Vernon
Construction Years: 1908 - 1912
Physical Description: The Newcastle Annexe is designed in Vernon's typical federation Free Classical adopted school style. The building was designed as a substantial school classroom block with a hipped roof dominated by several tall chimneys. The bolton Street entrance is marked by a small gable roofed

projecting entrance bay which features a stone capped parapet.

The Newcastle annexe is construced in face brick and features constrasting sandstone trim, abutments and string coursing. Original slate roofing material has been replaced with tiles.

Architectural style: Federation
Exterior; Brick, Sandstone, Tiles

Physical Condition and/or Archaeological Potential: Good condition

Modifications and Dates: Roof replaced with tiles c1970.

History

Historical Notes: The Newcastle Annexe, originally constructed as the Newcastle East Public School was designed by the Government Architect WL Vernon and built between 1908 - 12. A school has existed on or near this site since 1816 and this school is recognised as being the oldest continuously existing school in Australia before its closure in 1980 when the Education Department vacated this property and Courts took over.
Historical Period: 1901 - 1925

Historic Themes

Australian Theme (abbrev)	New South Wales Theme	Local Theme
6. Educating - Educating	Education - Activities associated with teaching and learning by children and adults, formally and informally.	(none) -
7. Governing - Governing	Law and order - Activities associated with maintaining, promoting and implementing criminal and civil law and legal processes	(none) -

Assessment Criteria Items are assessed against the **State Heritage Register (SHR) Criteria** to determine the level of significance. Refer to the Listings below for the level of statutory protection.

Procedures / Exemptions

Section of Act	Description	Title	Comments	Action Date
57(2)	Exemption to allow work	Standard Exemptions	SCHEDULE OF STANDARD EXEMPTIONS HERITAGE ACT 1977 Notice of Order Under Section 57 (2) of the Heritage Act 1977 I, the Minister for Planning, pursuant to subsection 57 (2) of the Heritage Act 1977, on the recommendation of the Heritage Council of New South Wales, do by this Order: 1. revoke the Schedule of Exemptions to subsection 57 (1) of the Heritage Act made under subsection 57(2) and published in the Government Gazette on 22 February 2008; and 2. grant standard exemptions from subsection 57(1) of the Heritage Act 1977, described in the Schedule	Sep 5 2008

			attached. FRANK SARTOR Minister for Planning Sydney, 11 July 2008 To view the schedule click on the Standard Exemptions for Works Requiring Heritage Council Approval link below.	

Standard Exemptions for Works Requiring Heritage Council Approval

Listings

Heritage Listing	Listing Title	Listing Number	Gazette Date	Gazette Number	Gazette Page
Heritage Act - State Heritage Register		00795	02 Apr 99	27	1546
Heritage Act - s.170 NSW State agency heritage register					

References, Internet links & Images

None

Note: Internet links may be to web pages, documents or images.



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Data Source

The information for this entry comes from the following source:

Name: Heritage Office

Database Number: 5011939

File Number: S95/00338/1

Every effort has been made to ensure that information contained in the State Heritage Inventory is correct. If you find any errors or omissions please send your comments to the **Database Manager**.

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18th October 2016

G0038:AXP
55499 Church St Newcastle DSI LOR

Dear Sir/Madam,

9 Church St, Newcastle, NSW– RELIANCE LETTER: Detailed Site Investigation

1. INTRODUCTION

1.1. In connection with the proposed sale (**Sale**) by Government Property NSW (**Vendor**) of 9 Church St, Newcastle, NSW 2300 (**property**), the Vendor requested Prensa Pty Ltd (Prensa), as its environmental consultant, to undertake a Detailed Site Investigation (DSI). As part of that DSI, Prensa has produced a DSI Report (Ref: G0038:RBB:55499 Church St, Newcastle DSI, October 2016) (**Environmental Report**). The addressee is the purchaser of the property who intends to acquire it from the Vendor (**Addressee**).

1.2. As consultant to the Vendor and solely on the instruction of the Vendor, we consent to the provision of the Environmental Report to the Addressee (as a purchaser of the property) on a reliance basis in accordance with the terms set out in this letter. All of the terms of the Report are deemed to be incorporated by reference into this letter and form part of the terms agreed with the Addressee and apply to the Addressee in the same manner as they apply to the Vendor.

1.3. Where there is a conflict between the terms of this letter and those set out in the Environmental Report, the terms of this letter prevail.

1.4. The Addressee acknowledges that the information contained in and the conclusions of the Environmental Report apply only to the designated property as it existed at the time of the work undertaken by Prensa in accordance with the applicable guidelines at that time. The Addressee also acknowledges that the Reports (and the information, comments, conclusions and opinions contained in them) are strictly limited to the matters stated in them and do not extend by implication to any other matter.

1.5. No other party may rely on the Environmental Report without our prior written consent.

1.6. The only purpose for which the Addressee may use the Environmental Report is in connection with its purchase of the property and the purchaser is not entitled to put the report to any other use or purpose.

2. ACCEPTANCE

2.1. We will only provide the Addressee with a copy of the Environmental Report strictly on the understanding and condition that the Addressee acknowledges reading and understanding, and accepts, the terms of this letter by providing us with a signed copy of this letter. However, any retention of, and any review of, the Environmental Report by the Addressee will constitute deemed acceptance of the terms of this letter and the terms of our engagement with the Vendor.

3. CONFIDENTIALITY AND NON-DISCLOSURE

3.1. There are matters referred to in the Environmental Report which are confidential to the Vendor. The Addressee undertakes that it will not replicate, reproduce, refer to, or quote from the whole or any part of the Environmental Report in any way, including in any prospectus, registration statement, offering circular, public filing, loan or other agreement or document without our prior written consent (which we may withhold in our absolute discretion).

3.2. This letter and the Environmental Report are confidential and must not be disclosed to any third party without our prior written consent and the Vendor's prior written consent, with the exception of:

3.2.1. the provision of the Environmental Report to those of the Addressee's directors, officers, employees, affiliates, rating agencies and professional advisers who reasonably require it and who must be informed by the Addressee of the confidential nature of the Reports and the terms of this letter and agree to observe those terms (each a **Specified Person**); or

3.2.2. disclosure required by law.

4. NO WAIVER OF LEGAL PROFESSIONAL PRIVILEGE

4.1. The Addressee acknowledges and agrees that:

4.1.1. the Vendor may be entitled to claim legal professional privilege with respect to some or all of the information contained or referred to in the Environmental Report;

4.1.2. disclosure of the Environmental Report to the Addressee (and any Specified Person), does not constitute a waiver by the Vendor of any of its rights to legal professional privilege;

4.1.3. the parties intend that any rights and obligations conferred through legal professional privilege remain intact should any person become subject to any actual or threatened proceedings in relation to any of the information contained or referred to in the Environmental Report; and

4.1.4. it will not Claim or contend, in proceedings involving either the Addressee or the Vendor, that the Vendor waived the protections of the legal professional privilege as a result of the disclosure of the Environmental Report to the Addressee.

5. GENERAL

5.1. This letter may be signed in counterparts and all counterparts taken together constitute one document.

5.2. The Addressee is not permitted to charge, declare a trust in respect of or transfer any rights or obligations arising out of or in connection with this letter.

5.3. Capitalised words not defined in this letter have the same meaning given in the consultancy agreement between the Vendor and Prensa.

6. GOVERNING LAW AND JURISDICTION

6.1. This letter is governed by and must be construed in accordance with the law of New South Wales.

6.2. The courts of New South Wales have exclusive jurisdiction to hear and decide any suit, action or proceeding, and to settle any disputes, which may arise in connection with this letter or the Environmental Report and, for these purposes, the Addressee agrees to submit to the jurisdiction of the courts of New South Wales.

Please confirm your agreement to these terms by signing, dating and returning to us a copy of this letter.

Yours faithfully,

Anthony Plumb
Managing Consultant, Prensa
Prensa Pty Ltd
+61 (02) 8968 2500

In consideration of and as a condition of the Addressee's receipt of and reliance on the Environmental Report, the terms of this letter are acknowledged, accepted and agreed.

Signed for and on behalf of the Addressee referred to above.

By

Signature: _____

Print Name: _____

Capacity: _____

Date: _____

Detailed Site Investigation
9 Church St, Newcastle, NSW 2300

Government Property NSW

October 2016

Level 2, 115 Military Road

Neutral Bay NSW 2089

T: 02 8968 2500

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Job No: 55499: Client No: G0038

Executive Summary

Prensa Pty Ltd (Prensa) was engaged by Government Property NSW (GPNSW) to undertake a Detailed Site Investigation (DSI) at 9 Church Street, Newcastle NSW 2300 (the site).

A Phase 1 Environmental Site Assessment (ESA) report was previously prepared for the site by Coffey Environments (Coffey 2012) to facilitate divestment. The Phase 1 ESA concluded that there was a low to medium likelihood of soil contamination at the site relating to the following areas of environmental concern (AEC):

- Weathering and or maintenance/demolition of hazardous building materials;
- Potential use of fill the sites site; and
- Potential use of pesticides and insecticides.

The objective of the DSI was to assess the contamination status of soil associated with previously identified AEC, in light of a proposed divestment of the site under current land zoning of 'B4 Mixed Use'.

It is understood that the DSI was required to ensure GPNSW fulfils its obligations of disclosure in the sale of the property with this report to form part of the Contract for Sale.

Ten (10) boreholes (BH1 – BH10) were progressed across accessible areas of the site using a hand auger. Selected soil samples were submitted for analysis of contaminants of potential concern (CoPC) at National Association of Testing Authorities (NATA) accredited laboratories.

Fill material was encountered across the site to depths generally ranging from surface to 1.2 m below ground level (BGL), with the exception of BH10, where fill material was encountered to 3.3m BGL. Borehole locations are shown in Figure 2 in the 'Figures' Section of this report.

Groundwater was not encountered during the fieldwork. Visual or olfactory evidence of soil contamination, including suspected asbestos-containing materials (ACM), were not noted during sampling.

Selected soil samples collected from fill across the site (excluding the garden beds) were analysed at NATA accredited laboratories for CoPC.

A review of analytical results indicated that concentrations of CoPC were less than the adopted assessment criteria for current commercial Industrial and potential high-density residential land use with the exception of:

- Commercial industrial land use:
  - Benzo(a)pyrene which was detected in three (3) soil samples greater than the adopted ecological screening level (ESL).
- High density residential land use:
  - Benzo(a)pyrene which was detected in three (3) soil samples greater than the adopted ESL;
  - benzo(a)pyrene TEQ calc(PQL) which was detected in three (3) soil samples greater than the adopted health investigation level (HIL);
  - TRH (C16-C34 fraction) which was detected in one (1) soil sample greater than the adopted ESL; and
  - Lead which was detected in one (1) soil sample greater than the adopted HIL and ecological investigation level (EIL).

Based on the analytical results and field observations made during the field work the presence of benzo(a)pyrene was likely associated with the presence of bitumen fragments in the fill. Australian Standard Leaching Procedure (ASLP) was conducted on two (2) of the soil samples to determine leachable concentrations of benzo(a)pyrene; the results of which indicated that the leaching potential of benzo(a)pyrene was low.

Ecological criteria were exceeded with TRH (C_{16}-C_{34} fraction) and lead exceeding the ESL and EIL respectively for a more conservative high density residential land use. Based on the urban setting of the site and soil conditions encountered, it is considered unlikely that soil processes, soil biota (flora and fauna) and terrestrial invertebrates and vertebrates would be materially affected, given the current zoning of the site. As such the potential risk to significant ecological receptors is considered to be low.

The lead concentration in BH5 (0.1 m BGL) also exceeded the HIL for high density residential land use. The concentration of lead detected above the assessment criteria was statistically an outlier. The sample was collected in close proximity to the northern façade of the old court house from shallow depth (0.1 m BGL). As such the exceedance of lead at this location could be attributed to degradation of lead-based paint onto surface soils rather than being representative of the fill across the site.

The concentrations of TRH, benzo(a)pyrene and lead would not preclude an ongoing commercial use of the site. However should the site be redeveloped for a more sensitive land use such as high-density residential, further assessment, management and/or remediation of fill across the site is recommended in open areas and beneath slabs following any proposed demolition.

Based on the fieldwork undertaken and analytical results, Prensa concludes that the potential risk to human health and the environment, in light of the proposed divestment of the site under current land-zoning, is low-moderate given the potential for future high-density residential land use at site.

Statement of Limitations

This document has been prepared in response to specific instructions from Government Property NSW to whom the report has been addressed. The work has been undertaken with the usual care and thoroughness of the consulting profession. The work is based on generally accepted standards, practices of the time the work was undertaken. No other warranty, expressed or implied, is made as to the professional advice included in this report.

The report has been prepared for the use by Government Property NSW and the use of this report by other parties may lead to misinterpretation of the issues contained in this report. To avoid misuse of this report, Prensa advise that the report should only be relied upon by Government Property NSW and those parties expressly referred to in the introduction of the report. The report should not be separated or reproduced in part and Prensa should be retained to assist other professionals who may be affected by the issues addressed in this report to ensure the report is not misused in any way.

Prensa is not a professional quantity surveyor (QS) organisation. Any areas, volumes, tonnages or any other quantities noted in this report are indicative estimates only. The services of a professional QS organisation should be engaged if quantities are to be relied upon.

Sampling Risks

Prensa acknowledges that any scientifically designed sampling program cannot guarantee all sub-surface contamination will be detected. Sampling programs are designed based on known or suspected site conditions and the extent and nature of the sampling and analytical programs will be designed to achieve a level of confidence in the detection of known or suspected subsurface contamination. The sampling and analytical programs adopted will be those that maximises the probability of identifying contaminants. Government Property NSW must therefore accept a level of risk associated with the possible failure to detect certain sub-surface contamination where the sampling and analytical program misses such contamination. Prensa will detail the nature and extent of the sampling and analytical program used in the investigation in the investigation report provided.

Environmental site assessments identify actual subsurface conditions only at those points where samples are taken and when they are taken. Soil contamination can be expected to be non-homogeneous across the stratified soils where present on site, and the concentrations of contaminants may vary significantly within areas where contamination has occurred. In addition, the migration of contaminants through groundwater and soils may follow preferential pathways, such as areas of higher permeability, which may not be intersected by sampling events. Subsurface conditions including contaminant concentrations can also change over time. For this reason, the results should be regarded as representative only.

Government Property NSW recognises that sampling of subsurface conditions may result in some cross contamination. All care will be taken and the industry standards used to minimise the risk of such cross contamination occurring, however, Government Property NSW recognises this risk and waives any claims against Prensa and agrees to defend, indemnify and hold Prensa harmless from any claims or liability for injury or loss which may arise as a result of alleged cross contamination caused by sampling.

Reliance on Information Provided by Others

Prensa notes that where information has been provided by other parties in order for the works to be undertaken, Prensa cannot guarantee the accuracy or completeness of this information. Government Property NSW therefore waives any claim against the company and agrees to indemnify Prensa for any loss, claim or liability arising from inaccuracies or omissions in information provided to Prensa by third parties. No indications were found during our investigations that information contained in this report, as provided to Prensa, is false.

Recommendations for Further Study

The industry recognised methods used in undertaking the works may dictate a staged approach to specific investigations. The findings therefore of this report may represent preliminary findings in accordance with these industry recognised methodologies. In accordance with these methodologies, recommendations contained in this report may include a need for further investigation or analytical analysis. The decision to accept these recommendations and incur additional costs in doing so will be at the sole discretion of Government Property NSW and Prensa recognises that that Government Property NSW will consider their specific needs and the business risks involved. Prensa does not accept any liability for losses incurred as a result of Government Property NSW not accepting the recommendations made within this report.

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1 Introduction

Prensa Pty Ltd (Prensa) was engaged by Government Property NSW (GPNSW) to undertake a Detailed Site Investigation (DSI) at 9 Church Street, Newcastle NSW 2300 (the site). The location of the site is shown on Figure 1, provided in the 'Figures' section of this report.

2 Background

A Phase 1 Environmental Site Assessment (ESA) report was previously prepared for the site by Coffey Environments Australia Pty Ltd (Coffey) in 2012 (Ref: ENAUWARA04292AAR01.doc)(Coffey 2012) to facilitate divestment. It was concluded by Coffey that there was a low to medium likelihood of soil contamination at the site relating to the following areas of environmental concern (AEC):

- Weathering and or maintenance/demolition of hazardous building materials;
- Potential use of fill at the site; and
- Potential use of pesticides and herbicides.

3 Objectives

The objective of the DSI was to assess the contamination status of soil associated with previously identified AEC, in light of a proposed divestment of the site under current land zoning of 'B4 Mixed Use'.

It is understood that the DSI was required to ensure GPNSW fulfils its obligations of disclosure in the sale of the property with this report to form part of the Contract for Sale.

4 Scope of Works

Prensa undertook the following scope of works:

- Fieldwork preliminaries comprising:
  - Preparation of a Site-Specific Safety Plan (SSP); and
  - Dial before you dig (DBYD) search.
- Fieldwork comprising:
  - Progression of ten (10) boreholes (using a hand auger) in accessible portions of the site;
  - Concrete coring, where required;
  - Collection of soil samples from each borehole;
  - Logging of ground conditions at each borehole;
  - Field screening of soil samples using a photo-ionisation detector (PID).
- Laboratory analysis of selected soil samples and quality control (QC) samples at National Association of Testing Authorities (NATA) accredited laboratories for contaminants of potential concern (CoPC); and
- Preparation of this DSI report.

5 Technical Framework

Works were undertaken in general accordance with the following:

- NSW Work Health and Safety Act 2011 (WHS Act 2011);
- NSW Work Health and Safety Regulation 2011 (WHS Regulation 2011);
- The Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act 1999);
- Contaminated Land Management (CLM) Act, 1997 (CLM Act 1997);
- Contaminated Land Management Amendment Act 2008;
- Protection of the Environment Operations (POEO) Act 1997 (POEO Act 1997);
- NSW Environmental Protection Agency (EPA) POEO UPSS Regulation 2014 (UPSS Regulation 2014);
- National Environment Protection Council (NEPC) Act 1994 (NEPC Act 1994);
- National Environment Protection Council, National Environment Protection (Assessment of Site Contamination) Measure, 1999 (April 2013) (NEPM 2013);
- CRC Care Technical Report No. 10, Health Screening Levels for Petroleum Hydrocarbons in Soil and Groundwater, 2011 (CRCCARE 2011);
- NSW Office of Environment and Heritage (OEH), Guidelines for Consultants Reporting on Contaminated Sites, 2011 (OEH 2011);
- Australian Standard (AS) 4482.1, Guide to Investigation and Sampling of Sites with Potentially Contaminated Soil, Part 1: Non-volatile and Semi-volatile Compounds, 2005;
- AS 4482.2, Guide to the Sampling and Investigation of Potentially Contaminated Soil, Part 2: Volatile Substances, 1999; and
- AS 1726 Geotechnical Site Investigations, 1993.

6 Data Quality Objectives

Systematic planning and verification was deemed critical for the successful implementation of the DSI to ensure that the data collected is reliable and representative. A process for establishing data quality objectives (DQOs) for an investigation has been defined by the United States Environmental Protection Agency (US EPA). That process has been adopted in AS 4482.1-2005 and referenced in NEPM 2013.

DQOs ensure that:

- The study objectives are set;
- Appropriate types of data are collected (based on proposed land use and CoPC)); and
- The tolerance levels are set for potential decision making errors.

The DQO process is a seven-step iterative planning approach used to plan for environmental data collection activities. It provides a systematic approach for defining the criteria that a data collection design should satisfy, including when, where and how to collect samples or measurements, determination of tolerable decision error rates and the number of samples or measurements that should be collected.

The seven-step process for this investigation and data quality indicators adopted are discussed and summarised in Appendix A.

7 Site Information

7.1 Site Location

Site identification details are summarised in Table 1 and the location of the site is shown on Figure 1, provided in the 'Figures' Section of this report.

Table 1: Site Identification Details

Item	Description
Site Area	Approximately 5,241 m^2
Title Identification	Part of Lot 1 in Deposited Plan (DP) 1199904
Current Zoning	'B4 Mixed Use'
Local Government Authority	Newcastle City Council
Owner	State of New South Wales
Current Land Use	Vacant (former court house)

7.2 Site Description and Surrounding Land Use

The site description is based on visual observations made by a Prensa Environmental Consultant during the fieldwork on 22nd September 2016.

The main access to the property was via Church Street. The access road ran along the eastern boundary to a car park located at the rear of the site. The site was predominantly flat however sloped gradually from west to east in the western portion of the site. The surrounding area sloped both south to north and east to west indicating that cut and fill activities likely occurred in the past pre-development.

The northern half of the site was taken up by three (3) conjoined buildings, which previously functioned as the Newcastle Courthouse and were vacant during site works. The southeast portion of the site functioned as a driveway and car park and was predominantly covered in bitumen. Running parallel to the southern boundary was a thin nature strip which widened into a garden area characterised by soft cover landscaping including bare soil and grass. The western third of the southern side of the building also provided a concrete walkway which wrapped around and extended to the western side of the building, which had security gates at both the northern and southern ends and had a covered awning for the extent of the western walkway.

The eastern, western and southern sides of the property were bound by secure fencing. An automated security gate was also in place at the front of the driveway in the northeast corner of the site.

The north side of the site was composed mainly of bitumen hardstand and brick paving with some landscaping in the form of garden beds. A driveway entrance was located in the northwest corner of the site providing access to the buildings underground parking via Church Street.

The surrounding area appeared to comprise a mixture of commercial/industrial buildings including the Police Station located on the eastern side of the site and a hotel/pub across Church Street. High-density residential properties were also evident on the southern and western borders and on the northern side of Church Street.

It is noted that the western portion of Lot 1 in DP1199904 is part of the adjacent property and assessment of this area was outside the scope of this investigation. The borders of the property and what is defined for this investigation are defined in Figure 2 in the 'Figures' Section of this report.

8 Previous Reports

The following has been summarised from the Phase 1 ESA report (Coffey 2012):

- The review of the site history indicated that the site was crown land until 1985 and, at the time of reporting, owned by The State of NSW. The court house on site was heritage listed and constructed in 1890. During the 1970s and 1980s the eastern and western wings were added to the original courthouse;
- The Section 149 revealed that the following potentially contaminated land use(s) may have been carried out on the site: engine works and fuel/oil storage;
- A search of the Office of Environment and Heritage indicated 13 properties within the Newcastle Local Government Area were registered with notices, however these properties were greater than 3 km from the site;
- The site inspection indicated that the central courthouse was constructed from timber and sandstone and was in good condition. However the rear of the original courthouse was unpaved and overgrown with vegetation, and potentially comprised fill. The east wing and the west wing were noted to be in good condition and were constructed from brick and concrete respectively; and
- Based on the information that was provided by the site history review and the site walkover, the site was assessed as having a low to medium likelihood of having soil contamination. The potential contamination relates to:
  - Weathering and or maintenance/demolition of hazardous building materials,
  - Potential use of fill on site; and
  - Potential use of pesticides and herbicides.

Prensa largely corroborates with the findings of the Phase 1 ESA report. However, provided correspondence by GPNSW with Mark Manning, a Senior Environment Protection Officer with the City of Newcastle (dated 12th October, 2016), addresses the referenced historical use of the site within the S149 for engine works and fuel/oil storage:

'A review of the historical information reveals the above activities were conducted on the adjoining property at 1 Church Street. The contamination notification is not applicable to the property at 9 Church Street and Council will modify the notification shortly. Therefore, the property at 9 Church Street is not subject to any known contamination issue by Council.'

The correspondence with GPNSW and Mark Manning from the City of Newcastle is provided within Appendix H.

9 Areas of Environmental Concern

9.1 Potential Sources of Contamination

Potential sources of contamination targeted during this DSI were limited to uncontrolled historical fill, potential historical use of pesticides and insecticides, and degradation/demolition of hazardous building materials. The analytical suite is outlined in Section 12 of this report.

9.2 Contaminants of Potential Concern

CoPC associated with the potential sources of contamination outlined above are summarised in Table 2.

Table 2: Areas and Contaminants of Potential Concern Targeted

Potential Source	Location	Contaminants of Potential Concern
Importation of uncontrolled fill during construction of the site	Site wide soils	Asbestos, BTEX, OCP/OPP, PCB, TRH, PAH and heavy metals
Historical use of banned herbicides and pesticides	Site wide soils	OCP/OPPs
Degradation/demolition of hazardous building materials	Site wide soils	Asbestos and lead (lead-based paint)

NOTES
TRH: Total recoverable hydrocarbons
BTEX: Benzene, toluene, ethylbenzene and xylene
PAH: Polycyclic aromatic hydrocarbons
OCP/OCP: Organochlorine pesticides/ organophosphate pesticides
PCB: Polychlorinated biphenyls
Metals (eg. arsenic, cadmium, chromium, lead, nickel, zinc, mercury and copper)

9.3 Potential Receptors and Exposure Pathways

Potential receptors from contamination if present were considered to comprise:

- Future occupants of the site from:
  - Direct contact and inhalation (dermal contact and ingestion) with contaminated soil, dust and fibres; and
  - Vapour intrusion and inhalation from volatile contaminants.
- Shallow and intrusive maintenance and excavation workers (including construction workers) from:
  - Direct contact (dermal contact and ingestion) with contaminated soil, dust and fibres; and
  - Vapour inhalation from volatile contaminants.
- Groundwater.

10 Assessment Criteria

To assess the significance of contaminant concentrations in soil, reference was primarily made to NEPM 2013, specifically 'Schedule B1 Guideline on Investigation Levels for Soil and Groundwater' (Schedule B1) for assessment criteria, where available. Schedule B1 provides a framework for the use of investigation and screening levels based on human health and ecological risks. In the absence of relative criteria in NEPM 2013, reference was made to other nationally or state endorsed guidelines.

Based on the objectives, criteria for the current commercial / industrial land use and potential future high density residential land use were deemed appropriate for this DSI.

The specific adopted criteria for commercial / industrial and high density residential land use are outlined in Table T1 and T2 respectively, in the 'Tables' section of this report, and discussed in Appendix C.

11 Methodology

11.1 Fieldwork preliminaries

A SSP was prepared to document the foreseeable hazards associated with the works and to outline the measures that were to be implemented to remove or manage the associated health and environmental risks. A copy of the plan was kept onsite for the duration of the works.

A DBYD search was undertaken as standard procedure to check for underground services.

11.2 Drilling Method

Ten (10) boreholes (BH1 – BH10) were progressed across the accessible areas on the site using a hand auger to a maximum depth of 3.3 m below ground level (BGL). The sampling density was in general accordance with the minimum sampling density described in AS4482.2-2005 for a site of this size.

For boreholes located beneath hardstand, concrete coring was undertaken. Borehole BH2 and BH3 were situated within garden beds.

The hand auger was decontaminated between boreholes using a phosphate free detergent (Decon 90).

Subsurface conditions were logged in general accordance with AS 1726 – 1993. Copies of the borehole logs are provided in Appendix D.

11.3 Soil Sampling and Field Screening

Soil samples were collected directly from the hand auger at each borehole. A PID was used to screen the soil profile for the potential presence of volatile organic compounds (VOC) and evidence of suspected hydrocarbon contamination.

The soil samples collected and PID results are outlined on the borehole logs in Appendix D.

12 Laboratory Analysis

Envirolab Services Pty Ltd (Envirolab) and Eurofins MGT Pty Ltd (Eurofins) were engaged as the primary and secondary or 'check' laboratories for chemical testing, respectively. The laboratories are NATA accredited for the analysis undertaken. Samples that were not analysed were placed on hold pending the results of the initial laboratory analysis.

Selected soil samples from the boreholes (excluding those progressed within garden beds) were submitted for analysis of CoPC comprising TRH, BTEX, PAH, metals, OCP, OPP, PCB and asbestos.

Following interim review of analytical results, two (2) soil samples (55499_BH5_0.1 and 55499_BH9_0.6) were also analysed for leachable concentrations of benzo(a)pyrene using Australian Standard Leaching Procedure (ASLP).

13 Results

13.1 Subsurface Profile

Fill material was encountered across the site to depths generally ranging from surface to 1.2 m BGL. The fill was generally consistent across the site and comprised sandy silt and gravelly sand at the ground surface. Anthropogenic material including fragments of bricks, tiles and bitumen were noted within the fill material on site. In BH10 however, fill material was encountered to 3.3m BGL. From 1.15 to 3.3 m BGL a fine to medium grained grey sand was noted and appeared uniform with no inclusions. Borehole logs are shown in Appendix D.

The fill was underlain by natural grey weathered sandstone and brown to red-brown clay which was encountered at depths between 0.55 m BGL and 0.8 m BGL in BH5 – BH7 and BH9.

Groundwater was not encountered during the fieldwork. Visual or olfactory evidence of soil contamination, including suspected asbestos-containing materials (ACM), were not noted during sampling.

13.2 Field Screening

A PID was used to screen the soil profile at each hand auger and borehole location. The results are shown on the borehole logs in Appendix D. The highest PID reading recorded across the site was 5.1 ppm, indicating that it was unlikely that volatile organic compounds were likely to be present.

13.3 Analytical Results

Laboratory results are provided in Appendix E and are summarised in Table T1 and Table T2 in the 'Tables' section of this report, referencing commercial / industrial and high density residential land use respectively. Borehole locations are shown in Figure 2 in the 'Figures' Section of this report.

With the exception of some metals, PAHs and TRH (C_{16}-C_{34} fraction), concentrations of CoPC were less than the laboratory practical quantitation limit (PQL). Asbestos was not detected at the reporting limit of 0.1 g/kg in the soil samples analysed and trace fibres of asbestos were not detected.

A review of the analytical results indicated that:

- Commercial Industrial land use:
  - Concentrations of CoPC (including detected concentrations of metals, PAH and TRH) were less than the adopted assessment criteria with the exception of benzo(a)pyrene which was detected in three (3) soil samples (55499_BH1_0.3 (3.6 mg/kg); 55499_BH5_0.1 (4.7 mg/kg); and 55499_BH9_0.6 (5 mg/kg)) greater than the adopted environmental screening level (ESL) (1.4 mg/kg).
- High density residential land use:
  - Concentrations of CoPC (including detected concentrations of metals, PAH and TRH) were less than the adopted assessment criteria with the exception of benzo(a)pyrene, benzo(a)pyrene TEQ calc(PQL), TRH (C16-C34 fraction) and Lead;
  - Benzo(a)pyrene was detected in three (3) soil samples (55499_BH1_0.3 (3.6 mg/kg); 55499_BH5_0.1 (4.7 mg/kg); and 55499_BH9_0.6 (5 mg/kg)) greater than the adopted ESL (0.7 mg/kg);

  - Benzo(a)pyrene TEQ calc(PQL) was detected in three (3) soil samples (55499_BH1_0.3 (5.2 mg/kg); 55499_BH5_0.1 (6.8 mg/kg); and 55499_BH9_0.6 (7.3 mg/kg)) greater than the adopted health investigation level (HIL) (4.0 mg/kg);
  - TRH (C16-C34 fraction) was detected in 55499_BH9_0.6 (340 mg/kg) greater than the adopted ESL (300 mg/kg); and
  - Lead was detected in 55499_BH5_0.1 (1400 mg/kg) greater than the adopted environmental investigation level (EIL) (1129 mg/kg) and HIL (1200 mg/kg).
- Results following ASLP to determine leachable concentrations of benzo(a)pyrene reported concentrations less than the laboratory PQL.

14 Quality Assurance and Quality Control

Prensa implements project specific quality assurance/quality control (QA/QC) procedures to improve transparency, consistency, comparability, completeness, and confidence in the data collected.

The field and laboratory QA/QC procedures adopted and summary of results for this DSI are provided in Appendix F.

15 Discussion

At the time of undertaking the fieldwork the site comprised three (3) conjoined buildings, which previously functioned as the Newcastle Courthouse and were vacant during site works. The review of the site history in the Phase 1 ESA report (Coffey 2012) indicated that the court house is heritage listed and constructed in 1890. During the 1970s and 1980s the eastern and western wings were added to the original courthouse. The historical titles indicated the site was crown land until 1985 and is now owned by The State of NSW.

A Phase 1 ESA was previously prepared for the site by Coffey in 2012 which concluded that there was a low to medium likelihood of soil contamination at the site relating to the following areas of environmental concern (AEC):

- Weathering and or maintenance/demolition of hazardous building materials;
- Potential use of fill the sites site; and
- Potential use of pesticides and insecticides.

Prensa largely corroborates with the findings of the Phase 1 ESA report; however correspondence with Mark Manning, a Senior Environment Protection Officer with the City of Newcastle (dated 12th October, 2016), revealed that the referenced historical use of the site within the S149 for engine works and fuel/oil storage was conducted on the adjoining property at 1 Church Street. It was confirmed that the property at 9 Church Street was not subject to any known contamination issue by Council. The correspondence with GPNSW and Mark Manning from the City of Newcastle is provided within Appendix H.

Soil samples were collected from ten (10) boreholes (BH1 – BH10) progressed across accessible areas of the site using a hand auger. Two of the boreholes (BH2 and BH3) were located within garden beds. Fill material was encountered across the site to depths generally ranging from surface to 1.2 m BGL, with the exception of BH10, where fill material was encountered to 3.3m BGL. Borehole locations are shown in Figure 2 in the 'Figures' Section of this report.

Groundwater was not encountered during the fieldwork. Visual or olfactory evidence of soil contamination, including suspected asbestos-containing materials (ACM), were not noted during sampling.

Selected soil samples collected from fill across the site (excluding the garden beds) were analysed at NATA accredited laboratories for CoPC.

Ongoing Commercial Industrial Land Use

With the exception of some heavy metals, benzo(a)pyrene and TRH (C_{16}-C_{34} fraction), concentrations of CoPC were less than the laboratory PQLs. Furthermore concentrations of CoPC were less than the adopted assessment criteria with the exception of benzo(a)pyrene which exceeded the ESL in three (3) samples; within BH5 (0.1 m BGL) and BH1 (0.3 m BGL) in the northern portion of the site adjacent to the northern façade of the old court house, and BH9 (0.9 m BGL) located in the southern portion, south of the old court house. Two (2) of the soil samples from BH5 (0.1 m BGL) and BH9 (0.9 m BGL) were subsequently analysed using ASLP to determine leachable concentrations; the results of which indicated that the leaching potential of benzo(a)pyrene was low.

The results of the field screening were consistent with analytical results.

High Density Residential Land Use

With the exception of some heavy metals, benzo(a)pyrene and TRH (C_{16}-C_{34} fraction), concentrations of CoPC were less than the laboratory PQLs. Furthermore concentrations of CoPC were less than the adopted assessment criteria with the exception of benzo(a)pyrene, benzo(a)pyrene TEQ calc(PQL), TRH (C_{16}-C_{34} fraction) and Lead. Benzo(a)pyrene exceeded the ESL and benzo(a)pyrene TEQ calc(PQL) exceeded the HIL in three (3) samples; within BH5 (0.1 m BGL) and BH1 (0.3 m BGL) in the northern portion of the site adjacent to the northern façade of the old court house, and BH9 (0.9 m BGL) located in the southern portion, south of the old court house. TRH (C_{16}-C_{34} fraction) also exceeded the ESL in BH9 (0.9 m BGL), while lead exceeded the EIL and HIL in BH5 (0.1 m BGL).

Tier 1 Risk Assessment

Based on the analytical results and field observations made during the field work the presence of benzo(a)pyrene was likely associated with the presence of bitumen fragments in the fill. ASLP was conducted on two (2) of the soil samples from BH5 and BH9 and results indicated that the leaching potential of benzo(a)pyrene was low.

Ecological criteria were exceeded with TRH (C_{16}-C_{34} fraction) and lead exceeding the ESL and EIL respectively for a more conservative high density residential land use. Based on the urban setting of the site and soil conditions encountered, it is considered unlikely that soil processes, soil biota (flora and fauna) and terrestrial invertebrates and vertebrates would be materially affected, given the current zoning of the site. As such the potential risk to significant ecological receptors is considered to be low.

The lead concentration in BH5 (0.1 m BGL) also exceeded the HIL for high density residential land use. The concentration of lead detected above the assessment criteria was statistically an outlier. The sample was collected in close proximity to the northern façade of the old court house from shallow depth (0.1 m BGL). As such the exceedance of lead at this location could be attributed to degradation of lead-based paint onto surface soils rather than being representative of the fill across the site.

16 Conclusions

The concentrations of TRH, benzo(a)pyrene and lead would not preclude an ongoing commercial use of the site. However should the site be redeveloped for a more sensitive land use such as high-density residential, further assessment, management and/or remediation of fill across the site is recommended in open areas and beneath slabs following any proposed demolition.

Based on the fieldwork undertaken and analytical results, Prensa concludes that the potential risk to human health and the environment, in light of the proposed divestment of the site under current land-zoning, is low-moderate given the potential for future high-density residential land use at site.

Abbreviations

Abbreviation	Definition
ACM	Asbestos Containing Material
AEC	Area of Environmental Concern
AMP	Asbestos Management Plan
AS	Australian Standard
B(a)P	Benzo(a)pyrene
BGL	Below Ground Level
COC	Chain of Custody
CoPC	Contaminant of Potential Concern
CLM	Contaminated Land Management
DBYD	Dial Before You Dig
DEC	Department of Environment and Conservation
DECCW	Department of Environment, Climate Change and Water
EIL	Ecological Investigation Level
EPA	Environment Protection Authority
ESL	Ecological Screening Level
HIL	Health Investigation Level
HSL	Health Screening Level
NATA	National Association of Testing Authorities
NEPC	National Environment Protection Council
NEPM	National Environment Protection Measure
PAH	Polycyclic Aromatic Hydrocarbons
PID	Photo Ionisation Detector
POEO	Protection of the Environment Operations
PPM	Parts Per Million
PQL	Practical Quantitation Limit
QA/QC	Quality Control/Quality Assurance
RPD	Relative Percentage Difference
SEPP	State Environmental Planning Policy
SSP	Site Safety Plan
TRH	Total Recoverable Hydrocarbons
VOC	Volatile Organic Compounds

Figures



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Client:
GOVERNMENT PROPERTY NSW

Project:
DETAILED SITE INVESTIGATION (DSI)

Address:
9 CHURCH ST, NEWCASTLE NSW

Drawing Title:
SAMPLING LOCATION PLAN

Job No.: 55499 | Client No.: G0038

0 30 60 m

N

Legend:

- Property Boundary
- Site Boundary
- Site Location

Note: All locations are approximate

Image Source: Six Maps
Viewed: 12/08/2016

Drawn by:	Date:	Checked by:	Date:
RBB	07/10/2016	AXP	07/010/2016

File name:	Figure number:	Revision:
55499 Figures	1	A



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Client:
GOVERNMENT PROPERTY NSW

Project:
DETAILED SITE INVESTIGATION (DSI)

Address:
9 CHURCH ST, NEWCASTLE NSW

Drawing Title:
BOREHOLE LOCATION PLAN

Job No.: 55499 | Client No.: G0038

0 5 10 m

N

Legend:

- Property Boundary
- Site Boundary
- Boreholes
- Boreholes (Garden Bed)

Note: All locations are approximate

Image Source: Six Maps
Viewed: 12/08/2016

Drawn by:	Date:	Checked by:	Date:
RBB	07/10/2016	AXP	07/010/2016

File name:	Figure number:	Revision:
55499 Figures	2	A

Tables

Table T1 Soil Analytical Results - Commercial / Industrial

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	Asbestos	BTEX						Halogenated Benzenes	Inorganics	Metals								Organochlorine Pesticides																			
	Asbestos fibres	Benzene	Ethylbenzene	Toluene	Xylene (m & p)	Xylene (o)	Xylene Total	Hexachlorobenzene	Moisture	Arsenic	Cadmium	Chromium (III+VI)	Copper	Lead	Mercury	Nickel	Zinc	4,4-DDE	a-BHC	Aldrin	Aldrin + Dieldrin	b-BHC	Chlordane (cis)	Chlordane (trans)	d-BHC	DDD	DDT	DDT+DDE+DDD	Dieldrin	Endosulfan I	Endosulfan II	Endosulfan sulphate	Endrin	Endrin aldehyde	g-BHC (lindane)	Heptachlor	Heptachlor epoxide	Methoxychlor
	-	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	%	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
PQL	0.1	0.2	1	0.5	2	1		0.1	0.1	4	0.4	1	1	1	0.1	1	1	0.1	0.1	0.1		0.1	0.1	0.1	0.1	0.1	0.1		0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil								80		3000	900	3600	240,000	1500	730	60,000	400,000				45							3600					100			50		2500
NEPM 2013 Table 1B(6) ESLs for Comm/Ind 0-2m		75	165	135			180																														
NEPM 2013 Table 1B(2) EILS for Comm/Ind										160		825	1260	1829		1016	2062									640											
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion 0-1m		3	NL	NL			230																														
CRC Care (2011) HSLs for Soil Direct Contact Comm/Ind		430	27,000	99,000			81,000																														
CRC Care (2011) HSLs for Soil Direct Contact Intrusive Maintenance Worker		1100	85,000	120,000			130,000																														
CRC Care (2011) HSLs for Soil Vapour Comm/Ind Soil Intrusive Maintenance Worker HSL D 0 - 2m		77	NL	NL			NL																														
NEPM 2013 Table 1B(7) Management Limits Comm / Ind																																					
Field_ID	**Sample_Depth**	**Sampled_Date**	**Matrix_Description**																																		
55499_BH1	0.1	22/09/2016	Soil	NAD	<0.2	<1	<0.5	<2	<1	<3	<0.1	14	5	<0.4	9	19	58	0.2	4	48	<0.1	<0.1	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
55499_BH4	0.5	22/09/2016	Soil	NAD	<0.2	<1	<0.5	<2	<1	<3	<0.1	9.9	<4	<0.4	9	17	40	<0.1	4	39	<0.1	<0.1	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
55499_BH5	0.1	22/09/2016	Soil	NAD	<0.2	<1	<0.5	<2	<1	<3	<0.1	24	7	2	27	420	3400	0.2	15	1100	<0.1	<0.1	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
55499_BH6	0.5	22/09/2016	Soil	NAD	<0.2	<1	<0.5	<2	<1	<3	<0.1	6.3	<4	<0.4	10	10	8	<0.1	4	35	<0.1	<0.1	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
55499_BH7	0.1	22/09/2016	Soil	NAD	<0.2	<1	<0.5	<2	<1	<3	<0.1	10	<4	<0.4	17	65	38	<0.1	16	210	<0.1	<0.1	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
55499_BH8	0.1	22/09/2016	Soil	NAD	<0.2	<1	<0.5	<2	<1	<3	<0.1	7.9	<4	<0.4	18	20	25	<0.1	19	75	<0.1	<0.1	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
55499_BH9	0.6	22/09/2016	Soil	NAD	<0.2	<1	<0.5	<2	<1	<3	<0.1	11	4	<0.4	9	39	70	0.4	7	85	<0.1	<0.1	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
55499_BH10	0.4	22/09/2016	Soil	NAD	<0.2	<1	<0.5	<2	<1	<3	<0.1	12	5	<0.4	22	9	34	<0.1	3	23	<0.1	<0.1	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1

LEGEND

NAD	No Asbestos Detected
PQL	Practical Quantitative limit

Table T1. Soil Analytical Results - Commercial / Industrial

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	Organophosphorous Pesticides											PAH/Phenols																			Pesticides	Polychlorinated Biphenyls							TRH									
	Azinophos methyl	Bromophos-ethyl	Chlorpyrifos	Chlorpyrifos-methyl	Diazinon	Dichlorvos	Dimethoate	Ethion	Fenitrothion	Malathion	Ronnel	Acenaphthene	Acenaphthylene	Anthracene	Benz[a]anthracene	Benzo[a] pyrene	Benzo[a] pyrene ASLP	Benzo[b,h]perylene	Chrysene	Dibenz[a,h]anthracene	Fluoranthene	Fluorene	Indeno[1,2,3-c,d]pyrene	Naphthalene	Phenanthrene	Pyrene	Benzo[a]pyrene TEQ calc (zero)	Benzo[a]pyrene TEQ calc(half)	Benzo[a]pyrene TEQ calc(PQL)	Benzo[b,j,k]Fluoranthene	Parathion	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	C6 C10	C10 C16	C16 C34	C34 C40	C6 C10 less BTEX (F1)	F2 NAPHTHALENE	C6 - C9	C10 - C14	C15 - C28	C29 C36	>C10 - C36 (Sum of total)
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
PQL	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.05	0.001	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.5	0.5	0.5	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	25	50	100	100	25	50	25	50	100	100	
NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil			2000																								40																					
NEPM 2013 Table 1B(6) ESLs for Comm/Ind 0-2m																1.4																										1700	3300	215	170					
NEPM 2013 Table 1B(7) EILS for Comm/Ind																								370																								
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion 0-1m																								NL																		260	NL					
CRC Care (2011) HSLs for Soil Direct Contact Comm/Ind																								11,000																26,000	20,000	27,000	38,000						
CRC Care (2011) HSLs for Soil Direct Contact Intrusive Maintenance Worker																								29,000																82,000	62,000	85,000	120,000						
CRC Care (2011) HSLs for Soil Vapour Comm/Ind Soil Intrusive Maintenance Worker HSL D 0 - 2m																								NL																NL	NL								
NEPM 2013 Table 1B(7) Management Limits Comm / Ind																																								700	1000	3500	10000						

Field_ID	Sample_Depth	Sampled_Date	Matrix_Description																																														
55499_BH1	0.3	22/09/2016	Soil	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.6	1.6	4.3	3.6	-	1.9	3.9	0.3	9.9	0.2	2.1	<1 - 0.1	6.7	8.9	5.2	5.2	5.2	6	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<25	<50	120	<100	<25	<50	<25	<50	<100	<100	<250
55499_BH4	0.5	22/09/2016	Soil	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.1	-	<0.1	0.1	<0.1	0.3	<0.1	<0.1	<0.1	0.1	0.3	<0.5	<0.5	<0.5	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<25	<50	<100	<100	<25	<50	<25	<50	<100	<100	<250
55499_BH5	0.1	22/09/2016	Soil	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	1.2	1.4	4.5	4.7	<0.001	2.7	4.7	0.5	12	0.4	3	<1 - 0.2	7.8	11	6.8	6.8	6.8	7.8	<0.1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<25	<50	240	<100	<25	<50	<25	<50	160	320	305
55499_BH6	0.5	22/09/2016	Soil	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	0.3	-	0.2	0.3	<0.1	0.8	<0.1	0.2	<0.1	0.4	0.8	<0.5	<0.5	<0.5	0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<25	<50	<100	<100	<25	<50	<25	<50	<100	<100	<250
55499_BH7	0.1	22/09/2016	Soil	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5	<0.5	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<25	<50	<100	<100	<25	<50	<25	<50	<100	<100	<250
55499_BH8	0.1	22/09/2016	Soil	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	-	<0.1	0.1	<0.1	0.2	<0.1	<0.1	<0.1	<0.1	0.2	<0.5	<0.5	<0.5	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<25	<50	<100	<100	<25	<50	<25	<50	<100	<100	<250
55499_BH9	0.6	22/09/2016	Soil	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	1.3	2.1	6.3	5	<0.001	1.8	5.4	0.6	11	0.3	2.2	<1 - 0.3	6.5	10	7.3	7.3	7.3	7.9	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<25	<50	340	<100	<25	<50	<25	<50	240	330	395
55499_BH10	0.4	22/09/2016	Soil	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.4	0.6	1.5	1.4	-	0.6	1.4	0.1	3.6	0.1	0.8	<0.1	2.6	3.3	2	2	2	2.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<25	<50	<100	<100	<25	<50	<25	<50	<100	<100	<250

LEGEND	
NAD	No Asbestos Detected
PQL	Practical Quantitative limit

Table T2 Soil Analytical Results - High Density Residential

prensa

	Asbestos	BTEX						Halogenated Benzenes	Inorganics	Metals								Organochlorine Pesticides																					
	Asbestos Fibres	Benzene	Ethylbenzene	Toluene	Xylene (m & p)	Xylene (o)	Xylene Total	Hexachlorobenzene	Moisture	Arsenic	Cadmium	Chromium (III+VI)	Copper	Lead	Mercury	Nickel	Zinc	4,4 DDE	a-BHC	Aldrin	Aldrin + Dieldrin	b-BHC	Chlordane (cis)	Chlordane (trans)	d-BHC	DDD	DDT	DDT+DDE+DDD	Dieldrin	Endosulfan I	Endosulfan II	Endosulfan sulphate	Endrin	Endrin aldehyde	g-BHC (lindane)	Heptachlor	Heptachlor epoxide	Methoxychlor
	-	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	%	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
PQL	0.1	0.2	1	0.5	2	1		0.1	0.1	4	0.4	1	1	1	0.1	1	1	0.1	0.1	0.1		0.1	0.1	0.1	0.1	0.1	0.1		0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
NEPM 2013 Table 1A(1) HILs Residential B soil								15		500	150	500	30,000	1200	120	1200	1400				10							600					20			10		500
NEPM 2013 Table 1B(6) ESLs for Urban Residential / Public Open Space 0-2m		50	70	85			105																														
NEPM 2013 Table 1B(2) EILS for Urban Residential Public Open Space										100		565	840	1129		616	1362										180										
NEPM 2013 Table 1A(3) Low - High Density Residential Soil HSL for Vapour Intrusion 0-1m		0.5	55	160			40																														
CRC Care (2011) HSLs for Soil Direct Contact High Density Residential		430	5900	21,000			17,000																														
CRC Care (2011) HSLs for Soil Direct Contact Intrusive Maintenance Worker		1100	85,000	120,000			130,000																														
CRC Care (2011) HSLs for Vapour Intrusion for Intrusive Maintenance Worker HSL D 0 - 2m		77	NL	NL			NL																														
NEPM 2013 Table 1B(7) Management Limits for Residential, Parkland, and Public Open Space																																					

Field_ID	Sample_Depth	Sampled_Date	Matrix_Description																																				
55499_BH1	0.1	22/09/2016	Soil	NAD	<0.2	<1	<0.5	<2	<1	<3	<0.1	14	5	<0.4	9	19	58	0.2	4	48	<0.1	<0.1	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
55499_BH4	0.5	22/09/2016	Soil	NAD	<0.2	<1	<0.5	<2	<1	<3	<0.1	9.9	<4	<0.4	9	17	40	<0.1	4	39	<0.1	<0.1	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
55499_BH5	0.1	22/09/2016	Soil	NAD	<0.2	<1	<0.5	<2	<1	<3	<0.1	24	7	2	27	420	1400	0.2	15	1100	<0.1	<0.1	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
55499_BH6	0.5	22/09/2016	Soil	NAD	<0.2	<1	<0.5	<2	<1	<3	<0.1	6.3	<4	<0.4	10	10	8	<0.1	4	35	<0.1	<0.1	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
55499_BH7	0.1	22/09/2016	Soil	NAD	<0.2	<1	<0.5	<2	<1	<3	<0.1	10	<4	<0.4	17	65	38	<0.1	16	210	<0.1	<0.1	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
55499_BH8	0.1	22/09/2016	Soil	NAD	<0.2	<1	<0.5	<2	<1	<3	<0.1	7.9	<4	<0.4	18	20	25	<0.1	19	75	<0.1	<0.1	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
55499_BH9	0.6	22/09/2016	Soil	NAD	<0.2	<1	<0.5	<2	<1	<3	<0.1	11	4	<0.4	9	39	70	0.4	7	85	<0.1	<0.1	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
55499_BH10	0.4	22/09/2016	Soil	NAD	<0.2	<1	<0.5	<2	<1	<3	<0.1	12	5	<0.4	22	9	14	<0.1	3	53	<0.1	<0.1	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1

LEGEND	
NAD	No Asbestos Detected
PQL	Practical Quantitative limit

Table T2 Soil Analytical Results - High Density Residential

prensa

	Organophosphorous Pesticides											PAH/Phenols																				Pesticides	Polychlorinated Biphenyls							TRH									
	Azinophos-methyl	Bromophos-ethyl	Chlorpyrifos	Chlorpyrifos-methyl	Diazinon	Dichlorvos	Dimethoate	Ethion	Fenitrothion	Malathion	Ronnel	Acenaphthene	Acenaphthylene	Anthracene	Benz[a]anthracene	Benzo[a] pyrene	Benzo[a] Pyrene ASLP	Benzo[b,j+k]perylene	Chrysene	Dibenz[a,h]+anthracene	Fluoranthene	Fluorene	Indeno[1,2,3-c,d]pyrene	Naphthalene	Phenanthrene	Pyrene	Benzo[a]pyrene TEQ calc (zero)	Benzo[a]pyrene TEQ calc (half)	Benzo[a]pyrene TEQ calc (PQL)	Benzo[b,j+k]fluoranthene	Parathion	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	C6 C10	C10 C16	C16 C34	C34 C40	C6 C10 less BTEX (F1)	F2 NAPHTHALENE	C6 - C9	C10 - C14	C15 - C28	C29 C36	- C10 - C36 (Sum of total)
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
PQL	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.05	0.001	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.5	0.5	0.5	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	25	50	100	100	25	50	25	50	100	100	
NEPM 2013 Table 1A(1) HILs Residential B soil			340																								4																						
NEPM 2013 Table 1B(6) ESLs for Urban Residential / Public Open Space 0-2m																0.7																																		
NEPM 2013 Table 1B(2) EILS for Urban Residential Public Open Space																								170																										
NEPM 2013 Table 1A(3) Low - High Density Residential Soil HSL for Vapour Intrusion 0-1m																								3																				45	110					
CRC Care (2011) HSLs for Soil Direct Contact High Density Residential																								2200																5600	4200	5800	8100							
CRC Care (2011) HSLs for Soil Direct Contact Intrusive Maintenance Worker																								29,000																82,000	62,000	85,000	120,000							
CRC Care (2011) HSLs for Vapour Intrusion for Intrusive Maintenance Worker HSL D 0 - 2m																								NL																NL	NL								
NEPM 2013 Table 1B(7) Management Limits for Residential, Parkland, and Public Open Space																																								700	1000	2500	10000							
Field_ID	Sample_Depth	Sampled_Date	Matrix_Description																																														
55499_BH1	0.3	22/09/2016	Soil	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.6	1.6	4.3	3.6	-	1.9	3.9	0.3	9.9	0.2	2.1	<1 - 0.3	6.7	8.9	5.2	5.2	5.2	6	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<25	<50	120	<100	<25	<50	<25	<50	<100	<100	<250
55499_BH4	0.5	22/09/2016	Soil	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.1	-	<0.1	0.1	<0.1	0.3	<0.1	<0.1	<0.1	0.1	0.3	<0.5	<0.5	<0.5	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<25	<50	<100	<100	<25	<50	<25	<50	<100	<100	<250
55499_BH5	0.1	22/09/2016	Soil	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	1.2	1.4	4.5	4.7	<0.001	2.7	4.7	0.5	12	0.4	1	<1 - 0.2	7.8	11	6.8	6.8	6.8	7.8	<0.1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<25	<50	240	<100	<25	<50	<25	<50	160	120	305
55499_BH6	0.5	22/09/2016	Soil	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	0.3	-	0.2	0.3	<0.1	0.8	<0.1	0.2	<0.1	0.4	0.8	<0.5	<0.5	<0.5	0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<25	<50	<100	<100	<25	<50	<25	<50	<100	<100	<250
55499_BH7	0.1	22/09/2016	Soil	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5	<0.5	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<25	<50	<100	<100	<25	<50	<25	<50	<100	<100	<250
55499_BH8	0.1	22/09/2016	Soil	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.1	-	<0.1	0.1	<0.1	0.2	<0.1	<0.1	<0.1	0.2	0.2	<0.5	<0.5	<0.5	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<25	<50	<100	<100	<25	<50	<25	<50	<100	<100	<250
55499_BH9	0.6	22/09/2016	Soil	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	1.3	2.1	6.3	5	<0.001	1.8	5.4	0.6	11	0.3	2.2	<1 - 0.3	6.5	10	7.3	7.3	7.3	7.9	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<25	<50	340	<100	<25	<50	<25	<50	240	130	395
55499_BH10	0.4	22/09/2016	Soil	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.4	0.6	1.5	1.4	-	0.6	1.4	0.1	3.6	0.1	0.8	<0.1	2.6	3.3	2	2	2	2.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<25	<50	<100	<100	<25	<50	<25	<50	<100	<100	<250

LEGEND
NAD No Asbestos Detected
PQL Practical Quantitative limit

Table T3. Field and Interlab Duplicates

prensa

			Laboratory Report	154160	154160		154160	S16-Se23529	
			Field ID	55499 BH7 0.1	55499 QC1	RPD	55499 BH7 0.1	55499 QC2	RPD
			Sampled Date/Time	22/09/2016	22/09/2016		22/09/2016	22/09/2016	
Chem_Group	ChemName	Units	EQL						
PAHs in Soil	Benzo(a)pyrene TEQ calc (zero)	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0
	Benzo(a)pyrene TEQ calc(half)	mg/kg	0.5	<0.5	<0.5	0	<0.5	0.6	18
	Benzo(a)pyrene TEQ calc(PQL)	mg/kg	0.5	<0.5	<0.5	0	**<0.5**	**1.2**	**82**
	Benzo(b,j+k)fluoranthene	mg/kg	0.2	<0.2	<0.2	0	<0.2	-	-
BTEX	Benzene	mg/kg	0.2 (Primary); 0.1 (Interlab)	<0.2	<0.2	0	<0.2	<0.1	0
	Ethylbenzene	mg/kg	1 (Primary); 0.1 (Interlab)	<1.0	<1.0	0	<1.0	<0.1	0
	Toluene	mg/kg	0.5 (Primary); 0.1 (Interlab)	<0.5	<0.5	0	<0.5	<0.1	0
	Xylene (m & p)	mg/kg	2 (Primary); 0.2 (Interlab)	<2.0	<2.0	0	<2.0	<0.2	0
	Xylene (o)	mg/kg	1 (Primary); 0.1 (Interlab)	<1.0	<1.0	0	<1.0	<0.1	0
	C6-C10 less BTEX (F1)	mg/kg	25 (Primary); 20 (Interlab)	<25.0	<25.0	0	<25.0	<20.0	0
Halogenated Benzenes	Hexachlorobenzene	mg/kg	0.1 (Primary); 0.05 (Interlab)	<0.1	<0.1	0	<0.1	<0.05	0
Inorganics	Moisture	%	0.1	10.0	11.0	10	10.0		
Lead	Lead	mg/kg	1 (Primary); 5 (Interlab)	38.0	35.0	8	38.0	41.0	8
Metals	Arsenic	mg/kg	4 (Primary); 2 (Interlab)	<4.0	<4.0	0	<4.0	5.6	33
	Cadmium	mg/kg	0.4	<0.4	<0.4	0	<0.4	<0.4	0
	Chromium (III+VI)	mg/kg	1 (Primary); 5 (Interlab)	17.0	17.0	0	17.0	19.0	11
	Copper	mg/kg	1 (Primary); 5 (Interlab)	**65.0**	**32.0**	**68**	65.0	53.0	20
	Mercury	mg/kg	0.1 (Primary); 0.05 (Interlab)	<0.1	<0.1	0	<0.1	<0.05	0
	Nickel	mg/kg	1 (Primary); 5 (Interlab)	16.0	15.0	6	16.0	18.0	12
	Zinc	mg/kg	1 (Primary); 5 (Interlab)	210.0	230.0	9	210.0	230.0	9
Organochlorine Pesticides	4,4-DDE	mg/kg	0.1 (Primary); 0.05 (Interlab)	<0.1	<0.1	0	<0.1	<0.05	0
	a-BHC	mg/kg	0.1 (Primary); 0.05 (Interlab)	<0.1	<0.1	0	<0.1	<0.05	0
	Aldrin	mg/kg	0.1 (Primary); 0.05 (Interlab)	<0.1	<0.1	0	<0.1	<0.05	0
	b-BHC	mg/kg	0.1 (Primary); 0.05 (Interlab)	<0.1	<0.1	0	<0.1	<0.05	0
	Chlordane (cis)	mg/kg	0.1	<0.1	<0.1	0	<0.1		
	Chlordane (trans)	mg/kg	0.1	<0.1	<0.1	0	<0.1		
	d-BHC	mg/kg	0.1 (Primary); 0.05 (Interlab)	<0.1	<0.1	0	<0.1	<0.05	0
	DDD	mg/kg	0.1 (Primary); 0.05 (Interlab)	<0.1	<0.1	0	<0.1	<0.05	0
	DDT	mg/kg	0.1 (Primary); 0.05 (Interlab)	<0.1	<0.1	0	<0.1	<0.05	0
	Dieldrin	mg/kg	0.1 (Primary); 0.05 (Interlab)	<0.1	<0.1	0	<0.1	<0.05	0
	Endosulfan I	mg/kg	0.1 (Primary); 0.05 (Interlab)	<0.1	<0.1	0	<0.1	<0.05	0
	Endosulfan II	mg/kg	0.1 (Primary); 0.05 (Interlab)	<0.1	<0.1	0	<0.1	<0.05	0
	Endosulfan sulphate	mg/kg	0.1 (Primary); 0.05 (Interlab)	<0.1	<0.1	0	<0.1	<0.05	0
	Endrin	mg/kg	0.1 (Primary); 0.05 (Interlab)	<0.1	<0.1	0	<0.1	<0.05	0
	Endrin aldehyde	mg/kg	0.1 (Primary); 0.05 (Interlab)	<0.1	<0.1	0	<0.1	<0.05	0
	g-BHC (Lindane)	mg/kg	0.1 (Primary); 0.05 (Interlab)	<0.1	<0.1	0	<0.1	<0.05	0
	Heptachlor	mg/kg	0.1 (Primary); 0.05 (Interlab)	<0.1	<0.1	0	<0.1	<0.05	0
	Heptachlor epoxide	mg/kg	0.1 (Primary); 0.05 (Interlab)	<0.1	<0.1	0	<0.1	<0.05	0
	Methoxychlor	mg/kg	0.1 (Primary); 0.2 (Interlab)	<0.1	<0.1	0	<0.1	<0.2	0
Organophosphorous Pesticides	Azinophos methyl	mg/kg	0.1 (Primary); 0.2 (Interlab)	<0.1	<0.1	0	<0.1	<0.2	0
	Bromophos-ethyl	mg/kg	0.1	<0.1	<0.1	0	<0.1	-	-
	Chlorpyrifos	mg/kg	0.1 (Primary); 0.2 (Interlab)	<0.1	<0.1	0	<0.1	<0.2	0
	Chlorpyrifos-methyl	mg/kg	0.1	<0.1	<0.1	0	<0.1	-	-
	Diazinon	mg/kg	0.1 (Primary); 0.2 (Interlab)	<0.1	<0.1	0	<0.1	<0.2	0
	Dichlorvos	mg/kg	0.1 (Primary); 0.2 (Interlab)	<0.1	<0.1	0	<0.1	<0.2	0
	Dimethoate	mg/kg	0.1 (Primary); 0.2 (Interlab)	<0.1	<0.1	0	<0.1	<0.2	0
	Ethion	mg/kg	0.1	<0.1	<0.1	0	<0.1	-	-
	Fenitrothion	mg/kg	0.1 (Primary); 0.2 (Interlab)	<0.1	<0.1	0	<0.1	<0.2	0
	Malathion	mg/kg	0.1 (Primary); 0.2 (Interlab)	<0.1	<0.1	0	<0.1	<0.2	0
	Ronnel	mg/kg	0.1 (Primary); 0.2 (Interlab)	<0.1	<0.1	0	<0.1	<0.2	0
PAH/Phenols	Acenaphthene	mg/kg	0.1 (Primary); 0.5 (Interlab)	<0.1	<0.1	0	<0.1	<0.5	0
	Acenaphthylene	mg/kg	0.1 (Primary); 0.5 (Interlab)	<0.1	<0.1	0	<0.1	<0.5	0
	Anthracene	mg/kg	0.1 (Primary); 0.5 (Interlab)	<0.1	<0.1	0	<0.1	<0.5	0
	Benz(a)anthracene	mg/kg	0.1 (Primary); 0.5 (Interlab)	<0.1	<0.1	0	<0.1	<0.5	0
	Benzo(a) pyrene	mg/kg	0.05 (Primary); 0.5 (Interlab)	<0.05	<0.05	0	<0.05	<0.5	0
	Benzo(g,h,i)perylene	mg/kg	0.1 (Primary); 0.5 (Interlab)	<0.1	<0.1	0	<0.1	<0.5	0
	Chrysene	mg/kg	0.1 (Primary); 0.5 (Interlab)	<0.1	<0.1	0	<0.1	<0.5	0
	Dibenz(a,h)anthracene	mg/kg	0.1 (Primary); 0.5 (Interlab)	<0.1	<0.1	0	<0.1	<0.5	0
	Fluoranthene	mg/kg	0.1 (Primary); 0.5 (Interlab)	<0.1	<0.1	0	<0.1	<0.5	0
	Fluorene	mg/kg	0.1 (Primary); 0.5 (Interlab)	<0.1	<0.1	0	<0.1	<0.5	0
	Indeno(1,2,3-c,d)pyrene	mg/kg	0.1 (Primary); 0.5 (Interlab)	<0.1	<0.1	0	<0.1	<0.5	0
	Naphthalene	mg/kg	1 (Primary); 0.5 (Interlab)	<1.0	<1.0	0	<1.0	<0.5	0
	Naphthalene	mg/kg	0.1 (Primary); 0.5 (Interlab)	<0.1	<0.1	0	<0.1	<0.5	0
	Phenanthrene	mg/kg	0.1 (Primary); 0.5 (Interlab)	<0.1	<0.1	0	<0.1	<0.5	0
	Pyrene	mg/kg	0.1 (Primary); 0.5 (Interlab)	<0.1	<0.1	0	<0.1	<0.5	0
Pesticides	Parathion	mg/kg	0.1 (Primary); 0.5 (Interlab)	<0.1	<0.1	0	<0.1	<0.5	0
Polychlorinated Biphenyls	Arochlor 1016	mg/kg	0.1 (Primary); 0.5 (Interlab)	<0.1	<0.1	0	<0.1	<0.5	0
	Arochlor 1221	mg/kg	0.1	<0.1	<0.1	0	<0.1		
	Arochlor 1232	mg/kg	0.1 (Primary); 0.5 (Interlab)	<0.1	<0.1	0	<0.1	<0.5	0
	Arochlor 1242	mg/kg	0.1 (Primary); 0.5 (Interlab)	<0.1	<0.1	0	<0.1	<0.5	0
	Arochlor 1248	mg/kg	0.1 (Primary); 0.5 (Interlab)	<0.1	<0.1	0	<0.1	<0.5	0
	Arochlor 1254	mg/kg	0.1 (Primary); 0.5 (Interlab)	<0.1	<0.1	0	<0.1	<0.5	0
	Arochlor 1260	mg/kg	0.1 (Primary); 0.5 (Interlab)	<0.1	<0.1	0	<0.1	<0.5	0
TRH	C10-C16	mg/kg	50	<50.0	<50.0	0	<50.0	<50.0	0
	C16-C34	mg/kg	100	<100.0	<100.0	0	<100.0	<100.0	0
	C34-C40	mg/kg	100	<100.0	<100.0	0	<100.0	<100.0	0
	F2-NAPHTHALENE	mg/kg	50	<50.0	<50.0	0	<50.0	<50.0	0
	C6 - C9	mg/kg	25 (Primary); 20 (Interlab)	<25.0	<25.0	0	<25.0	<20.0	0
	C10 - C14	mg/kg	50 (Primary); 20 (Interlab)	<50.0	<50.0	0	<50.0	<20.0	0
	C15 - C28	mg/kg	100 (Primary); 50 (Interlab)	<100.0	<100.0	0	<100.0	<50.0	0
	C29-C36	mg/kg	100 (Primary); 50 (Interlab)	<100.0	<100.0	0	<100.0	77.0	0
	C6-C10	mg/kg	25 (Primary); 20 (Interlab)	<25.0	<25.0	0	<25.0	<20.0	0

*RPDs have only been considered where a concentration is greater than 1 times the EQL
**High RPDs are in bold (Acceptable RPDs for each EQL multiplier range are: 80 (1-10 x EQL); 50 (10-30 x EQL); 30 (> 30 x EQL))
***Interlab Duplicates are matched on a per compound basis as methods vary between laboratories. Any methods in the row header relate to those used in the primary laboratory

Table T4. Trip Blank

prensa

Laboratory Report	154160
Field ID	55499_TB1
Sampled_Date/Time	22/09/2016
Sample Type	Trip_B

Chem_Group	ChemName	Units	EQL	
Asbestos	Asbestos fibres	-		-
				-
BTEX	Benzene	mg/kg	0.2	<0.2
	Ethylbenzene	mg/kg	1	<1
	Toluene	mg/kg	0.5	<0.5
	Xylene (m & p)	mg/kg	2	<2
	Xylene (o)	mg/kg	1	<1
	C6-C10 less BTEX (F1)	mg/kg	25	<25
PAH/Phenols	Acenaphthene	mg/kg	0.1	-
	Acenaphthylene	mg/kg	0.1	-
	Anthracene	mg/kg	0.1	-
	Benz(a)anthracene	mg/kg	0.1	-
	Benzo(a) pyrene	mg/kg	0.05	-
	Benzo(g,h,i)perylene	mg/kg	0.1	-
	Chrysene	mg/kg	0.1	-
	Dibenz(a,h)anthracene	mg/kg	0.1	-
	Fluoranthene	mg/kg	0.1	-
	Fluorene	mg/kg	0.1	-
	Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	-
	Naphthalene	mg/kg	0.1	<1
	Phenanthrene	mg/kg	0.1	-
	Pyrene	mg/kg	0.1	-
TPH	C10-C16	mg/kg	50	-
	C16-C34	mg/kg	100	-
	C34-C40	mg/kg	100	-
	F2-NAPHTHALENE	mg/kg	50	-
	C6 - C9	mg/kg	25	<25
	C10 - C14	mg/kg	50	-
	C15 - C28	mg/kg	100	-
	C29-C36	mg/kg	100	-
	C6-C10	mg/kg	25	<25

Table T5 Rinsate Blank

prensa

Laboratory Report	154160
Field ID	55499 RB1
Sampled_Date/Time	22/09/2016
Sample Type	Rinsate

Chem_Group	ChemName	Units	EQL	
BTEX	Benzene	µg/L	1	<1
	Ethylbenzene	µg/L	1	<1
	Toluene	µg/L	1	<1
	Xylene (m & p)	µg/L	2	<2
	Xylene (o)	µg/L	1	<1
	C6-C10 less BTEX (F1)	mg/l	0.01	<0.01
Halogenated Benzenes	Hexachlorobenzene	µg/L	0.2	<0.2
Lead	Lead (Filtered)	mg/l	0.001	<0.001
Metals	Arsenic (Filtered)	mg/l	0.001	<0.001
	Cadmium (Filtered)	mg/l	0.0001	<0.0001
	Chromium (III+VI) (Filtered)	mg/l	0.001	<0.001
	Copper (Filtered)	mg/l	0.001	<0.001
	Mercury (Filtered)	mg/l	0.00005	<0.00005
	Nickel (Filtered)	mg/l	0.001	<0.001
	Zinc (Filtered)	mg/l	0.001	<0.001
Organochlorine Pesticides	4,4-DDE	µg/L	0.2	<0.2
	a-BHC	µg/L	0.2	<0.2
	Aldrin	µg/L	0.2	<0.2
	b-BHC	µg/L	0.2	<0.2
	Chlordane (cis)	µg/L	0.2	<0.2
	Chlordane (trans)	µg/L	0.2	<0.2
	d-BHC	µg/L	0.2	<0.2
	DDD	µg/L	0.2	<0.2
	DDT	µg/L	0.2	<0.2
	Dieldrin	µg/L	0.2	<0.2
	Endosulfan I	µg/L	0.2	<0.2
	Endosulfan II	µg/L	0.2	<0.2
	Endosulfan sulphate	µg/L	0.2	<0.2
	Endrin	µg/L	0.2	<0.2
	Endrin aldehyde	µg/L	0.2	<0.2
	g-BHC (Lindane)	µg/L	0.2	<0.2
	Heptachlor	µg/L	0.2	<0.2
	Heptachlor epoxide	µg/L	0.2	<0.2
	Methoxychlor	µg/L	0.2	<0.2
Organophosphorous Pesticides	Azinophos methyl	µg/L	0.2	<0.2
	Bromophos-ethyl	µg/L	0.2	<0.2
	Chlorpyrifos	µg/L	0.2	<0.2
	Chlorpyrifos-methyl	mg/l	0.0002	<0.0002
	Diazinon	µg/L	0.2	<0.2
	Dichlorvos	µg/L	0.2	<0.2
	Dimethoate	µg/L	0.2	<0.2
	Ethion	µg/L	0.2	<0.2
	Fenitrothion	µg/L	0.2	<0.2
	Malathion	µg/L	0.2	<0.2
	Ronnel	µg/L	0.2	<0.2
PAH/Phenols	Acenaphthene	µg/L	1	<1
	Acenaphthylene	µg/L	1	<1
	Anthracene	µg/L	1	<1
	Benz(a)anthracene	µg/L	1	<1
	Benzo(a) pyrene	µg/L	1	<1
	Benzo(g,h,i)perylene	µg/L	1	<1
	Chrysene	µg/L	1	<1
	Dibenz(a,h)anthracene	µg/L	1	<1
	Fluoranthene	µg/L	1	<1
	Fluorene	µg/L	1	<1
	Indeno(1,2,3-c,d)pyrene	µg/L	1	<1
	Naphthalene	µg/L	1	<1
	Phenanthrene	µg/L	1	<1
	Pyrene	µg/L	1	<1
PAHs in Water	Benzo(a)pyrene TEQ	µg/L	5	<5
	Total +ve PAHs	µg/L	1	0
Pesticides	Parathion	µg/L	0.2	<0.2
Polychlorinated Biphenyls	Arochlor 1016	µg/L	2	<2
	Arochlor 1221	µg/L	2	<2
	Arochlor 1232	µg/L	2	<2
	Arochlor 1242	µg/L	2	<2
	Arochlor 1248	µg/L	2	<2
	Arochlor 1254	µg/L	2	<2
	Arochlor 1260	µg/L	2	<2
TRH	C10-C16	mg/l	0.05	**0.057**
	C16-C34	mg/l	0.1	<0.1
	C34-C40	mg/l	0.1	<0.1
	F2-NAPHTHALENE	mg/l	0.05	**0.057**
	C6 - C9	µg/L	10	<10
	C10 - C14	µg/L	50	<50
	C15 - C28	µg/L	100	<100
	C29-C36	µg/L	100	<100
	C6-C10	mg/l	0.01	<0.01

Appendix A: Data Quality Objectives

Data Quality Objectives

Step 1 - State the Problem

A Phase 1 ESA report was previously prepared for the site by Coffey in 2012 (Ref: ENAUWARA04292AAR01.doc) to facilitate divestment. It was concluded by Coffey that there was a low to medium likelihood of soil contamination at the site relating to the following areas of environmental concern (AEC):

- Weathering and or maintenance/demolition of hazardous building materials;
- Potential use of fill the sites site; and
- Potential use of pesticides and insecticides.

Step 2 - Identify the Decisions

The decisions to be made based on the results of the investigation were as follows:

- What are the CoPC associated with potential soil contamination?
- Are CoPC present within soil, and if so, do they present an unacceptable risk to human health or the environment for a proposed rezoning and subsequent divestment under a more sensitive land use or divestment under current land use?
- If soil contamination is present, does the site require remediation works and/or a management plan prior to divestment?

Step 3 - Identify Inputs in the Decision

The inputs required to make the above decisions were as follows:

- Site setting and available background information;
- Selection of appropriate Tier 1 soil assessment criteria;
- Visual observations; and
- Field and laboratory analytical results.

Step 4 - Define Boundaries of the Study

The geographical limits appropriate for the data collection and decision making in this investigation comprised the boundary of the site as shown on Figure 1 in the 'Figures' section of this report.

The temporal boundaries of the investigation have been determined based on previous data collected during the Phase 1 ESA report (Coffey 2012).

Step 5 - Develop a Decision Rule

The purpose of this step was to define the parameter of interest, specify the action level and combine the outputs of the previous DQO steps into an 'if/then' decision rule that defines the conditions that would cause the decision maker to choose alternative actions.

If the levels of contaminants of potential concern in soil were below the adopted soil assessment criteria, the risk to human health and the environment could be considered to be low for that land use.

If concentrations of contaminants in soil exceed the adopted soil assessment criteria, consideration for statistical analysis of the dataset should be undertaken to support the need or otherwise for further assessment, remediation or site management. These decision rules include the 95% upper

confidence limit (UCL) of the mean contaminant concentration being less than the adopted site assessment criteria, the standard deviation being less than 50% and no individual concentration being in excess of 250% of the site assessment criteria (for similar soil types).

Step 6 - Specify Limits on Decision Errors

The acceptable limits on decision errors applied during the DSI and the manner of addressing possible decision errors were developed based on the data quality indicators (DQIs) of:

- Accuracy: a quantitative measure of the closeness of reported data to the true value;
- Comparability: a qualitative parameter expressing the confidence with which one (1) data set can be compared with another;
- Completeness: a measure of the amount of useable data (expressed as %) from a data collection activity;
- Representativeness: the confidence (expressed qualitatively) that data are representative of each media present on the site; and
- Precision: a quantitative measure of the variability (or reproducibility) of data.

Step 7 - Optimise the Design

The purpose of this step was to identify a resource-effective data collection design for generating data that satisfies the DQOs.

This assessment was designed considering the information provided during the request for proposal.

A proposal was prepared for the DSI which outlined a proposed scope. The methodology within the proposal was reviewed at critical times during the project and amended where necessary based on site conditions, unexpected finds, professional judgement and liaison with GPNSW. The methodology adopted to satisfy the DQOs is described in detail in Section 11 of this report.

To ensure the design satisfied the DQOs, DQIs (for accuracy, comparability, completeness, precision and reproducibility) were established to set acceptance limits on field methodologies and laboratory data collected.

Data Quality Indicators

A summary of the field and laboratory DQIs for the DSI are provided in Table A1.

Table A1: Data Quality Indicators (DQIs)

Field Considerations	Laboratory Considerations	Comments
Accuracy (bias)		
Work instructions (WI) are appropriate and have been complied with.	Analysis of: • Trip blanks; • Rinsate blanks; • Reagent blanks; • Method blanks; • Matrix spikes; • Surrogate spikes; • Reference material; • Laboratory control samples; and • Laboratory-prepared spikes.	Bias introduced: • By chemicals during handling or transport; • From contaminated equipment; • From contaminated reagent; • During laboratory analysis; • During laboratory preparation and analysis (may be high or low); • During laboratory preparation and analysis (may be high or low); • Precision of preparation of analytical method; • Precision of preparation of analytical method; and • During collection/transport (may be high or low).
Comparability		
Same WIs used on each occasion. Experienced sampler. Climatic conditions (temperature, rainfall, wind). Same types of samples collected (filtered, size fractions).	Sample analytical methods used (including clean-up). Laboratory practical quantification limits (PQLs) (justify /quantify if different). Same laboratories (justify /quantify if different). Same units (justify /quantify if different).	Same approach to sampling (WIs, holding times). Quantify influence from climatic or physical conditions. Samples collected, preserved, handled in same manner (filtered, same containers).

Table A1: Data Quality Indicators (DQIs)

Field Considerations	Laboratory Considerations	Comments
Completeness		
Critical locations sampled. WIs appropriate and complied with. Experienced sampler. Documentation correct.	Critical samples analysed in accordance with the tender response. Analytes sampled in accordance with scope of works. Appropriate methods and PQLs. Sample documentation correct. Sample holding times complied with.	The required percentage completeness should be specified in the scope of works. Required data must be obtained from critical samples and CoPC. Incompleteness is influenced by: • Field performance problems (access problems, difficulties on site, damage); • Laboratory performance problems (Matrix interference, invalid holding times); and • Matrix problems.
Representativeness		
Appropriate media sampled according to the scope of works. Media in the scope of works sampled.	Samples analysed according to the tender response.	Samples must be collected to reflect characteristics of each medium. Sample analysis must reflect properties of field samples. Homogeneity of the samples. Appropriate collection, handling, storage and preservation. Detection of laboratory artefacts, e.g. contamination blanks.
Precision		
WIs appropriate and complied with.	Analysis of: • Laboratory and inter-laboratory duplicates; • Laboratory prepared trip spikes; and • Field duplicates.	Measured by the coefficient of variance or standard deviation of the mean or Relative Percentage. Field duplicates measure field and laboratory precision Difference (RPD) calculations. Variation in RPDs can be expected to be higher for organics, low concentrations (<5 x laboratory PQL) or non-homogenous samples.

Acceptable limits adopted for data quality indicators for this DSI are outlined in Table A2.

Table A2: Acceptable Limits of Data Quality Indicators

Item	Acceptable Limit
Analysis of blind (intra-laboratory) duplicates and split (inter-laboratory) duplicates	Rate of 1:20 primary samples for the same analysis of primary samples; Calculation of relative percentage differences between primary and duplicate samples, the results of which to be less than: • 80% (where the average concentration was 1-10 x laboratory PQL); • 50% (where the average concentration was 10-30 x laboratory PQL); and • 30% (where the average concentration was > 30 x laboratory PQL).
Analysis of rinsate blanks	Rate of one (1) sample per batch; and Results less than the laboratory PQL.
Analysis of trip blanks	Rate of one (1) sample per batch; and Results less than the laboratory PQL.
Analysis of laboratory blanks, spikes, surrogates, reference and control samples	Laboratory specific
Laboratories and methods used	National Association of Testing Authorities accredited.
Sample PQLs	Results less than the adopted assessment criteria; justify/quantify if different.

Appendix B: Photographs



Photo 1. Concrete coring conducted at BH6.



Photo 2. Bitumen present within fill material at BH1.



Photo 3. Fill material at BH6.



Photo 4. Fine to medium grained grey sand at BH10.



Photo 5. Fill material at BH9.



Photo 6. Hand auger progressing BH5. Lead impact reported at 0.1 m BGL.

Appendix C: Assessment Criteria

Soil Assessment Criteria

Human Health

Health Investigation Levels (HILs)

HILs were deemed applicable for assessing human health risk via all relevant exposure pathways of exposure for metals and organic substances. HILs are concentrations below which contaminants in soils are not considered to adversely affect human health.

Health Screening Levels (HSLs)

Soil HSLs have been developed for selected petroleum compounds and fractions and were considered applicable to assessing human health risk via vapour intrusion and inhalation. The HSLs depend on specific soil physicochemical properties, land use scenarios, and the characteristics of building structures. They apply to different soil types, and depths below surface to >4 m BGL. Criteria relevant to a sandy soil type and depths of 0 to <1 m were selected as a conservative approach.

Soil HSLs were also adopted from CRC CARE 2011 to assess the exposure pathway of direct contact (oral ingestion, dermal contact and dust inhalation) for commercial / industrial, high density residential and shallow trench workers (maximum trench depth of 1.0 m) and vapour intrusion for intrusive maintenance workers. As a conservative approach, a sandy soil type and depth of 0-<2 m was adopted.

Petroleum Hydrocarbon Management Limits

Petroleum hydrocarbon management limits were considered applicable for validating petroleum hydrocarbons in soil to avoid or minimise the following potential effects of petroleum hydrocarbon contamination:

- Formation of observable light non-aqueous phase liquid (LNAPL);
- Fire and explosion hazards;
- Effects on buried infrastructure (i.e. penetration of, or damage to, in-ground services by hydrocarbons); and
- Aesthetics.

Management limits in coarse soils were conservatively adopted for this DSI as a conservative approach.

Asbestos

A criterion of 0.1g/kg for asbestos identification in soil and non-detection for trace analysis was adopted.

Ecological

Ecological Investigation Levels (EILs)

Ecological Investigation Levels (EILs) have been developed for selected metals and organic substances and are applicable for assessing risk to terrestrial ecosystems. EILs depend on specific soil physicochemical properties and land use scenarios and generally apply to the top 2.0 m of soil. Generic EILs for aged arsenic, fresh dichlorodiphenyltrichloroethane (DDT) and fresh naphthalene were adopted.

In the absence of site specific soil properties or an appropriate reference site, site specific Tier-1 EILs for copper, chromium (III), nickel, lead and zinc were not calculated. Site specific Tier-1 EILs for these

analytes would be considered to be within the ranges outlined in Table C1, which are based on a predicted range of ambient background concentrations (ABC) plus and a range of added contaminant limits (ACL).

Table C1: Site Specific EIL Ranges (mg/kg)

	Range of ABCs[1]		Range of ACLs[2]		Tier-1 Site Specific EIL Ranges	
	Min	Max	Min	Max	Min	Max
Copper						
Urban residential/public open space	*2*	*40*	*95*	*800*	*97*	***840***
Commercial Industrial			*140*	*1,200*	*142*	***1,260***
Chromium						
Urban residential/public open space	3	165	190	400	193	**565**
Commercial Industrial			310	660	313	**825**
Nickel						
Urban residential/public open space	1	56	30	560	31	**616**
Commercial Industrial			55	960	56	**1,016**
Lead						
Urban residential/public open space	0.1	29	1100	1100	1100.1	**1129**
Commercial Industrial			1,800	1,800	1,800.1	**1,829**
Zinc						
Urban residential/public open space	3	62	70	1300	73	**1362**
Commercial Industrial			110	2,000	113	**2,062**

[1] Predicted ambient background soil concentrations, based on the equations from Hamon et al. (2004). Adopted from NEPM 2013 Schedule B5b)

[2] Adopted from NEPM 2013 Schedule B1

Ecological Screening Levels (ESLs)

ESLs are concentrations of contaminants above which further appropriate investigation and evaluation will be required. They were developed for select petroleum hydrocarbons; they depend on specific soil physicochemical properties and land use scenarios and generally apply to the top 2.0 m of soil (NEPM 2013). ESLs for coarse grained soils were adopted based on the soils encountered.

Appendix D: Borehole logs

Borehole Log - BH1

Sheet: 1 of 1

Client: Government Property NSW	**Date:** 22/09/2016	**Depth of Hole:** 0.65 m
Job Number: 55499	**Rig/Machine:**	**Drawn By:** STM
Site Location: 9 Church Street	**Excavation Method:** Auger	**Approved By:** RBB
Job Type: GPNSW 9 Church St, Newcastle DSI	**PID Calibration:** 99.9 ppm Isobutylene	

Comment:

Depth (m)	Method	Graphic Log	Subsurface Profile	Sample	PID
			BRICK		
0.1	HA		FILL: sand, medium to coarse grained, yellow to brown, loose, moist, fine rootlets	BH1_0.1	5.1
0.2					
0.3			FILL: gravelly sandy clay, coarse grained sand, brown to red, medium dense, slightly moist, bitumen present, semi-angular to angular gravels	BH1_0.3	0
0.4					
0.5				BH1_0.5	2.6
0.6					
0.7			End of hole at 0.65 m Refusal		
0.8					
0.9					
1.0					
1.1					
1.2					
1.3					
1.4					
1.5					
1.6					
1.7					
1.8					
1.9					
2.0					
2.1					
2.2					
2.3					
2.4					
2.5					
2.6					
2.7					
2.8					
2.9					
3.0					
3.1					
3.2					
3.3					
3.4					

PRENSA LIB 1.01.GLB Log PRENSA BH-TP-HA LOG 55499 GPNSW 9 CHURCH ST DSI.GPJ <<DrawingFile>> 07/10/2016 14:38 8.30.002 Datgel Lab and In Situ Tool

Environmental log only. Not to be relied on for any other purpose.

Borehole Log - BH10

Sheet: 1 of 1

prensa

Client: Government Property NSW	**Date:** 22/09/2016	**Depth of Hole:** 3.30 m
Job Number: 55499	**Rig/Machine:**	**Drawn By:** STM
Site Location: 9 Church Street	**Excavation Method:** Auger	**Approved By:** RBB
Job Type: GPNSW 9 Church St, Newcastle DSI	**PID Calibration:** 99.9 ppm Isobutylene	

Comment:

Depth (m)	Method	Graphic Log	Subsurface Profile	Sample	PID
0.1	HA		FILL: sandy silt, fine grained sand, dark brown, medium dense, moist	BH10_0.1	0
0.2					
0.3			FILL: sandy clay, fine grained sand, yellow to brown, loose moist		
0.4				BH10_0.4	0
0.5					
0.6					
0.7					
0.8					
0.9					
1.0				BH10_1.1	0
1.1					
1.2			FILL: sand, fine to medium grained, grey, loose, moist		
1.3				BH10_1.3	0
1.4					
1.5					
1.6					
1.7					
1.8					
1.9					
2.0					
2.1					
2.2				BH10_2.2	0
2.3					
2.4					
2.5					
2.6					
2.7					
2.8					
2.9					
3.0				BH10_3.0	0
3.1					
3.2					
3.3			End of hole at 3.30 m Refusal		
3.4					

PRENSA LIB 1.01.GLB Log PRENSA BH-TP-HA LOG 55499 GPNSW 9 CHURCH ST DSI.GPJ <<DrawingFile>> 07/10/2016 14:38 8.30.002 Datgel Lab and In Situ Tool

Environmental log only. Not to be relied on for any other purpose.

Borehole Log - BH2

Sheet: 1 of 1

prensa

Client: Government Property NSW	**Date:** 22/09/2016	**Depth of Hole:** 0.60 m
Job Number: 55499	**Rig/Machine:**	**Drawn By:** STM
Site Location: 9 Church Street	**Excavation Method:** Auger	**Approved By:** RBB
Job Type: GPNSW 9 Church St, Newcastle DSI	**PID Calibration:** 99.9 ppm Isobutylene	

Comment:

Depth (m)	Method	Graphic Log	Subsurface Profile	Sample	PID
0.1	HA		FILL: sandy silt, very coarse grained sand, dark brown to black, medium dense, moist, fine rootlets	BH2_0.1	0
0.2					
0.3					
0.4					
0.5				BH2_0.5	0
0.6			End of hole at 0.60 m Refusal		
0.7					
0.8					
0.9					
1.0					
1.1					
1.2					
1.3					
1.4					
1.5					
1.6					
1.7					
1.8					
1.9					
2.0					
2.1					
2.2					
2.3					
2.4					
2.5					
2.6					
2.7					
2.8					
2.9					
3.0					
3.1					
3.2					
3.3					
3.4					

PRENSA LIB 1.01.GLB Log PRENSA BH-TP-HA LOG 55499 GPNSW 9 CHURCH ST DSI.GPJ <<DrawingFile>> 07/10/2016 14:38 8.30.002 Datgel Lab and In Situ Tool

Environmental log only. Not to be relied on for any other purpose.

Borehole Log - BH3

Sheet: 1 of 1

prensa

Client: Government Property NSW	**Date:** 22/09/2016	**Depth of Hole:** 1.20 m
Job Number: 55499	**Rig/Machine:**	**Drawn By:** STM
Site Location: 9 Church Street	**Excavation Method:** Auger	**Approved By:** RBB
Job Type: GPNSW 9 Church St, Newcastle DSI	**PID Calibration:** 99.9 ppm Isobutylene	

Comment:

Depth (m)	Method	Graphic Log	Subsurface Profile	Sample	PID
0.1	HA		FILL: sandy silt, fine grained sand, dark brown to black, loose, dry, rootlets	BH3_0.1	0
0.2					
0.3					
0.4					
0.5					
0.6					
0.7				BH3_0.7	0
0.8					
0.9				BH3_1.0	0
1.0					
1.1				BH3_1.2	0
1.2			End of hole at 1.20 m Borehole collapse		
1.3					
1.4					
1.5					
1.6					
1.7					
1.8					
1.9					
2.0					
2.1					
2.2					
2.3					
2.4					
2.5					
2.6					
2.7					
2.8					
2.9					
3.0					
3.1					
3.2					
3.3					
3.4					

PRENSA LIB 1.01.GLB Log PRENSA BH-TP-HA LOG 55499 GPNSW 9 CHURCH ST DSI.GPJ <<DrawingFile>> 07/10/2016 14:38 8.30.002 Datgel Lab and In Situ Tool

Environmental log only. Not to be relied on for any other purpose.

Borehole Log - BH4

Sheet: 1 of 1

prensa

Client: Government Property NSW	**Date:** 22/09/2016	**Depth of Hole:** 0.92 m
Job Number: 55499	**Rig/Machine:**	**Drawn By:** STM
Site Location: 9 Church Street	**Excavation Method:** Auger	**Approved By:** RBB
Job Type: GPNSW 9 Church St, Newcastle DSI	**PID Calibration:** 99.9 ppm Isobutylene	

Comment:

Depth (m)	Method	Graphic Log	Subsurface Profile	Sample	PID
0.1	HA		CONCRETE		
0.2			FILL: gravelly sand, medium to coarse grained sand, grey, medium dense, slightly moist, angular to semi-angular gravels, bitumen fragments	BH4_0.1	0
0.3					
0.4					
0.5				BH4_0.5	0
0.6					
0.7					
0.8				BH4_0.8	0
0.9					
1.0			End of hole at 0.92 m Refusal		
1.1					
1.2					
1.3					
1.4					
1.5					
1.6					
1.7					
1.8					
1.9					
2.0					
2.1					
2.2					
2.3					
2.4					
2.5					
2.6					
2.7					
2.8					
2.9					
3.0					
3.1					
3.2					
3.3					
3.4					

PRENSA LIB 1.01.GLB Log PRENSA BH-TP-HA LOG 55499 GPNSW 9 CHURCH ST DSI.GPJ <<DrawingFile>> 07/10/2016 14:38 8.30.002 Datgel Lab and In Situ Tool

Environmental log only. Not to be relied on for any other purpose.

Borehole Log - BH5

Sheet: 1 of 1

prensa

Client: Government Property NSW	**Date:** 22/09/2016	**Depth of Hole:** 0.80 m
Job Number: 55499	**Rig/Machine:**	**Drawn By:** STM
Site Location: 9 Church Street	**Excavation Method:** Auger	**Approved By:** RBB
Job Type: GPNSW 9 Church St, Newcastle DSI	**PID Calibration:** 99.9 ppm Isobutylene	

Comment:

Depth (m)	Method	Graphic Log	Subsurface Profile	Sample	PID
0.1	HA		FILL: sandy silt, fine to medium grained sand, dark brown to black, loose, moist, high organic content	BH5_0.1	0
0.2					
0.3					
0.4					
0.5					
0.6			FILL: sand, fine to medium grained sand, grey, loose, slightly moist	BH5_0.6	0
0.7			SAND: grey, very dense, slightly moist, pulverised, weathered sandstone	BH5_0.8	0
0.8			End of hole at 0.80 m Refusal		
0.9					
1.0					
1.1					
1.2					
1.3					
1.4					
1.5					
1.6					
1.7					
1.8					
1.9					
2.0					
2.1					
2.2					
2.3					
2.4					
2.5					
2.6					
2.7					
2.8					
2.9					
3.0					
3.1					
3.2					
3.3					
3.4					

PRENSA LIB 1.01.GLB Log PRENSA BH-TP-HA LOG 55499 GPNSW 9 CHURCH ST DSI.GPJ <<DrawingFile>> 07/10/2016 14:38 8.30.002 Datgel Lab and In Situ Tool

Environmental log only. Not to be relied on for any other purpose.

Borehole Log - BH6

Sheet: 1 of 1

Client: Government Property NSW	**Date:** 22/09/2016	**Depth of Hole:** 1.10 m
Job Number: 55499	**Rig/Machine:**	**Drawn By:** STM
Site Location: 9 Church Street	**Excavation Method:** Auger	**Approved By:** RBB
Job Type: GPNSW 9 Church St, Newcastle DSI	**PID Calibration:** 99.9 ppm Isobutylene	

Comment:

Depth (m)	Method	Graphic Log	Subsurface Profile	Sample	PID
0.0	HA		BITUMEN		
0.1			FILL: sand, medium to coarse grained, yellow, loose, slightly moist	BH6_0.15	0
0.2					
0.3					
0.4				BH6_0.5	0
0.5					
0.6			CLAY: zero plasticity, red to brown, hard and dense, slightly moist		
0.7				BH6_0.7	0
0.8					
0.9				BH6_1.0	0
1.0					
1.1			End of hole at 1.10 m Target depth		
1.2					
1.3					
1.4					
1.5					
1.6					
1.7					
1.8					
1.9					
2.0					
2.1					
2.2					
2.3					
2.4					
2.5					
2.6					
2.7					
2.8					
2.9					
3.0					
3.1					
3.2					
3.3					
3.4					

PRENSA LIB 1.01.GLB Log PRENSA BH-TP-HA LOG 55499 GPNSW 9 CHURCH ST DSI.GPJ <<DrawingFile>> 07/10/2016 14:38 8.30.002 Dalgel Lab and In Situ Tool

Environmental log only. Not to be relied on for any other purpose.

Borehole Log - BH7

Sheet: 1 of 1

prensa

Client: Government Property NSW	**Date:** 22/09/2016	**Depth of Hole:** 0.85 m
Job Number: 55499	**Rig/Machine:**	**Drawn By:** STM
Site Location: 9 Church Street	**Excavation Method:** Auger	**Approved By:** RBB
Job Type: GPNSW 9 Church St, Newcastle DSI	**PID Calibration:** 99.9 ppm Isobutylene	

Comment:
QC1 & QC2 taken at 55499_BH7_0.1
Stepped out 4 times, refusal at same depth

Depth (m)	Method	Graphic Log	Subsurface Profile	Sample	PID
0.1	HA		FILL: sandy silt, fine grained sand, dark brown to black, loose, dry, roots and rootlets	BH7_0.1	0
0.2					
0.3					
0.4					
0.5			FILL: sandy clay, zero plasticity, red to brown, medium dense, slightly moist	BH7_0.5	0
0.6			CLAY: zero plasticity, red to brown, dense, slightly moist	BH7_0.6	0
0.7					
0.8					
0.9			End of hole at 0.85 m Refusal		
1.0					
1.1					
1.2					
1.3					
1.4					
1.5					
1.6					
1.7					
1.8					
1.9					
2.0					
2.1					
2.2					
2.3					
2.4					
2.5					
2.6					
2.7					
2.8					
2.9					
3.0					
3.1					
3.2					
3.3					
3.4					

PRENSA LIB 1.01.GLB Log PRENSA BH-TP-HA LOG 55499 GPNSW 9 CHURCH ST DSI.GPJ <<DrawingFile>> 07/10/2016 14:38 8.30.002 Datgel Lab and In Situ Tool

Environmental log only. Not to be relied on for any other purpose.

Borehole Log - BH8

Sheet: 1 of 1

Client: Government Property NSW	**Date:** 22/09/2016	**Depth of Hole:** 0.30 m
Job Number: 55499	**Rig/Machine:**	**Drawn By:** STM
Site Location: 9 Church Street	**Excavation Method:** Auger	**Approved By:** RBB
Job Type: GPNSW 9 Church St, Newcastle DSI	**PID Calibration:** 99.9 ppm Isobutylene	

Comment:
Refusal on 2nd slab, stepped out 4 times, refusal at same depth for all locations

Depth (m)	Method	Graphic Log	Subsurface Profile	Sample	PID
0.1	HA		FILL: sandy silt, fine grained sand, dark brown, loose, dry, rootlets	BH8_0.1	0
0.2					
0.3			End of hole at 0.30 m Refusal		
0.4					
0.5					
0.6					
0.7					
0.8					
0.9					
1.0					
1.1					
1.2					
1.3					
1.4					
1.5					
1.6					
1.7					
1.8					
1.9					
2.0					
2.1					
2.2					
2.3					
2.4					
2.5					
2.6					
2.7					
2.8					
2.9					
3.0					
3.1					
3.2					
3.3					
3.4					

PRENSA LIB 1.01.GLB Log PRENSA BH-TP-HA LOG 55499 GPNSW 9 CHURCH ST DSI.GPJ <<DrawingFile>> 07/10/2016 14:38 8.30.002 Datgel Lab and In Situ Tool

Environmental log only. Not to be relied on for any other purpose.

Borehole Log - BH9

Sheet: 1 of 1

prensa

Client: Government Property NSW	**Date:** 22/09/2016	**Depth of Hole:** 1.30 m
Job Number: 55499	**Rig/Machine:**	**Drawn By:** STM
Site Location: 9 Church Street	**Excavation Method:** Auger	**Approved By:** RBB
Job Type: GPNSW 9 Church St, Newcastle DSI	**PID Calibration:** 99.9 ppm Isobutylene	

Comment:

Depth (m)	Method	Graphic Log	Subsurface Profile	Sample	PID
0.1	HA		FILL: sandy silt, dark brown, loose, slightly moist, rootlets	BH9_0.1	0
0.2					
0.3					
0.4			FILL: gravelly sand, medium to coarse grained sand, grey to brown, dense, moist, semi-angular to angular gravels		
0.5				BH9_0.5	0
0.6			FILL: sand, medium to coarse grained sand, yellow to brown, loose, moist, minor gravels, tile, brick, crushed sandstone		
0.7				BH9_0.6	0
0.8			Silty CLAY: medium plasticity, grey to brown, very soft, very moist, higher clay content with depth		
0.9					
1.0				BH9_1.0	0
1.1					
1.2					
1.3			End of hole at 1.30 m Target depth		
1.4					
1.5					
1.6					
1.7					
1.8					
1.9					
2.0					
2.1					
2.2					
2.3					
2.4					
2.5					
2.6					
2.7					
2.8					
2.9					
3.0					
3.1					
3.2					
3.3					
3.4					

PRENSA LIB 1.01.GLB Log PRENSA BH-TP-HA LOG 55499 GPNSW 9 CHURCH ST DSI.GPJ <<DrawingFile>> 07/10/2016 14:38 8.30.002 Datgel Lab and In Situ Tool

Environmental log only. Not to be relied on for any other purpose.

Appendix E: Laboratory Reports

CHAIN OF CUSTODY - Client

ENVIROLAB GROUP

ENVIROLAB GROUP

Client: Prensa	**Client Project Name / Number / Site etc (ie report title):** Newcastle DSI
Contact person:	**PO No.:** 55499
Project Mgr:	**Envirolab Quote No. :** 1053
Sampler:	**Date results required:** Standard
Address: 115 Military Rd	**Or choose:** ~~standard~~ / ~~same day~~ / ~~1 day~~ / ~~2 day~~ / ~~3 day~~
Neutral Bay NSW 2089	*Note: Inform lab in advance if urgent turnaround is required - surcharge applies*
Phone: 02 8968 2500 **Mob:** 0424 703 009	**Lab comments:**
Fax:	
Email: simon.hay@prensa.com.au / anthony.plumb@prensa.com.au	

Envirolab Services
12 Ashley St, Chatswood, NSW 2067
Phone: 02 9910 6200 Fax :02 9910 6201
E-mail: ahie@envirolabservices.com.au
Contact: Aileen Hie

Envirolab Services WA t/a MPL
16-18 Hayden Crt, Myaree WA 6154
Phone: 08 9317 2505 Fax :08 9317 4163
E-mail: lab@mpl.com.au
Contact: Joshua Lim

Sample information					Tests Required														Comments
Envirolab Sample ID	Client Sample ID or information	Depth	Date sampled	Type of sample	Combo 6A	BTEX & TRH (C6-C9)	Combo 6	Hold											Provide as much information about the sample as you can
1	55499_BH1_0.1	0.1	22/09/2016	Soil															
2	55499_BH1_0.3	0.3	22/09/2016	Soil	X														
3	55499_BH1_0.5	0.5	22/09/2016	Soil															
4	55499_BH2_0.1	0.5	22/09/2016	Soil															
5	55499_BH2_0.5	0.5	22/09/2016	Soil															
6	55499_BH3_0.1	0.1	22/09/2016	Soil															
7	55499_BH3_0.7	0.7	22/09/2016	Soil															
8	55499_BH3_1.0	1.0	22/09/2016	Soil															
9	55499_BH3_1.2	1.2	22/09/2016	Soil															
10	55499_[illegible]_0.1	0.1	22/09/2016	Soil															
11	55499_[illegible]_0.5	0.5	22/09/2016	Soil	X														
12	55499_[illegible]_0.8	0.8	22/09/2016	Soil															
13	55499_[illegible]_0.1	0.1	22/09/2016	Soil	X														

ENVIROLAB GROUP
12 Ashley St
Chatswood NSW 2067
Ph: (02) 9910 6200

Job No: 154160
Date Received: 23/9/2016
Time Received: 16.40
Received by:
Temp: Cool/Ambient 11.2
Cooling: Ice/Icepack
Security: Intact/Broken/None

Relinquished by (company):	Prensa	**Received by (company):** EL
Print Name:	Simon Hay	**Print Name:** D. Ray
Date & Time:	22/09/2016 14:00	**Date & Time:** 23/9/2016 16.40
Signature:		**Signature:**

Lab use only:
Samples Received: Cool or Ambient (circle one)
Temperature Received at: 11.2 (if applicable)
Transported by: Hand delivered / courier

White - Lab copy / Blue - Client copy / Pink - Retain in Book

CHAIN OF CUSTODY - Client

ENVIROLAB GROUP

Client: Prensa	**Client Project Name / Number / Site etc (ie report title):** Newcastle DSI
Contact person:	**PO No.:** 55499
Project Mgr:	**Envirolab Quote No. :** 1053
Sampler:	**Date results required:** Standard
Address: 115 Military Rd	**Or choose:** ~~standard~~ / ~~same day~~ / ~~1 day~~ / ~~2 day~~ / ~~3 day~~
Neutral Bay NSW 2089	*Note: Inform lab in advance if urgent turnaround is required - surcharge applies*
Phone: 02 8968 2500 **Mob:** 0424 703 009	**Lab comments:**
Fax:	
Email: simon.hay@prensa.com.au / anthony.plumb@prensa.com.au	

Envirolab Services
12 Ashley St, Chatswood, NSW 2067
Phone: 02 9910 6200 Fax :02 9910 6201
E-mail: ahie@envirolabservices.com.au
Contact: Aileen Hie

Envirolab Services WA t/a MPL
16-18 Hayden Crt, Myaree WA 6154
Phone: 08 9317 2505 Fax :08 9317 4163
E-mail: lab@mpl.com.au
Contact: Joshua Lim

Sample information					Tests Required															Comments
Envirolab Sample ID	Client Sample ID or information	Depth	Date sampled	Type of sample	Combo 6A	BTEX & TRH (C6-C9)	Combo 6	Hold												Provide as much information about the sample as you can
14	55499_BH5_0.6	0.6	22/09/2016	Soil																
15	55499_BH5_0.8	0.8	22/09/2016	Soil																
16	55499_BH6_0.15	0.15	22/09/2016	Soil																
17	55499_BH6_0.5	0.5	22/09/2016	Soil	X															
18	55499_BH6_0.7	0.7	22/09/2016	Soil																
19	55499_BH6_1.0	1.0	22/09/2016	Soil																
20	55499_BH7_0.1	0.1	22/09/2016	Soil	X															
21	55499_BH7_0.5	0.5	22/09/2016	Soil																
22	55499_BH7_0.6	0.6	22/09/2016	Soil																
23	55499_BH8_0.1	0.1	22/09/2016	Soil	X															
24	55499_BH9_0.1	0.1	22/09/2016	Soil																
25	55499_BH9_0.5	0.5	22/09/2016	Soil																
26	55499_BH9_0.6	0.6	22/09/2016	Soil	X															

Relinquished by (company): Prensa	**Received by (company):** EJ	***Lab use only:***
Print Name: Simon Hay	**Print Name:** RRaj	**Samples Received: Cool or Ambient (circle one)**
Date & Time: 22/09/2016	**Date & Time:** 23/9/2016 1640	**Temperature Received at:** (if applicable)
Signature:	**Signature:**	**Transported by: Hand delivered / courier**

White - Lab copy / Blue - Client copy / Pink - Retain in Book

154160

CHAIN OF CUSTODY - Client

ENVIROLAB GROUP

Client: Prensa	**Client Project Name / Number / Site etc (ie report title):** Newcastle DSI	**Envirolab Services** 12 Ashley St, Chatswood, NSW 2067 Phone: 02 9910 6200 Fax :02 9910 6201 E-mail: ahie@envirolabservices.com.au Contact: Aileen Hie
Contact person:	**PO No.:** 55499	
Project Mgr:	**Envirolab Quote No. :** 1053	
Sampler:	**Date results required:** Standard	**Envirolab Services WA t/a MPL** 16-18 Hayden Crt, Myaree WA 6154 Phone: 08 9317 2505 Fax :08 9317 4163 E-mail: lab@mpl.com.au Contact: Joshua Lim
Address: 115 Military Rd Neutral Bay NSW 2089	**Or choose:** ~~standard / same day / 1 day / 2 day / 3 day~~	
Phone: 02 8968 2500 **Mob:** 0424 703 009	*Note: Inform lab in advance if urgent turnaround is required - surcharge applies*	
Fax:	**Lab comments:**	
Email: simon.hay@prensa.com.au / anthony.plumb@prensa.com.au		

Sample information					Tests Required														Comments
Envirolab Sample ID	Client Sample ID or information	Depth	Date sampled	Type of sample	Combo 6A	BTEX & TRH (C6-C9)	Combo 6	Hold											Provide as much information about the sample as you can
27	55499_BH9_1.0	1.0	22/09/2016	Soil															
28	55499_BH10_0.1	0.1	22/09/2016	Soil															
29	55499_BH10_0.4	0.4	22/09/2016	Soil	X														
30	55499_BH10_1.1	1.1	22/09/2016	Soil															
31	55499_BH10_1.3	1.3	22/09/2016	Soil															
32	55499_BH10_2.7	2.2	22/09/2016	Soil															
33	55499_BH10_3.0	3.0	22/09/2016	Soil															
	55499_BH_		22/09/2016	Soil															
	55499_BH_		22/09/2016	Soil															
	55499_BH_		22/09/2016	Soil															
	55499_BH_		22/09/2016	Soil															
	55499_BH_		22/09/2016	Soil															
	55499_BH_		22/09/2016	Soil															

Relinquished by (company): Prensa	**Received by (company):** ES	***Lab use only:***
Print Name: Simon Hay	**Print Name:** P. Ray	**Samples Received: Cool or Ambient (circle one)**
Date & Time: 22/09/2016	**Date & Time:** 23/9/2016 16.40	**Temperature Received at:** (if applicable)
Signature:	**Signature:**	**Transported by: Hand delivered / courier**

White - Lab copy / Blue - Client copy / Pink - Retain in Book

Page No: 3 of 4

154160

Form: 302 - Chain of Custody-Client, Issued 16/03/10, Version 4, Page 1 of 1.

CHAIN OF CUSTODY - Client

ENVIROLAB GROUP

Client: Prensa	**Client Project Name / Number / Site etc (ie report title):** Newcastle DSI
Contact person:	**PO No.:** 55499
Project Mgr:	**Envirolab Quote No. :** 1053
Sampler:	**Date results required:** Standard
Address: 115 Military Rd	**Or choose:** ~~standard / same day / 1 day / 2 day / 3 day~~
Neutral Bay NSW 2089	*Note: Inform lab in advance if urgent turnaround is required - surcharge applies*
Phone: 02 8968 2500 **Mob:** 0424 703 009	**Lab comments:**
Fax:	
Email: simon.hay@prensa.com.au / anthony.plumb@prensa.com.au	

Envirolab Services
12 Ashley St, Chatswood, NSW 2067
Phone: 02 9910 6200 Fax :02 9910 6201
E-mail: ahie@envirolabservices.com.au
Contact: Aileen Hie

Envirolab Services WA t/a MPL
16-18 Hayden Crt, Myaree WA 6154
Phone: 08 9317 2505 Fax :08 9317 4163
E-mail: lab@mpl.com.au
Contact: Joshua Lim

Sample information					Tests Required														Comments
Envirolab Sample ID	Client Sample ID or information	Depth	Date sampled	Type of sample	Combo 6A	BTEX & TRH (C6-C9)	Combo 6	Hold											Provide as much information about the sample as you can
			22/09/2016	Soil															
			22/09/2016	Soil															
			22/09/2016	Soil															
			22/09/2016	Soil															
			22/09/2016	Soil															
			22/09/2016	Soil															
			22/09/2016	Soil															
			22/09/2016	Soil															
			22/09/2016	Soil															
34	55499_QC1		22/09/2016	Soil			X												
35	55499_RB1		22/09/2016	Water			X												
36	55499_TB1		22/09/2016	Soil		X													
37	55499_FB1		22/09/2016	Water				X											

Relinquished by (company): Prensa	**Received by (company):** EVS	***Lab use only:***
Print Name: Simon Hay	**Print Name:** D. Ray	**Samples Received:** Cool or Ambient (circle one)
Date & Time: 22/09/2016 14:00	**Date & Time:** 23/9/2016 16.40	**Temperature Received at:** (if applicable)
Signature:	**Signature:**	**Transported by:** Hand delivered / courier

White - Lab copy / Blue - Client copy / Pink - Retain in Book

154160.

Envirolab Services Pty Ltd
ABN 37 112 535 645
12 Ashley St Chatswood NSW 2067
ph 02 9910 6200 fax 02 9910 6201
enquiries@envirolabservices.com.au
www.envirolabservices.com.au

SAMPLE RECEIPT ADVICE

Client Details	
Client	Prensa Pty Ltd
Attention	Simon Hay, Anthony Plumb

Sample Login Details	
Your Reference	Newcastle DSI
Envirolab Reference	**154160**
Date Sample Received	23/09/2016
Date Instructions Received	23/09/2016
Date Results Expected to be Reported	**30/09/2016**

Sample Condition	
Samples received in appropriate condition for analysis	YES
No. of Samples Provided	2 waters 35 soils
Turnaround Time Requested	Standard
Temperature on receipt (°C)	11.2
Cooling Method	Ice
Sampling Date Provided	YES

Comments
Samples will be held for 1 month for water samples and 2 months for soil samples from date of receipt of samples

Please direct any queries to:

Aileen Hie	Jacinta Hurst
Phone: 02 9910 6200	Phone: 02 9910 6200
Fax: 02 9910 6201	Fax: 02 9910 6201
Email: ahie@envirolabservices.com.au	Email: jhurst@envirolabservices.com.au

Sample and Testing Details on following page

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Sample Id	vTRH(C6-C10)/BTEXN in Soil	svTRH (C10-C40) in Soil	PAHs in Soil	Organochlorine Pesticides in soil	Organophosphorus Pesticides	PCBs in Soil	Acid Extractable metals in soil	Asbestos ID - soils	vTRH(C6-C10)/BTEXN in Water	svTRH (C10-C40) in Water	PAHs in Water	OCP in water	OP Pesticides in water	PCBs in Water	HM in water - dissolved	On Hold
55499_BH1-0.1																✓
55499_BH1-0.3	✓	✓	✓	✓	✓	✓	✓	✓								
55499_BH1-0.5																✓
55499_BH2-0.1																✓
55499_BH2-0.5																✓
55499_BH3-0.1																✓
55499_BH3-0.7																✓
55499_BH3-1.0																✓
55499_BH3-1.2																✓
55499_BH4-0.1																✓
55499_BH4-0.5	✓	✓	✓	✓	✓	✓	✓	✓								
55499_BH4-0.8																✓
55499_BH5-0.1	✓	✓	✓	✓	✓	✓	✓	✓								
55499_BH5-0.6																✓
55499_BH5-0.8																✓
55499_BH6-0.15																✓
55499_BH6-0.5	✓	✓	✓	✓	✓	✓	✓	✓								
55499_BH6-0.7																✓
55499_BH6-1.0																✓
55499_BH7-0.1	✓	✓	✓	✓	✓	✓	✓	✓								
55499_BH7-0.5																✓

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Sample Id	vTRH(C6-C10)/BTEXN in Soil	svTRH (C10-C40) in Soil	PAHs in Soil	Organochlorine Pesticides in soil	Organophosphorus Pesticides	PCBs in Soil	Acid Extractable metals in soil	Asbestos ID - soils	vTRH(C6-C10)/BTEXN in Water	svTRH (C10-C40) in Water	PAHs in Water	OCP in water	OP Pesticides in water	PCBs in Water	HM in water - dissolved	On Hold
55499_BH7-0.6																✓
55499_BH8-0.1	✓	✓	✓	✓	✓	✓	✓	✓								
55499_BH9-0.1																✓
55499_BH9-0.5																✓
55499_BH9-0.6	✓	✓	✓	✓	✓	✓	✓	✓								
55499_BH9-1.0																✓
55499_BH10-0.1																✓
55499_BH10-0.4	✓	✓	✓	✓	✓	✓	✓	✓								
55499_BH10-1.1																✓
55499_BH10-1.3																✓
55499_BH10-2.2																✓
55499_BH10-3.0																✓
55499_QC1	✓	✓	✓	✓	✓	✓	✓									
55499_RB1									✓	✓	✓	✓	✓	✓	✓	
55499_TB1	✓															
55499_FB1																✓

12 Ashley Street, Chatswood, NSW 2067
tel: +61 2 9910 6200

email: sydney@envirolab.com.au
envirolab.com.au

Envirolab Services Pty Ltd - Sydney | ABN 37 112 535 645

CERTIFICATE OF ANALYSIS 154160

Client:
Prensa Pty Ltd
Level 1, 261-271 Wattletree Rd
Malvern
VIC 3144

Attention: Simon Hay, Anthony Plumb

Sample log in details:

Your Reference:	**Newcastle DSI**
No. of samples:	2 waters 35 soils
Date samples received / completed instructions received	23/09/16 / 23/09/16

Analysis Details:
Please refer to the following pages for results, methodology summary and quality control data.
Samples were analysed as received from the client. Results relate specifically to the samples as received.
Results are reported on a dry weight basis for solids and on an as received basis for other matrices.
Please refer to the last page of this report for any comments relating to the results.

Report Details:

Date results requested by: / Issue Date:	30/09/16 / 30/09/16
Date of Preliminary Report:	Not Issued

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Accredited for compliance with ISO/IEC 17025 - Testing **Tests not covered by NATA are denoted with *.**

Results Approved By:

David Springer
General Manager

vTRH(C6-C10)/BTEXN in Soil						
Our Reference:	UNITS	154160-2	154160-11	154160-13	154160-17	154160-20
Your Reference	----------	55499_BH1	55499_BH4	55499_BH5	55499_BH6	55499_BH7
Depth	----------	0.3	0.5	0.1	0.5	0.1
Date Sampled		22/09/2016	22/09/2016	22/09/2016	22/09/2016	22/09/2016
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	26/09/2016	26/09/2016	26/09/2016	26/09/2016	26/09/2016
Date analysed	-	28/09/2016	28/09/2016	28/09/2016	28/09/2016	28/09/2016
TRHC6 - C9	mg/kg	<25	<25	<25	<25	<25
TRHC6 - C10	mg/kg	<25	<25	<25	<25	<25
vTPHC6 - C10 less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
naphthalene	mg/kg	<1	<1	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	95	110	93	103	108

vTRH(C6-C10)/BTEXN in Soil						
Our Reference:	UNITS	154160-23	154160-26	154160-29	154160-34	154160-36
Your Reference	----------	55499_BH8	55499_BH9	55499_BH10	55499_QC1	55499_TB1
Depth	----------	0.1	0.6	0.4	-	-
Date Sampled		22/09/2016	22/09/2016	22/09/2016	22/09/2016	22/09/2016
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	26/09/2016	26/09/2016	26/09/2016	26/09/2016	26/09/2016
Date analysed	-	28/09/2016	28/09/2016	28/09/2016	28/09/2016	28/09/2016
TRHC6 - C9	mg/kg	<25	<25	<25	<25	<25
TRHC6 - C10	mg/kg	<25	<25	<25	<25	<25
vTPHC6 - C10 less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
naphthalene	mg/kg	<1	<1	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	101	100	85	91	101

svTRH (C10-C40) in Soil						
Our Reference:	UNITS	154160-2	154160-11	154160-13	154160-17	154160-20
Your Reference	----------	55499_BH1	55499_BH4	55499_BH5	55499_BH6	55499_BH7
	-					
Depth	----------	0.3	0.5	0.1	0.5	0.1
Date Sampled		22/09/2016	22/09/2016	22/09/2016	22/09/2016	22/09/2016
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	26/09/2016	26/09/2016	26/09/2016	26/09/2016	26/09/2016
Date analysed	-	26/09/2016	26/09/2016	26/09/2016	26/09/2016	26/09/2016
TRHC$_{10}$ - C$_{14}$	mg/kg	<50	<50	<50	<50	<50
TRHC$_{15}$ - C$_{28}$	mg/kg	<100	<100	160	<100	<100
TRHC$_{29}$ - C$_{36}$	mg/kg	<100	<100	120	<100	<100
TRH>C$_{10}$-C$_{16}$	mg/kg	<50	<50	<50	<50	<50
TRH>C$_{10}$ - C$_{16}$ less Naphthalene (F2)	mg/kg	<50	<50	<50	<50	<50
TRH>C$_{16}$-C$_{34}$	mg/kg	120	<100	240	<100	<100
TRH>C$_{34}$-C$_{40}$	mg/kg	<100	<100	<100	<100	<100
Surrogate o-Terphenyl	%	77	76	80	79	77

svTRH (C10-C40) in Soil					
Our Reference:	UNITS	154160-23	154160-26	154160-29	154160-34
Your Reference	----------	55499_BH8	55499_BH9	55499_BH10	55499_QC1
	-				
Depth	----------	0.1	0.6	0.4	-
Date Sampled		22/09/2016	22/09/2016	22/09/2016	22/09/2016
Type of sample		Soil	Soil	Soil	Soil
Date extracted	-	26/09/2016	26/09/2016	26/09/2016	26/09/2016
Date analysed	-	26/09/2016	26/09/2016	26/09/2016	26/09/2016
TRHC$_{10}$ - C$_{14}$	mg/kg	<50	<50	<50	<50
TRHC$_{15}$ - C$_{28}$	mg/kg	<100	240	<100	<100
TRHC$_{29}$ - C$_{36}$	mg/kg	<100	130	<100	<100
TRH>C$_{10}$-C$_{16}$	mg/kg	<50	<50	<50	<50
TRH>C$_{10}$ - C$_{16}$ less Naphthalene (F2)	mg/kg	<50	<50	<50	<50
TRH>C$_{16}$-C$_{34}$	mg/kg	<100	340	<100	<100
TRH>C$_{34}$-C$_{40}$	mg/kg	<100	<100	<100	<100
Surrogate o-Terphenyl	%	77	78	85	75

PAHs in Soil Our Reference: Your Reference Depth Date Sampled Type of sample	UNITS ---------- - ---------- 	154160-2 55499_BH1 0.3 22/09/2016 Soil	154160-11 55499_BH4 0.5 22/09/2016 Soil	154160-13 55499_BH5 0.1 22/09/2016 Soil	154160-17 55499_BH6 0.5 22/09/2016 Soil	154160-20 55499_BH7 0.1 22/09/2016 Soil
Date extracted	-	26/09/2016	26/09/2016	26/09/2016	26/09/2016	26/09/2016
Date analysed	-	27/09/2016	27/09/2016	27/09/2016	27/09/2016	27/09/2016
Naphthalene	mg/kg	0.1	<0.1	0.2	<0.1	<0.1
Acenaphthylene	mg/kg	0.6	<0.1	1.2	<0.1	<0.1
Acenaphthene	mg/kg	0.1	<0.1	0.1	<0.1	<0.1
Fluorene	mg/kg	0.2	<0.1	0.4	<0.1	<0.1
Phenanthrene	mg/kg	6.7	0.1	7.8	0.4	<0.1
Anthracene	mg/kg	1.6	<0.1	1.4	<0.1	<0.1
Fluoranthene	mg/kg	9.9	0.3	12	0.8	<0.1
Pyrene	mg/kg	8.9	0.3	11	0.8	<0.1
Benzo(a)anthracene	mg/kg	4.3	0.1	4.5	0.2	<0.1
Chrysene	mg/kg	3.9	0.1	4.7	0.3	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	6.0	0.2	7.8	0.5	<0.2
Benzo(a)pyrene	mg/kg	3.6	0.1	4.7	0.3	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	2.1	<0.1	3.0	0.2	<0.1
Dibenzo(a,h)anthracene	mg/kg	0.3	<0.1	0.5	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	1.9	<0.1	2.7	0.2	<0.1
Benzo(a)pyrene TEQ calc (zero)	mg/kg	5.2	<0.5	6.8	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	5.2	<0.5	6.8	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	5.2	<0.5	6.8	<0.5	<0.5
Total Positive PAHs	mg/kg	50	1.3	62	3.7	NIL(+)VE
Surrogate p-Terphenyl-d14	%	105	96	96	97	93

PAHs in Soil Our Reference: Your Reference Depth Date Sampled Type of sample	UNITS ---------- - ---------- 	154160-23 55499_BH8 0.1 22/09/2016 Soil	154160-26 55499_BH9 0.6 22/09/2016 Soil	154160-29 55499_BH10 0.4 22/09/2016 Soil	154160-34 55499_QC1 - 22/09/2016 Soil
Date extracted	-	26/09/2016	26/09/2016	26/09/2016	26/09/2016
Date analysed	-	27/09/2016	27/09/2016	27/09/2016	27/09/2016
Naphthalene	mg/kg	<0.1	0.3	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	1.3	0.4	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	0.3	0.1	<0.1
Phenanthrene	mg/kg	<0.1	6.5	2.6	<0.1
Anthracene	mg/kg	<0.1	2.1	0.6	<0.1
Fluoranthene	mg/kg	0.2	11	3.6	<0.1
Pyrene	mg/kg	0.2	10	3.3	<0.1
Benzo(a)anthracene	mg/kg	<0.1	6.3	1.5	<0.1
Chrysene	mg/kg	0.1	5.4	1.4	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	<0.2	7.9	2.2	<0.2
Benzo(a)pyrene	mg/kg	0.1	5.0	1.4	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	2.2	0.8	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	0.6	0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	1.8	0.6	<0.1
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	7.3	2.0	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	7.3	2.0	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	7.3	2.0	<0.5
Total Positive PAHs	mg/kg	0.58	61	19	NIL (+)VE
Surrogate p-Terphenyl-d14	%	94	98	92	97

Organochlorine Pesticides in soil						
Our Reference:	UNITS	154160-2	154160-11	154160-13	154160-17	154160-20
Your Reference	----------	55499_BH1	55499_BH4	55499_BH5	55499_BH6	55499_BH7
	-					
Depth	----------	0.3	0.5	0.1	0.5	0.1
Date Sampled		22/09/2016	22/09/2016	22/09/2016	22/09/2016	22/09/2016
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	26/09/2016	26/09/2016	26/09/2016	26/09/2016	26/09/2016
Date analysed	-	27/09/2016	27/09/2016	27/09/2016	27/09/2016	27/09/2016
HCB	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
beta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
delta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor Epoxide	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-Chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan I	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDD	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan II	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDT	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan Sulphate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	89	93	99	99	97

Organochlorine Pesticides in soil					
Our Reference:	UNITS	154160-23	154160-26	154160-29	154160-34
Your Reference	----------	55499_BH8	55499_BH9	55499_BH10	55499_QC1
	-				
Depth	----------	0.1	0.6	0.4	-
Date Sampled		22/09/2016	22/09/2016	22/09/2016	22/09/2016
Type of sample		Soil	Soil	Soil	Soil
Date extracted	-	26/09/2016	26/09/2016	26/09/2016	26/09/2016
Date analysed	-	27/09/2016	27/09/2016	27/09/2016	27/09/2016
HCB	mg/kg	<0.1	<0.1	<0.1	<0.1
alpha-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1
gamma-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1
beta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	<0.1	<0.1	<0.1	<0.1
delta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	<0.1	<0.1	<0.1	<0.1
Heptachlor Epoxide	mg/kg	<0.1	<0.1	<0.1	<0.1
gamma-Chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1
alpha-chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1
Endosulfan I	mg/kg	<0.1	<0.1	<0.1	<0.1
pp-DDE	mg/kg	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	<0.1	<0.1	<0.1	<0.1
Endrin	mg/kg	<0.1	<0.1	<0.1	<0.1
pp-DDD	mg/kg	<0.1	<0.1	<0.1	<0.1
Endosulfan II	mg/kg	<0.1	<0.1	<0.1	<0.1
pp-DDT	mg/kg	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	<0.1	<0.1	<0.1	<0.1
Endosulfan Sulphate	mg/kg	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	98	92	96	96

Organophosphorus Pesticides Our Reference: Your Reference Depth Date Sampled Type of sample	UNITS ---------- - ---------- 	154160-2 55499_BH1 0.3 22/09/2016 Soil	154160-11 55499_BH4 0.5 22/09/2016 Soil	154160-13 55499_BH5 0.1 22/09/2016 Soil	154160-17 55499_BH6 0.5 22/09/2016 Soil	154160-20 55499_BH7 0.1 22/09/2016 Soil
Date extracted	-	26/09/2016	26/09/2016	26/09/2016	26/09/2016	26/09/2016
Date analysed	-	27/09/2016	27/09/2016	27/09/2016	27/09/2016	27/09/2016
Azinphos-methyl (Guthion)	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Bromophos-ethyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorpyriphos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorpyriphos-methyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Diazinon	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dichlorvos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dimethoate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ethion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fenitrothion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Malathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Parathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ronnel	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	89	93	99	99	97

Organophosphorus Pesticides Our Reference: Your Reference Depth Date Sampled Type of sample	UNITS ---------- - ---------- 	154160-23 55499_BH8 0.1 22/09/2016 Soil	154160-26 55499_BH9 0.6 22/09/2016 Soil	154160-29 55499_BH10 0.4 22/09/2016 Soil	154160-34 55499_QC1 - 22/09/2016 Soil
Date extracted	-	26/09/2016	26/09/2016	26/09/2016	26/09/2016
Date analysed	-	27/09/2016	27/09/2016	27/09/2016	27/09/2016
Azinphos-methyl (Guthion)	mg/kg	<0.1	<0.1	<0.1	<0.1
Bromophos-ethyl	mg/kg	<0.1	<0.1	<0.1	<0.1
Chlorpyriphos	mg/kg	<0.1	<0.1	<0.1	<0.1
Chlorpyriphos-methyl	mg/kg	<0.1	<0.1	<0.1	<0.1
Diazinon	mg/kg	<0.1	<0.1	<0.1	<0.1
Dichlorvos	mg/kg	<0.1	<0.1	<0.1	<0.1
Dimethoate	mg/kg	<0.1	<0.1	<0.1	<0.1
Ethion	mg/kg	<0.1	<0.1	<0.1	<0.1
Fenitrothion	mg/kg	<0.1	<0.1	<0.1	<0.1
Malathion	mg/kg	<0.1	<0.1	<0.1	<0.1
Parathion	mg/kg	<0.1	<0.1	<0.1	<0.1
Ronnel	mg/kg	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	98	92	96	96

Client Reference: Newcastle DSI

PCBs in Soil						
Our Reference:	UNITS	154160-2	154160-11	154160-13	154160-17	154160-20
Your Reference	----------	55499_BH1	55499_BH4	55499_BH5	55499_BH6	55499_BH7
	-					
Depth	----------	0.3	0.5	0.1	0.5	0.1
Date Sampled		22/09/2016	22/09/2016	22/09/2016	22/09/2016	22/09/2016
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	26/09/2016	26/09/2016	26/09/2016	26/09/2016	26/09/2016
Date analysed	-	27/09/2016	27/09/2016	27/09/2016	27/09/2016	27/09/2016
Aroclor 1016	mg/kg	<0.1	<0.1	<0.5	<0.1	<0.1
Aroclor 1221	mg/kg	<0.1	<0.1	<0.5	<0.1	<0.1
Aroclor 1232	mg/kg	<0.1	<0.1	<0.5	<0.1	<0.1
Aroclor 1242	mg/kg	<0.1	<0.1	<0.5	<0.1	<0.1
Aroclor 1248	mg/kg	<0.1	<0.1	<0.5	<0.1	<0.1
Aroclor 1254	mg/kg	<0.1	<0.1	<0.5	<0.1	<0.1
Aroclor 1260	mg/kg	<0.1	<0.1	<0.5	<0.1	<0.1
Surrogate TCLMX	%	89	93	99	99	97

PCBs in Soil					
Our Reference:	UNITS	154160-23	154160-26	154160-29	154160-34
Your Reference	----------	55499_BH8	55499_BH9	55499_BH10	55499_QC1
	-				
Depth	----------	0.1	0.6	0.4	-
Date Sampled		22/09/2016	22/09/2016	22/09/2016	22/09/2016
Type of sample		Soil	Soil	Soil	Soil
Date extracted	-	26/09/2016	26/09/2016	26/09/2016	26/09/2016
Date analysed	-	27/09/2016	27/09/2016	27/09/2016	27/09/2016
Aroclor 1016	mg/kg	<0.1	<0.1	<0.1	<0.1
Aroclor 1221	mg/kg	<0.1	<0.1	<0.1	<0.1
Aroclor 1232	mg/kg	<0.1	<0.1	<0.1	<0.1
Aroclor 1242	mg/kg	<0.1	<0.1	<0.1	<0.1
Aroclor 1248	mg/kg	<0.1	<0.1	<0.1	<0.1
Aroclor 1254	mg/kg	<0.1	<0.1	<0.1	<0.1
Aroclor 1260	mg/kg	<0.1	<0.1	<0.1	<0.1
Surrogate TCLMX	%	98	92	96	96

Acid Extractable metals in soil						
Our Reference:	UNITS	154160-2	154160-11	154160-13	154160-17	154160-20
Your Reference	----------	55499_BH1	55499_BH4	55499_BH5	55499_BH6	55499_BH7
	-					
Depth	----------	0.3	0.5	0.1	0.5	0.1
Date Sampled		22/09/2016	22/09/2016	22/09/2016	22/09/2016	22/09/2016
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	26/09/2016	26/09/2016	26/09/2016	26/09/2016	26/09/2016
Date analysed	-	27/09/2016	27/09/2016	27/09/2016	27/09/2016	27/09/2016
Arsenic	mg/kg	5	<4	7	<4	<4
Cadmium	mg/kg	<0.4	<0.4	2	<0.4	<0.4
Chromium	mg/kg	9	9	27	10	17
Copper	mg/kg	19	17	420	10	65
Lead	mg/kg	58	40	1,400	8	38
Mercury	mg/kg	0.2	<0.1	0.2	<0.1	<0.1
Nickel	mg/kg	4	4	15	4	16
Zinc	mg/kg	48	39	1,100	35	210

Acid Extractable metals in soil					
Our Reference:	UNITS	154160-23	154160-26	154160-29	154160-34
Your Reference	----------	55499_BH8	55499_BH9	55499_BH10	55499_QC1
	-				
Depth	----------	0.1	0.6	0.4	-
Date Sampled		22/09/2016	22/09/2016	22/09/2016	22/09/2016
Type of sample		Soil	Soil	Soil	Soil
Date prepared	-	26/09/2016	26/09/2016	26/09/2016	26/09/2016
Date analysed	-	27/09/2016	27/09/2016	27/09/2016	27/09/2016
Arsenic	mg/kg	<4	4	5	<4
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	18	9	22	17
Copper	mg/kg	20	39	9	32
Lead	mg/kg	25	70	14	35
Mercury	mg/kg	<0.1	0.4	<0.1	<0.1
Nickel	mg/kg	19	7	3	15
Zinc	mg/kg	75	85	13	230

Moisture Our Reference: Your Reference	UNITS ----------	154160-2 55499_BH1	154160-11 55499_BH4	154160-13 55499_BH5	154160-17 55499_BH6	154160-20 55499_BH7
Depth	- ----------	0.3	0.5	0.1	0.5	0.1
Date Sampled		22/09/2016	22/09/2016	22/09/2016	22/09/2016	22/09/2016
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	26/09/2016	26/09/2016	26/09/2016	26/09/2016	26/09/2016
Date analysed	-	27/09/2016	27/09/2016	27/09/2016	27/09/2016	27/09/2016
Moisture	%	14	9.9	24	6.3	10

Moisture Our Reference: Your Reference	UNITS ----------	154160-23 55499_BH8	154160-26 55499_BH9	154160-29 55499_BH10	154160-34 55499_QC1
Depth	- ----------	0.1	0.6	0.4	-
Date Sampled		22/09/2016	22/09/2016	22/09/2016	22/09/2016
Type of sample		Soil	Soil	Soil	Soil
Date prepared	-	26/09/2016	26/09/2016	26/09/2016	26/09/2016
Date analysed	-	27/09/2016	27/09/2016	27/09/2016	27/09/2016
Moisture	%	7.9	11	12	11

Asbestos ID - soils						
Our Reference:	UNITS	154160-2	154160-11	154160-13	154160-17	154160-20
Your Reference	----------	55499_BH1	55499_BH4	55499_BH5	55499_BH6	55499_BH7
	-					
Depth	----------	0.3	0.5	0.1	0.5	0.1
Date Sampled		22/09/2016	22/09/2016	22/09/2016	22/09/2016	22/09/2016
Type of sample		Soil	Soil	Soil	Soil	Soil
Date analysed	-	30/09/2016	30/09/2016	30/09/2016	30/09/2016	30/09/2016
Sample mass tested	g	Approx. 25g	Approx. 35g	Approx. 35g	Approx. 55g	Approx. 40g
Sample Description	-	Beige coarse-grained soil & rocks	Brown sandy soil	Brown sandy soil	Brown sandy soil	Brown sandy soil
Asbestos ID in soil	-	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected
Trace Analysis	-	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected

Asbestos ID - soils				
Our Reference:	UNITS	154160-23	154160-26	154160-29
Your Reference	----------	55499_BH8	55499_BH9	55499_BH10
	-			
Depth	----------	0.1	0.6	0.4
Date Sampled		22/09/2016	22/09/2016	22/09/2016
Type of sample		Soil	Soil	Soil
Date analysed	-	30/09/2016	30/09/2016	30/09/2016
Sample mass tested	g	Approx. 45g	Approx. 70g	Approx. 50g
Sample Description	-	Brown sandy soil	Brown sandy soil	Brown sandy soil
Asbestos ID in soil	-	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected
Trace Analysis	-	No asbestos detected	No asbestos detected	No asbestos detected

vTRH(C6-C10)/BTEXN in Water		
Our Reference:	UNITS	154160-35
Your Reference	----------	55499_RB1
	-	
Depth	----------	-
Date Sampled		22/09/2016
Type of sample		water
Date extracted	-	26/09/2016
Date analysed	-	27/09/2016
$TRHC_6$ - C_9	µg/L	<10
$TRHC_6$ - C_{10}	µg/L	<10
$TRHC_6$ - C_{10} less BTEX (F1)	µg/L	<10
Benzene	µg/L	<1
Toluene	µg/L	<1
Ethylbenzene	µg/L	<1
m+p-xylene	µg/L	<2
o-xylene	µg/L	<1
Naphthalene	µg/L	<1
Surrogate Dibromofluoromethane	%	127
Surrogate toluene-d8	%	97
Surrogate 4-BFB	%	103

svTRH (C10-C40) in Water		
Our Reference:	UNITS	154160-35
Your Reference	----------	55499_RB1
	-	
Depth	----------	-
Date Sampled		22/09/2016
Type of sample		water
Date extracted	-	28/09/2016
Date analysed	-	29/09/2016
$TRHC_{10}$ - C_{14}	µg/L	<50
$TRHC_{15}$ - C_{28}	µg/L	<100
$TRHC_{29}$ - C_{36}	µg/L	<100
$TRH>C_{10}$ - C_{16}	µg/L	57
$TRH>C_{10}$ - C_{16} less Naphthalene (F2)	µg/L	57
$TRH>C_{16}$ - C_{34}	µg/L	<100
$TRH>C_{34}$ - C_{40}	µg/L	<100
Surrogate o-Terphenyl	%	84

PAHs in Water		
Our Reference:	UNITS	154160-35
Your Reference	----------	55499_RB1
	-	
Depth	----------	-
Date Sampled		22/09/2016
Type of sample		water
Date extracted	-	28/09/2016
Date analysed	-	28/09/2016
Naphthalene	µg/L	<1
Acenaphthylene	µg/L	<1
Acenaphthene	µg/L	<1
Fluorene	µg/L	<1
Phenanthrene	µg/L	<1
Anthracene	µg/L	<1
Fluoranthene	µg/L	<1
Pyrene	µg/L	<1
Benzo(a)anthracene	µg/L	<1
Chrysene	µg/L	<1
Benzo(b,j+k)fluoranthene	µg/L	<2
Benzo(a)pyrene	µg/L	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1
Dibenzo(a,h)anthracene	µg/L	<1
Benzo(g,h,i)perylene	µg/L	<1
Benzo(a)pyrene TEQ	µg/L	<5
Total +ve PAH's	µg/L	NIL (+)VE
Surrogate p-Terphenyl-d14	%	85

OCP in water		
Our Reference:	UNITS	154160-35
Your Reference	----------	55499_RB1
	-	
Depth	----------	-
Date Sampled		22/09/2016
Type of sample		water
Date extracted	-	28/09/2016
Date analysed	-	29/09/2016
HCB	µg/L	<0.2
alpha-BHC	µg/L	<0.2
gamma-BHC	µg/L	<0.2
beta-BHC	µg/L	<0.2
Heptachlor	µg/L	<0.2
delta-BHC	µg/L	<0.2
Aldrin	µg/L	<0.2
Heptachlor Epoxide	µg/L	<0.2
gamma-Chlordane	µg/L	<0.2
alpha-Chlordane	µg/L	<0.2
Endosulfan I	µg/L	<0.2
pp-DDE	µg/L	<0.2
Dieldrin	µg/L	<0.2
Endrin	µg/L	<0.2
pp-DDD	µg/L	<0.2
Endosulfan II	µg/L	<0.2
pp-DDT	µg/L	<0.2
Endrin Aldehyde	µg/L	<0.2
Endosulfan Sulphate	µg/L	<0.2
Methoxychlor	µg/L	<0.2
Surrogate TCMX	%	121

OP Pesticides in water		
Our Reference:	UNITS	154160-35
Your Reference	----------	55499_RB1
	-	
Depth	----------	-
Date Sampled		22/09/2016
Type of sample		water
Date extracted	-	28/09/2016
Date analysed	-	29/09/2016
Azinphos-methyl (Guthion)	µg/L	<0.2
Bromophos ethyl	µg/L	<0.2
Chlorpyriphos	µg/L	<0.2
Chlorpyriphos-methyl	µg/L	<0.2
Diazinon	µg/L	<0.2
Dichlorovos	µg/L	<0.2
Dimethoate	µg/L	<0.2
Ethion	µg/L	<0.2
Fenitrothion	µg/L	<0.2
Malathion	µg/L	<0.2
Parathion	µg/L	<0.2
Ronnel	µg/L	<0.2
Surrogate TCMX	%	121

PCBs in Water		
Our Reference:	UNITS	154160-35
Your Reference	----------	55499_RB1
	-	
Depth	----------	-
Date Sampled		22/09/2016
Type of sample		water
Date extracted	-	28/09/2016
Date analysed	-	29/09/2016
Aroclor 1016	µg/L	<2
Aroclor 1221	µg/L	<2
Aroclor 1232	µg/L	<2
Aroclor 1242	µg/L	<2
Aroclor 1248	µg/L	<2
Aroclor 1254	µg/L	<2
Aroclor 1260	µg/L	<2
Surrogate TCLMX	%	121

HM in water - dissolved		
Our Reference:	UNITS	154160-35
Your Reference	----------	55499_RB1
	-	
Depth	----------	-
Date Sampled		22/09/2016
Type of sample		water
Date prepared	-	26/09/2016
Date analysed	-	26/09/2016
Arsenic-Dissolved	µg/L	<1
Cadmium-Dissolved	µg/L	<0.1
Chromium-Dissolved	µg/L	<1
Copper-Dissolved	µg/L	<1
Lead-Dissolved	µg/L	<1
Mercury-Dissolved	µg/L	<0.05
Nickel-Dissolved	µg/L	<1
Zinc-Dissolved	µg/L	<1

Method ID	Methodology Summary
Org-016	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater.
Org-014	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS.
Org-003	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis.
Org-012	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS. Benzo(a)pyrene TEQ as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater - 2013. For soil results:- 1. 'TEQ PQL' values are assuming all contributing PAHs reported as <PQL are actually at the PQL. This is the most conservative approach and can give false positive TEQs given that PAHs that contribute to the TEQ calculation may not be present. 2. 'TEQ zero' values are assuming all contributing PAHs reported as <PQL are zero. This is the least conservative approach and is more susceptible to false negative TEQs when PAHs that contribute to the TEQ calculation are present but below PQL. 3. 'TEQ half PQL' values are assuming all contributing PAHs reported as <PQL are half the stipulated PQL. Hence a mid-point between the most and least conservative approaches above. Note, the Total +ve PAHs PQL is reflective of the lowest individual PQL and is therefore" Total +ve PAHs" is simply a sum of the positive individual PAHs.
Org-005	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC with dual ECD's.
Org-008	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC with dual ECD's.
Org-006	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC-ECD.
Metals-020	Determination of various metals by ICP-AES.
Metals-021	Determination of Mercury by Cold Vapour AAS.
Inorg-008	Moisture content determined by heating at 105+/-5 deg C for a minimum of 12 hours.
ASB-001	Asbestos ID - Qualitative identification of asbestos in bulk samples using Polarised Light Microscopy and Dispersion Staining Techniques including Synthetic Mineral Fibre and Organic Fibre as per Australian Standard 4964-2004.
Org-013	Water samples are analysed directly by purge and trap GC-MS.
Org-012	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS. Benzo(a)pyrene TEQ as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater - 2013.
Metals-022 ICP-MS	Determination of various metals by ICP-MS.

QUALITY CONTROL vTRH(C6-C10)/BTEXN in Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base II Duplicate II %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			26/09/2016	154160-2	26/09/2016 || 26/09/2016	LCS-6	26/09/2016
Date analysed	-			28/09/2016	154160-2	28/09/2016 || 28/09/2016	LCS-6	28/09/2016
TRHC6 - C9	mg/kg	25	Org-016	<25	154160-2	<25 || <25	LCS-6	109%
TRHC6 - C10	mg/kg	25	Org-016	<25	154160-2	<25 || <25	LCS-6	109%
Benzene	mg/kg	0.2	Org-016	<0.2	154160-2	<0.2 || <0.2	LCS-6	102%
Toluene	mg/kg	0.5	Org-016	<0.5	154160-2	<0.5 || <0.5	LCS-6	108%
Ethylbenzene	mg/kg	1	Org-016	<1	154160-2	<1 || <1	LCS-6	110%
m+p-xylene	mg/kg	2	Org-016	<2	154160-2	<2 || <2	LCS-6	113%
o-Xylene	mg/kg	1	Org-016	<1	154160-2	<1 || <1	LCS-6	98%
naphthalene	mg/kg	1	Org-014	<1	154160-2	<1 || <1	[NR]	[NR]
Surrogate aaa-Trifluorotoluene	%		Org-016	82	154160-2	95 || 89 || RPD: 7	LCS-6	109%

QUALITY CONTROL svTRH (C10-C40) in Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base II Duplicate II %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			26/09/2016	154160-2	26/09/2016 || 26/09/2016	LCS-6	26/09/2016
Date analysed	-			26/09/2016	154160-2	26/09/2016 || 26/09/2016	LCS-6	26/09/2016
TRHC10 - C14	mg/kg	50	Org-003	<50	154160-2	<50 || <50	LCS-6	119%
TRHC15 - C28	mg/kg	100	Org-003	<100	154160-2	<100 || 100	LCS-6	113%
TRHC29 - C36	mg/kg	100	Org-003	<100	154160-2	<100 || <100	LCS-6	96%
TRH>C10-C16	mg/kg	50	Org-003	<50	154160-2	<50 || <50	LCS-6	119%
TRH>C16-C34	mg/kg	100	Org-003	<100	154160-2	120 || 140 || RPD: 15	LCS-6	113%
TRH>C34-C40	mg/kg	100	Org-003	<100	154160-2	<100 || <100	LCS-6	96%
Surrogate o-Terphenyl	%		Org-003	78	154160-2	77 || 78 || RPD: 1	LCS-6	80%

QUALITY CONTROL PAHs in Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base II Duplicate II %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			26/09/2016	154160-2	26/09/2016 || 26/09/2016	LCS-6	26/09/2016
Date analysed	-			27/09/2016	154160-2	27/09/2016 || 27/09/2016	LCS-6	27/09/2016
Naphthalene	mg/kg	0.1	Org-012	<0.1	154160-2	0.1 || 0.1 || RPD: 0	LCS-6	96%
Acenaphthylene	mg/kg	0.1	Org-012	<0.1	154160-2	0.6 || 0.6 || RPD: 0	[NR]	[NR]
Acenaphthene	mg/kg	0.1	Org-012	<0.1	154160-2	0.1 || 0.1 || RPD: 0	[NR]	[NR]
Fluorene	mg/kg	0.1	Org-012	<0.1	154160-2	0.2 || 0.2 || RPD: 0	LCS-6	101%
Phenanthrene	mg/kg	0.1	Org-012	<0.1	154160-2	6.7 || 5.6 || RPD: 18	LCS-6	104%
Anthracene	mg/kg	0.1	Org-012	<0.1	154160-2	1.6 || 1.4 || RPD: 13	[NR]	[NR]
Fluoranthene	mg/kg	0.1	Org-012	<0.1	154160-2	9.9 || 8.4 || RPD: 16	LCS-6	96%
Pyrene	mg/kg	0.1	Org-012	<0.1	154160-2	8.9 || 7.7 || RPD: 14	LCS-6	99%
Benzo(a)anthracene	mg/kg	0.1	Org-012	<0.1	154160-2	4.3 || 3.8 || RPD: 12	[NR]	[NR]
Chrysene	mg/kg	0.1	Org-012	<0.1	154160-2	3.9 || 3.4 || RPD: 14	[NR]	[NR]
Benzo(b,j +k)fluoranthene	mg/kg	0.2	Org-012	<0.2	154160-2	6.0 || 5.2 || RPD: 14	[NR]	[NR]

QUALITY CONTROL PAHs in Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base II Duplicate II %RPD	Spike Sm#	Spike % Recovery
Benzo(a)pyrene	mg/kg	0.05	Org-012	<0.05	154160-2	3.6 || 3.2 || RPD: 12	LCS-6	104%
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-012	<0.1	154160-2	2.1 || 1.8 || RPD: 15	[NR]	[NR]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-012	<0.1	154160-2	0.3 || 0.3 || RPD: 0	[NR]	[NR]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-012	<0.1	154160-2	1.9 || 1.7 || RPD: 11	[NR]	[NR]
Surrogate p-Terphenyl-d14	%		Org-012	95	154160-2	105 || 96 || RPD: 9	LCS-6	96%
QUALITY CONTROL Organochlorine Pesticides in soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base II Duplicate II %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			26/09/2016	154160-2	26/09/2016 || 26/09/2016	LCS-6	26/09/2016
Date analysed	-			27/09/2016	154160-2	27/09/2016 || 27/09/2016	LCS-6	27/09/2016
HCB	mg/kg	0.1	Org-005	<0.1	154160-2	<0.1 || <0.1	[NR]	[NR]
alpha-BHC	mg/kg	0.1	Org-005	<0.1	154160-2	<0.1 || <0.1	LCS-6	86%
gamma-BHC	mg/kg	0.1	Org-005	<0.1	154160-2	<0.1 || <0.1	[NR]	[NR]
beta-BHC	mg/kg	0.1	Org-005	<0.1	154160-2	<0.1 || <0.1	LCS-6	91%
Heptachlor	mg/kg	0.1	Org-005	<0.1	154160-2	<0.1 || <0.1	LCS-6	95%
delta-BHC	mg/kg	0.1	Org-005	<0.1	154160-2	<0.1 || <0.1	[NR]	[NR]
Aldrin	mg/kg	0.1	Org-005	<0.1	154160-2	<0.1 || <0.1	LCS-6	102%
Heptachlor Epoxide	mg/kg	0.1	Org-005	<0.1	154160-2	<0.1 || <0.1	LCS-6	100%
gamma-Chlordane	mg/kg	0.1	Org-005	<0.1	154160-2	<0.1 || <0.1	[NR]	[NR]
alpha-chlordane	mg/kg	0.1	Org-005	<0.1	154160-2	<0.1 || <0.1	[NR]	[NR]
Endosulfan I	mg/kg	0.1	Org-005	<0.1	154160-2	<0.1 || <0.1	[NR]	[NR]
pp-DDE	mg/kg	0.1	Org-005	<0.1	154160-2	<0.1 || <0.1	LCS-6	93%
Dieldrin	mg/kg	0.1	Org-005	<0.1	154160-2	<0.1 || <0.1	LCS-6	104%
Endrin	mg/kg	0.1	Org-005	<0.1	154160-2	<0.1 || <0.1	LCS-6	103%
pp-DDD	mg/kg	0.1	Org-005	<0.1	154160-2	<0.1 || <0.1	LCS-6	95%
Endosulfan II	mg/kg	0.1	Org-005	<0.1	154160-2	<0.1 || <0.1	[NR]	[NR]
pp-DDT	mg/kg	0.1	Org-005	<0.1	154160-2	<0.1 || <0.1	[NR]	[NR]
Endrin Aldehyde	mg/kg	0.1	Org-005	<0.1	154160-2	<0.1 || <0.1	[NR]	[NR]
Endosulfan Sulphate	mg/kg	0.1	Org-005	<0.1	154160-2	<0.1 || <0.1	LCS-6	96%
Methoxychlor	mg/kg	0.1	Org-005	<0.1	154160-2	<0.1 || <0.1	[NR]	[NR]
Surrogate TCMX	%		Org-005	96	154160-2	89 || 91 || RPD: 2	LCS-6	82%

Client Reference: Newcastle DSI

QUALITY CONTROL Organophosphorus Pesticides	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base II Duplicate II %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			26/09/2016	154160-2	26/09/2016 || 26/09/2016	LCS-6	26/09/2016
Date analysed	-			27/09/2016	154160-2	27/09/2016 || 27/09/2016	LCS-6	27/09/2016
Azinphos-methyl (Guthion)	mg/kg	0.1	Org-008	<0.1	154160-2	<0.1 || <0.1	[NR]	[NR]
Bromophos-ethyl	mg/kg	0.1	Org-008	<0.1	154160-2	<0.1 || <0.1	[NR]	[NR]
Chlorpyriphos	mg/kg	0.1	Org-008	<0.1	154160-2	<0.1 || <0.1	LCS-6	90%
Chlorpyriphos-methyl	mg/kg	0.1	Org-008	<0.1	154160-2	<0.1 || <0.1	[NR]	[NR]
Diazinon	mg/kg	0.1	Org-008	<0.1	154160-2	<0.1 || <0.1	[NR]	[NR]
Dichlorvos	mg/kg	0.1	Org-008	<0.1	154160-2	<0.1 || <0.1	LCS-6	107%
Dimethoate	mg/kg	0.1	Org-008	<0.1	154160-2	<0.1 || <0.1	[NR]	[NR]
Ethion	mg/kg	0.1	Org-008	<0.1	154160-2	<0.1 || <0.1	LCS-6	105%
Fenitrothion	mg/kg	0.1	Org-008	<0.1	154160-2	<0.1 || <0.1	LCS-6	108%
Malathion	mg/kg	0.1	Org-008	<0.1	154160-2	<0.1 || <0.1	LCS-6	88%
Parathion	mg/kg	0.1	Org-008	<0.1	154160-2	<0.1 || <0.1	LCS-6	110%
Ronnel	mg/kg	0.1	Org-008	<0.1	154160-2	<0.1 || <0.1	LCS-6	97%
Surrogate TCMX	%		Org-008	96	154160-2	89 || 91 || RPD: 2	LCS-6	98%
QUALITY CONTROL PCBs in Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base II Duplicate II %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			26/09/2016	154160-2	26/09/2016 || 26/09/2016	LCS-6	26/09/2016
Date analysed	-			27/09/2016	154160-2	27/09/2016 || 27/09/2016	LCS-6	27/09/2016
Aroclor 1016	mg/kg	0.1	Org-006	<0.1	154160-2	<0.1 || <0.1	[NR]	[NR]
Aroclor 1221	mg/kg	0.1	Org-006	<0.1	154160-2	<0.1 || <0.1	[NR]	[NR]
Aroclor 1232	mg/kg	0.1	Org-006	<0.1	154160-2	<0.1 || <0.1	[NR]	[NR]
Aroclor 1242	mg/kg	0.1	Org-006	<0.1	154160-2	<0.1 || <0.1	[NR]	[NR]
Aroclor 1248	mg/kg	0.1	Org-006	<0.1	154160-2	<0.1 || <0.1	[NR]	[NR]
Aroclor 1254	mg/kg	0.1	Org-006	<0.1	154160-2	<0.1 || <0.1	LCS-6	100%
Aroclor 1260	mg/kg	0.1	Org-006	<0.1	154160-2	<0.1 || <0.1	[NR]	[NR]
Surrogate TCLMX	%		Org-006	96	154160-2	89 || 91 || RPD: 2	LCS-6	98%

QUALITY CONTROL Acid Extractable metals in soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base II Duplicate II %RPD	Spike Sm#	Spike % Recovery
Date prepared	-			26/09/2016	154160-2	26/09/2016 || 26/09/2016	LCS-6	26/09/2016
Date analysed	-			27/09/2016	154160-2	27/09/2016 || 27/09/2016	LCS-6	27/09/2016
Arsenic	mg/kg	4	Metals-020	<4	154160-2	5 || 5 || RPD: 0	LCS-6	109%
Cadmium	mg/kg	0.4	Metals-020	<0.4	154160-2	<0.4 || <0.4	LCS-6	100%
Chromium	mg/kg	1	Metals-020	<1	154160-2	9 || 10 || RPD: 11	LCS-6	105%
Copper	mg/kg	1	Metals-020	<1	154160-2	19 || 15 || RPD: 24	LCS-6	103%
Lead	mg/kg	1	Metals-020	<1	154160-2	58 || 50 || RPD: 15	LCS-6	102%
Mercury	mg/kg	0.1	Metals-021	<0.1	154160-2	0.2 || 0.2 || RPD: 0	LCS-6	95%
Nickel	mg/kg	1	Metals-020	<1	154160-2	4 || 4 || RPD: 0	LCS-6	100%
Zinc	mg/kg	1	Metals-020	<1	154160-2	48 || 41 || RPD: 16	LCS-6	102%

QUALITY CONTROL vTRH(C6-C10)/BTEXN in Water	UNITS	PQL	METHOD	Blank
Date extracted	-			26/09/2016
Date analysed	-			27/09/2016
$TRHC_6$ - C_9	µg/L	10	Org-016	<10
$TRHC_6$ - C_{10}	µg/L	10	Org-016	<10
Benzene	µg/L	1	Org-016	<1
Toluene	µg/L	1	Org-016	<1
Ethylbenzene	µg/L	1	Org-016	<1
m+p-xylene	µg/L	2	Org-016	<2
o-xylene	µg/L	1	Org-016	<1
Naphthalene	µg/L	1	Org-013	<1
Surrogate Dibromofluoromethane	%		Org-016	129
Surrogate toluene-d8	%		Org-016	98
Surrogate 4-BFB	%		Org-016	106

QUALITY CONTROL svTRH (C10-C40) in Water	UNITS	PQL	METHOD	Blank
Date extracted	-			28/09/2016
Date analysed	-			28/09/2016
$TRHC_{10}$ - C_{14}	µg/L	50	Org-003	<50
$TRHC_{15}$ - C_{28}	µg/L	100	Org-003	<100
$TRHC_{29}$ - C_{36}	µg/L	100	Org-003	<100
$TRH>C_{10}$ - C_{16}	µg/L	50	Org-003	<50
$TRH>C_{16}$ - C_{34}	µg/L	100	Org-003	<100
$TRH>C_{34}$ - C_{40}	µg/L	100	Org-003	<100
Surrogate o-Terphenyl	%		Org-003	70
QUALITY CONTROL PAHs in Water	UNITS	PQL	METHOD	Blank
Date extracted	-			28/09/2016
Date analysed	-			28/09/2016
Naphthalene	µg/L	1	Org-012	<1
Acenaphthylene	µg/L	1	Org-012	<1
Acenaphthene	µg/L	1	Org-012	<1
Fluorene	µg/L	1	Org-012	<1
Phenanthrene	µg/L	1	Org-012	<1
Anthracene	µg/L	1	Org-012	<1
Fluoranthene	µg/L	1	Org-012	<1
Pyrene	µg/L	1	Org-012	<1
Benzo(a)anthracene	µg/L	1	Org-012	<1
Chrysene	µg/L	1	Org-012	<1
Benzo(b,j +k)fluoranthene	µg/L	2	Org-012	<2
Benzo(a)pyrene	µg/L	1	Org-012	<1
Indeno(1,2,3-c,d)pyrene	µg/L	1	Org-012	<1
Dibenzo(a,h)anthracene	µg/L	1	Org-012	<1
Benzo(g,h,i)perylene	µg/L	1	Org-012	<1
Surrogate p-Terphenyl-d14	%		Org-012	70

QUALITY CONTROL OCP in water	UNITS	PQL	METHOD	Blank
Date extracted	-			28/09/2016
Date analysed	-			29/09/2016
HCB	µg/L	0.2	Org-005	<0.2
alpha-BHC	µg/L	0.2	Org-005	<0.2
gamma-BHC	µg/L	0.2	Org-005	<0.2
beta-BHC	µg/L	0.2	Org-005	<0.2
Heptachlor	µg/L	0.2	Org-005	<0.2
delta-BHC	µg/L	0.2	Org-005	<0.2
Aldrin	µg/L	0.2	Org-005	<0.2
Heptachlor Epoxide	µg/L	0.2	Org-005	<0.2
gamma-Chlordane	µg/L	0.2	Org-005	<0.2
alpha-Chlordane	µg/L	0.2	Org-005	<0.2
Endosulfan I	µg/L	0.2	Org-005	<0.2
pp-DDE	µg/L	0.2	Org-005	<0.2
Dieldrin	µg/L	0.2	Org-005	<0.2
Endrin	µg/L	0.2	Org-005	<0.2
pp-DDD	µg/L	0.2	Org-005	<0.2
Endosulfan II	µg/L	0.2	Org-005	<0.2
pp-DDT	µg/L	0.2	Org-005	<0.2
Endrin Aldehyde	µg/L	0.2	Org-005	<0.2
Endosulfan Sulphate	µg/L	0.2	Org-005	<0.2
Methoxychlor	µg/L	0.2	Org-005	<0.2
Surrogate TCMX	%		Org-005	103

QUALITY CONTROL OP Pesticides in water	UNITS	PQL	METHOD	Blank
Date extracted	-			28/09/2016
Date analysed	-			29/09/2016
Azinphos-methyl (Guthion)	µg/L	0.2	Org-008	<0.2
Bromophos ethyl	µg/L	0.2	Org-008	<0.2
Chlorpyriphos	µg/L	0.2	Org-008	<0.2
Chlorpyriphos-methyl	µg/L	0.2	Org-008	<0.2
Diazinon	µg/L	0.2	Org-008	<0.2
Dichlorovos	µg/L	0.2	Org-008	<0.2
Dimethoate	µg/L	0.2	Org-008	<0.2
Ethion	µg/L	0.2	Org-008	<0.2
Fenitrothion	µg/L	0.2	Org-008	<0.2
Malathion	µg/L	0.2	Org-008	<0.2
Parathion	µg/L	0.2	Org-008	<0.2
Ronnel	µg/L	0.2	Org-008	<0.2
Surrogate TCMX	%		Org-008	103
QUALITY CONTROL PCBs in Water	UNITS	PQL	METHOD	Blank
Date extracted	-			28/09/2016
Date analysed	-			29/09/2016
Aroclor 1016	µg/L	2	Org-006	<2
Aroclor 1221	µg/L	2	Org-006	<2
Aroclor 1232	µg/L	2	Org-006	<2
Aroclor 1242	µg/L	2	Org-006	<2
Aroclor 1248	µg/L	2	Org-006	<2
Aroclor 1254	µg/L	2	Org-006	<2
Aroclor 1260	µg/L	2	Org-006	<2
Surrogate TCLMX	%		Org-006	103
QUALITY CONTROL HM in water - dissolved	UNITS	PQL	METHOD	Blank
Date prepared	-			26/09/2016
Date analysed	-			26/09/2016
Arsenic-Dissolved	µg/L	1	Metals-022 ICP-MS	<1
Cadmium-Dissolved	µg/L	0.1	Metals-022 ICP-MS	<0.1
Chromium-Dissolved	µg/L	1	Metals-022 ICP-MS	<1
Copper-Dissolved	µg/L	1	Metals-022 ICP-MS	<1
Lead-Dissolved	µg/L	1	Metals-022 ICP-MS	<1
Mercury-Dissolved	µg/L	0.05	Metals-021	<0.05

QUALITY CONTROL HM in water - dissolved	UNITS	PQL	METHOD	Blank
Nickel-Dissolved	µg/L	1	Metals-022 ICP-MS	<1
Zinc-Dissolved	µg/L	1	Metals-022 ICP-MS	<1

QUALITY CONTROL vTRH(C6-C10)/BTEXN in Soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date extracted	-	[NT]	[NT]	154160-11	26/09/2016
Date analysed	-	[NT]	[NT]	154160-11	28/09/2016
$TRHC_6$ - C_9	mg/kg	[NT]	[NT]	154160-11	123%
$TRHC_6$ - C_{10}	mg/kg	[NT]	[NT]	154160-11	123%
Benzene	mg/kg	[NT]	[NT]	154160-11	112%
Toluene	mg/kg	[NT]	[NT]	154160-11	118%
Ethylbenzene	mg/kg	[NT]	[NT]	154160-11	125%
m+p-xylene	mg/kg	[NT]	[NT]	154160-11	129%
o-Xylene	mg/kg	[NT]	[NT]	154160-11	112%
naphthalene	mg/kg	[NT]	[NT]	[NR]	[NR]
Surrogate aaa-Trifluorotoluene	%	[NT]	[NT]	154160-11	118%

QUALITY CONTROL svTRH (C10-C40) in Soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date extracted	-	[NT]	[NT]	154160-11	26/09/2016
Date analysed	-	[NT]	[NT]	154160-11	26/09/2016
$TRHC_{10}$ - C_{14}	mg/kg	[NT]	[NT]	154160-11	124%
$TRHC_{15}$ - C_{28}	mg/kg	[NT]	[NT]	154160-11	122%
$TRHC_{29}$ - C_{36}	mg/kg	[NT]	[NT]	154160-11	105%
$TRH>C_{10}$-C_{16}	mg/kg	[NT]	[NT]	154160-11	124%
$TRH>C_{16}$-C_{34}	mg/kg	[NT]	[NT]	154160-11	122%
$TRH>C_{34}$-C_{40}	mg/kg	[NT]	[NT]	154160-11	105%
Surrogate o-Terphenyl	%	[NT]	[NT]	154160-11	76%

QUALITY CONTROL PAHs in Soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date extracted	-	[NT]	[NT]	154160-11	26/09/2016
Date analysed	-	[NT]	[NT]	154160-11	27/09/2016
Naphthalene	mg/kg	[NT]	[NT]	154160-11	87%
Acenaphthylene	mg/kg	[NT]	[NT]	[NR]	[NR]
Acenaphthene	mg/kg	[NT]	[NT]	[NR]	[NR]
Fluorene	mg/kg	[NT]	[NT]	154160-11	90%
Phenanthrene	mg/kg	[NT]	[NT]	154160-11	87%
Anthracene	mg/kg	[NT]	[NT]	[NR]	[NR]
Fluoranthene	mg/kg	[NT]	[NT]	154160-11	80%
Pyrene	mg/kg	[NT]	[NT]	154160-11	85%
Benzo(a)anthracene	mg/kg	[NT]	[NT]	[NR]	[NR]

Client Reference: Newcastle DSI

QUALITY CONTROL PAHs in Soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Chrysene	mg/kg	[NT]	[NT]	[NR]	[NR]
Benzo(b,j+k)fluoranthene	mg/kg	[NT]	[NT]	[NR]	[NR]
Benzo(a)pyrene	mg/kg	[NT]	[NT]	154160-11	89%
Indeno(1,2,3-c,d)pyrene	mg/kg	[NT]	[NT]	[NR]	[NR]
Dibenzo(a,h)anthracene	mg/kg	[NT]	[NT]	[NR]	[NR]
Benzo(g,h,i)perylene	mg/kg	[NT]	[NT]	[NR]	[NR]
Surrogate p-Terphenyl-d14	%	[NT]	[NT]	154160-11	93%
QUALITY CONTROL Organochlorine Pesticides in soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date extracted	-	[NT]	[NT]	154160-11	26/09/2016
Date analysed	-	[NT]	[NT]	154160-11	27/09/2016
HCB	mg/kg	[NT]	[NT]	[NR]	[NR]
alpha-BHC	mg/kg	[NT]	[NT]	154160-11	78%
gamma-BHC	mg/kg	[NT]	[NT]	[NR]	[NR]
beta-BHC	mg/kg	[NT]	[NT]	154160-11	75%
Heptachlor	mg/kg	[NT]	[NT]	154160-11	81%
delta-BHC	mg/kg	[NT]	[NT]	[NR]	[NR]
Aldrin	mg/kg	[NT]	[NT]	154160-11	87%
Heptachlor Epoxide	mg/kg	[NT]	[NT]	154160-11	84%
gamma-Chlordane	mg/kg	[NT]	[NT]	[NR]	[NR]
alpha-chlordane	mg/kg	[NT]	[NT]	[NR]	[NR]
Endosulfan I	mg/kg	[NT]	[NT]	[NR]	[NR]
pp-DDE	mg/kg	[NT]	[NT]	154160-11	77%
Dieldrin	mg/kg	[NT]	[NT]	154160-11	88%
Endrin	mg/kg	[NT]	[NT]	154160-11	86%
pp-DDD	mg/kg	[NT]	[NT]	154160-11	80%
Endosulfan II	mg/kg	[NT]	[NT]	[NR]	[NR]
pp-DDT	mg/kg	[NT]	[NT]	[NR]	[NR]
Endrin Aldehyde	mg/kg	[NT]	[NT]	[NR]	[NR]
Endosulfan Sulphate	mg/kg	[NT]	[NT]	154160-11	78%
Methoxychlor	mg/kg	[NT]	[NT]	[NR]	[NR]
Surrogate TCMX	%	[NT]	[NT]	154160-11	90%

Client Reference: Newcastle DSI

QUALITY CONTROL Organophosphorus Pesticides	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date extracted	-	[NT]	[NT]	154160-11	26/09/2016
Date analysed	-	[NT]	[NT]	154160-11	27/09/2016
Azinphos-methyl (Guthion)	mg/kg	[NT]	[NT]	[NR]	[NR]
Bromophos-ethyl	mg/kg	[NT]	[NT]	[NR]	[NR]
Chlorpyriphos	mg/kg	[NT]	[NT]	154160-11	80%
Chlorpyriphos-methyl	mg/kg	[NT]	[NT]	[NR]	[NR]
Diazinon	mg/kg	[NT]	[NT]	[NR]	[NR]
Dichlorvos	mg/kg	[NT]	[NT]	154160-11	71%
Dimethoate	mg/kg	[NT]	[NT]	[NR]	[NR]
Ethion	mg/kg	[NT]	[NT]	154160-11	92%
Fenitrothion	mg/kg	[NT]	[NT]	154160-11	94%
Malathion	mg/kg	[NT]	[NT]	154160-11	80%
Parathion	mg/kg	[NT]	[NT]	154160-11	115%
Ronnel	mg/kg	[NT]	[NT]	154160-11	87%
Surrogate TCMX	%	[NT]	[NT]	154160-11	93%
QUALITY CONTROL PCBs in Soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date extracted	-	[NT]	[NT]	154160-11	26/09/2016
Date analysed	-	[NT]	[NT]	154160-11	27/09/2016
Aroclor 1016	mg/kg	[NT]	[NT]	[NR]	[NR]
Aroclor 1221	mg/kg	[NT]	[NT]	[NR]	[NR]
Aroclor 1232	mg/kg	[NT]	[NT]	[NR]	[NR]
Aroclor 1242	mg/kg	[NT]	[NT]	[NR]	[NR]
Aroclor 1248	mg/kg	[NT]	[NT]	[NR]	[NR]
Aroclor 1254	mg/kg	[NT]	[NT]	154160-11	102%
Aroclor 1260	mg/kg	[NT]	[NT]	[NR]	[NR]
Surrogate TCLMX	%	[NT]	[NT]	154160-11	93%
QUALITY CONTROL Acid Extractable metals in soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date prepared	-	[NT]	[NT]	154160-11	26/09/2016
Date analysed	-	[NT]	[NT]	154160-11	27/09/2016
Arsenic	mg/kg	[NT]	[NT]	154160-11	95%
Cadmium	mg/kg	[NT]	[NT]	154160-11	98%
Chromium	mg/kg	[NT]	[NT]	154160-11	98%
Copper	mg/kg	[NT]	[NT]	154160-11	88%
Lead	mg/kg	[NT]	[NT]	154160-11	79%
Mercury	mg/kg	[NT]	[NT]	154160-11	90%
Nickel	mg/kg	[NT]	[NT]	154160-11	94%
Zinc	mg/kg	[NT]	[NT]	154160-11	81%

Client Reference: Newcastle DSI

QUALITY CONTROL vTRH(C6-C10)/BTEXN in Water	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date extracted	-	[NT]	[NT]	LCS-W1	26/09/2016
Date analysed	-	[NT]	[NT]	LCS-W1	27/09/2016
TRHC6 - C9	µg/L	[NT]	[NT]	LCS-W1	107%
TRHC6 - C10	µg/L	[NT]	[NT]	LCS-W1	107%
Benzene	µg/L	[NT]	[NT]	LCS-W1	99%
Toluene	µg/L	[NT]	[NT]	LCS-W1	107%
Ethylbenzene	µg/L	[NT]	[NT]	LCS-W1	110%
m+p-xylene	µg/L	[NT]	[NT]	LCS-W1	109%
o-xylene	µg/L	[NT]	[NT]	LCS-W1	113%
Naphthalene	µg/L	[NT]	[NT]	[NR]	[NR]
Surrogate Dibromofluoromethane	%	[NT]	[NT]	LCS-W1	126%
Surrogate toluene-d8	%	[NT]	[NT]	LCS-W1	103%
Surrogate 4-BFB	%	[NT]	[NT]	LCS-W1	101%
QUALITY CONTROL svTRH (C10-C40) in Water	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date extracted	-	[NT]	[NT]	LCS-W1	28/09/2016
Date analysed	-	[NT]	[NT]	LCS-W1	28/09/2016
TRHC10 - C14	µg/L	[NT]	[NT]	LCS-W1	99%
TRHC15 - C28	µg/L	[NT]	[NT]	LCS-W1	98%
TRHC29 - C36	µg/L	[NT]	[NT]	LCS-W1	99%
TRH>C10 - C16	µg/L	[NT]	[NT]	LCS-W1	99%
TRH>C16 - C34	µg/L	[NT]	[NT]	LCS-W1	98%
TRH>C34 - C40	µg/L	[NT]	[NT]	LCS-W1	99%
Surrogate o-Terphenyl	%	[NT]	[NT]	LCS-W1	67%
QUALITY CONTROL PAHs in Water	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date extracted	-	[NT]	[NT]	LCS-W2	28/09/2016
Date analysed	-	[NT]	[NT]	LCS-W2	28/09/2016
Naphthalene	µg/L	[NT]	[NT]	LCS-W2	83%
Acenaphthylene	µg/L	[NT]	[NT]	[NR]	[NR]
Acenaphthene	µg/L	[NT]	[NT]	[NR]	[NR]
Fluorene	µg/L	[NT]	[NT]	LCS-W2	76%
Phenanthrene	µg/L	[NT]	[NT]	LCS-W2	78%
Anthracene	µg/L	[NT]	[NT]	[NR]	[NR]
Fluoranthene	µg/L	[NT]	[NT]	LCS-W2	73%
Pyrene	µg/L	[NT]	[NT]	LCS-W2	74%
Benzo(a)anthracene	µg/L	[NT]	[NT]	[NR]	[NR]
Chrysene	µg/L	[NT]	[NT]	[NR]	[NR]
Benzo(b,j+k)fluoranthene	µg/L	[NT]	[NT]	[NR]	[NR]
Benzo(a)pyrene	µg/L	[NT]	[NT]	LCS-W2	70%

QUALITY CONTROL PAHs in Water	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Indeno(1,2,3-c,d)pyrene	µg/L	[NT]	[NT]	[NR]	[NR]
Dibenzo(a,h)anthracene	µg/L	[NT]	[NT]	[NR]	[NR]
Benzo(g,h,i)perylene	µg/L	[NT]	[NT]	[NR]	[NR]
Surrogate p-Terphenyl-d14	%	[NT]	[NT]	LCS-W2	78%
QUALITY CONTROL OCP in water	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date extracted	-	[NT]	[NT]	LCS-W1	28/09/2016
Date analysed	-	[NT]	[NT]	LCS-W1	29/09/2016
HCB	µg/L	[NT]	[NT]	[NR]	[NR]
alpha-BHC	µg/L	[NT]	[NT]	LCS-W1	82%
gamma-BHC	µg/L	[NT]	[NT]	[NR]	[NR]
beta-BHC	µg/L	[NT]	[NT]	LCS-W1	77%
Heptachlor	µg/L	[NT]	[NT]	LCS-W1	84%
delta-BHC	µg/L	[NT]	[NT]	[NR]	[NR]
Aldrin	µg/L	[NT]	[NT]	LCS-W1	77%
Heptachlor Epoxide	µg/L	[NT]	[NT]	LCS-W1	77%
gamma-Chlordane	µg/L	[NT]	[NT]	[NR]	[NR]
alpha-Chlordane	µg/L	[NT]	[NT]	[NR]	[NR]
Endosulfan I	µg/L	[NT]	[NT]	[NR]	[NR]
pp-DDE	µg/L	[NT]	[NT]	LCS-W1	74%
Dieldrin	µg/L	[NT]	[NT]	LCS-W1	77%
Endrin	µg/L	[NT]	[NT]	LCS-W1	71%
pp-DDD	µg/L	[NT]	[NT]	LCS-W1	73%
Endosulfan II	µg/L	[NT]	[NT]	[NR]	[NR]
pp-DDT	µg/L	[NT]	[NT]	[NR]	[NR]
Endrin Aldehyde	µg/L	[NT]	[NT]	[NR]	[NR]
Endosulfan Sulphate	µg/L	[NT]	[NT]	LCS-W1	79%
Methoxychlor	µg/L	[NT]	[NT]	[NR]	[NR]
Surrogate TCMX	%	[NT]	[NT]	LCS-W1	123%

Client Reference: Newcastle DSI

QUALITY CONTROL OP Pesticides in water	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date extracted	-	[NT]	[NT]	LCS-W1	28/09/2016
Date analysed	-	[NT]	[NT]	LCS-W1	29/09/2016
Azinphos-methyl (Guthion)	µg/L	[NT]	[NT]	[NR]	[NR]
Bromophos ethyl	µg/L	[NT]	[NT]	[NR]	[NR]
Chlorpyriphos	µg/L	[NT]	[NT]	LCS-W1	84%
Chlorpyriphos-methyl	µg/L	[NT]	[NT]	[NR]	[NR]
Diazinon	µg/L	[NT]	[NT]	[NR]	[NR]
Dichlorovos	µg/L	[NT]	[NT]	LCS-W1	98%
Dimethoate	µg/L	[NT]	[NT]	[NR]	[NR]
Ethion	µg/L	[NT]	[NT]	LCS-W1	110%
Fenitrothion	µg/L	[NT]	[NT]	LCS-W1	104%
Malathion	µg/L	[NT]	[NT]	LCS-W1	85%
Parathion	µg/L	[NT]	[NT]	LCS-W1	116%
Ronnel	µg/L	[NT]	[NT]	LCS-W1	95%
Surrogate TCMX	%	[NT]	[NT]	LCS-W1	122%
QUALITY CONTROL PCBs in Water	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date extracted	-	[NT]	[NT]	LCS-W1	28/09/2016
Date analysed	-	[NT]	[NT]	LCS-W1	29/09/2016
Aroclor 1016	µg/L	[NT]	[NT]	[NR]	[NR]
Aroclor 1221	µg/L	[NT]	[NT]	[NR]	[NR]
Aroclor 1232	µg/L	[NT]	[NT]	[NR]	[NR]
Aroclor 1242	µg/L	[NT]	[NT]	[NR]	[NR]
Aroclor 1248	µg/L	[NT]	[NT]	[NR]	[NR]
Aroclor 1254	µg/L	[NT]	[NT]	LCS-W1	75%
Aroclor 1260	µg/L	[NT]	[NT]	[NR]	[NR]
Surrogate TCLMX	%	[NT]	[NT]	LCS-W1	122%
QUALITY CONTROL HM in water - dissolved	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date prepared	-	[NT]	[NT]	LCS-W2	26/09/2016
Date analysed	-	[NT]	[NT]	LCS-W2	26/09/2016
Arsenic-Dissolved	µg/L	[NT]	[NT]	LCS-W2	96%
Cadmium-Dissolved	µg/L	[NT]	[NT]	LCS-W2	99%
Chromium-Dissolved	µg/L	[NT]	[NT]	LCS-W2	95%
Copper-Dissolved	µg/L	[NT]	[NT]	LCS-W2	94%
Lead-Dissolved	µg/L	[NT]	[NT]	LCS-W2	102%
Mercury-Dissolved	µg/L	[NT]	[NT]	LCS-W2	95%
Nickel-Dissolved	µg/L	[NT]	[NT]	LCS-W2	96%
Zinc-Dissolved	µg/L	[NT]	[NT]	LCS-W2	98%

Report Comments:

PCB_S: PQL has been raised due to interference from analytes(other than those being tested) in the sample/s.

TRH_W_NEPM:
The positive result in the rinsate sample is due to a single peak with no hydrocarbon profile, consistent with plastic containers

Asbestos: A portion of the supplied sample was sub-sampled for asbestos analysis according to Envirolab procedures. We cannot guarantee that this sub-sample is indicative of the entire sample. Envirolab recommends supplying 40-50g of sample in its own container.
Note: Sample 154160-2 was sub-sampled from jar provided by the client.

Asbestos ID was analysed by Approved Identifier:	Matt Mansfield
Asbestos ID was authorised by Approved Signatory:	Matt Mansfield

INS: Insufficient sample for this test	PQL: Practical Quantitation Limit	NT: Not tested
NR: Test not required	RPD: Relative Percent Difference	NA: Test not required
<: Less than	>: Greater than	LCS: Laboratory Control Sample

Quality Control Definitions

Blank: This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples.

Duplicate: This is the complete duplicate analysis of a sample from the process batch. If possible, the sample selected should be one where the analyte concentration is easily measurable.

Matrix Spike : A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.

LCS (Laboratory Control Sample) : This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample.

Surrogate Spike: Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.

Laboratory Acceptance Criteria

Duplicate sample and matrix spike recoveries may not be reported on smaller jobs, however, were analysed at a frequency to meet or exceed NEPM requirements. All samples are tested in batches of 20. The duplicate sample RPD and matrix spike recoveries for the batch were within the laboratory acceptance criteria.
Filters, swabs, wipes, tubes and badges will not have duplicate data as the whole sample is generally extracted during sample extraction.
Spikes for Physical and Aggregate Tests are not applicable.
For VOCs in water samples, three vials are required for duplicate or spike analysis.

Duplicates: <5xPQL - any RPD is acceptable; >5xPQL - 0-50% RPD is acceptable.
Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals; 60-140% for organics (+/-50% surrogates) and 10-140% for labile SVOCs (including labile surrogates), ultra trace organics and speciated phenols is acceptable.

In circumstances where no duplicate and/or sample spike has been reported at 1 in 10 and/or 1 in 20 samples respectively, the sample volume submitted was insufficient in order to satisfy laboratory QA/QC protocols.

When samples are received where certain analytes are outside of recommended technical holding times (THTs), the analysis has proceeded. Where analytes are on the verge of breaching THTs, every effort will be made to analyse within the THT or as soon as practicable.

Where sampling dates are not provided, Envirolab are not in a position to comment on the validity of the analysis where recommended technical holding times may have been breached.

Measurement Uncertainty estimates are available for most tests upon request.

Aileen Hie

From: Nancy Zhang
Sent: Wednesday, 5 October 2016 12:09 PM
To: Anthony Plumb; simon.hay@prensa.com.au
Cc: Rhys Baker; David Springer; Samplereceipt
Subject: RE: Results for Registration 154160 Newcastle DSI

Hi Anthony,

We will report them tomorrow.

154160-A
Due: 6/10/16
24hr TAT.

Regards,

Nancy Zhang | Assistant Lab Manager | Envirolab Services Pty Ltd

Great Chemistry, Great Service.

12 Ashley Street Chatswood NSW 2067
T 612 9910 6200 **F** 612 9910 6201
nzhang@envirolab.com.au | www.envirolab.com.au



Follow this link to provide feedback on our service.

Latest Links Below:

Please note that all samples submitted to the Envirolab Group laboratories will be analysed under the Envirolab Group Terms and Conditions. The Terms and Conditions are accessible by clicking this link

From: Anthony Plumb [mailto:anthony.plumb@prensa.com.au]
Sent: Wednesday, 5 October 2016 10:46 AM
To: Nancy Zhang <NZhang@envirolab.com.au>; simon.hay@prensa.com.au
Cc: Rhys Baker <rhys.baker@prensa.com.au>; David Springer <DSpringer@envirolab.com.au>
Subject: RE: Results for Registration 154160 Newcastle DSI

Hi Nancy,

Please could you analyse the following two samples for **ASLP for BaP**:

Reference	Description	Sample Description	Sample No.	Replicate	Depth
154160	Newcastle DSI	55499_BH5	13	0	0.1
154160	Newcastle DSI	55499_BH9	26	0	0.6

Please can you schedule on **fastest turnaround**?

Thanks, Ant

Anthony Plumb | Managing Consultant | Prensa Pty Ltd

Office: Level 2, 115 Military Road, Neutral Bay NSW 2089
Phone: (02) 8968 2500 | Mobile: 0424 000 357
Email: anthony.plumb@prensa.com.au | Web: www.prensa.com.au

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-----Original Message-----
From: Nancy Zhang [mailto:NZhang@envirolab.com.au]
Sent: Friday, 30 September 2016 5:07 PM
To: simon.hay@prensa.com.au; anthony.plumb@prensa.com.au; admin@prensa.com.au
Subject: Results for Registration 154160 Newcastle DSI

Please refer to attached for:
a copy of the Certificate of Analysis
a copy of the Invoice
a copy of the COC
an excel file containing the results

Please note that a hard copy will not be posted.

Enquiries should be made directly to:
sydney@envirolab.com.au

Regards

Envirolab Services
12 Ashley St Chatswood NSW 2067
ph 02 9910 6200 fax 02 9910 6201
www.envirolabservices.com.au

Nancy Zhang | Assistant Lab Manager | Envirolab Services Pty Ltd

Great Chemistry.Great Service

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12 Ashley Street, Chatswood, NSW 2067
tel: +61 2 9910 6200

email: sydney@envirolab.com.au
envirolab.com.au

Envirolab Services Pty Ltd - Sydney | ABN 37 112 535 645

CERTIFICATE OF ANALYSIS 154160-A

Client:
Prensa Pty Ltd
Level 1, 261-271 Wattletree Rd
Malvern
VIC 3144

Attention: Simon Hay, Anthony Plumb

Sample log in details:

Your Reference:	**Newcastle DSI**
No. of samples:	Additional Testing
Date samples received / completed instructions received	23/09/16 / 05/10/16

Analysis Details:
Please refer to the following pages for results, methodology summary and quality control data.
Samples were analysed as received from the client. Results relate specifically to the samples as received.
Results are reported on a dry weight basis for solids and on an as received basis for other matrices.
Please refer to the last page of this report for any comments relating to the results.

Report Details:

Date results requested by: / Issue Date:	6/10/16 / 6/10/16
Date of Preliminary Report:	Not Issued

NATA accreditation number 2901. This document shall not be reproduced except in full.
Accredited for compliance with ISO/IEC 17025 - Testing **Tests not covered by NATA are denoted with *.**

Results Approved By:

David Springer
General Manager

PAHs in water leach Our Reference: Your Reference Depth Date Sampled Type of sample	UNITS ---------- - ---------- 	154160-A-13 55499_BH5 0.1 22/09/2016 Soil	154160-A-26 55499_BH9 0.6 22/09/2016 Soil
Date extracted	-	06/10/2016	06/10/2016
Date analysed	-	06/10/2016	06/10/2016
pH of final Leachate	pH units	8.1	9.2
Naphthalene in ASLP	mg/L	<0.001	<0.001
Acenaphthylene in ASLP	mg/L	<0.001	<0.001
Acenaphthene in ASLP	mg/L	<0.001	<0.001
Fluorene in ASLP	mg/L	<0.001	<0.001
Phenanthrene in ASLP	mg/L	<0.001	0.001
Anthracene in ASLP	mg/L	<0.001	<0.001
Fluoranthene in ASLP	mg/L	<0.001	0.001
Pyrene in ASLP	mg/L	<0.001	<0.001
Benzo(a)anthracene in ASLP	mg/L	<0.001	<0.001
Chrysene in ASLP	mg/L	<0.001	<0.001
Benzo(bjk)fluoranthene in ASLP	mg/L	<0.002	<0.002
Benzo(a)pyrene in ASLP	mg/L	<0.001	<0.001
Indeno(1,2,3-c,d)pyrene - ASLP	mg/L	<0.001	<0.001
Dibenzo(a,h)anthracene in ASLP	mg/L	<0.001	<0.001
Benzo(g,h,i)perylene in ASLP	mg/L	<0.001	<0.001
Surrogate p-Terphenyl-d_{14}	%	109	88

Method ID	Methodology Summary
Inorg-001	pH - Measured using pH meter and electrode in accordance with APHA latest edition, 4500-H+. Please note that the results for water analyses are indicative only, as analysis outside of the APHA storage times.
Org-012 ASLP	ASLP Leachates are extracted with Dichloromethane and analysed by GC-MS.
Org-012	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS.

Client Reference: Newcastle DSI

QUALITY CONTROL PAHs in water leach	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base II Duplicate II %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			06/10/2016	[NT]	[NT]	LCS-W1	06/10/2016
Date analysed	-			06/10/2016	[NT]	[NT]	LCS-W1	06/10/2016
Naphthalene in ASLP	mg/L	0.001	Org-012 ASLP	<0.001	[NT]	[NT]	LCS-W1	72%
Acenaphthylene in ASLP	mg/L	0.001	Org-012 ASLP	<0.001	[NT]	[NT]	[NR]	[NR]
Acenaphthene in ASLP	mg/L	0.001	Org-012 ASLP	<0.001	[NT]	[NT]	[NR]	[NR]
Fluorene in ASLP	mg/L	0.001	Org-012 ASLP	<0.001	[NT]	[NT]	LCS-W1	79%
Phenanthrene in ASLP	mg/L	0.001	Org-012 ASLP	<0.001	[NT]	[NT]	LCS-W1	79%
Anthracene in ASLP	mg/L	0.001	Org-012 ASLP	<0.001	[NT]	[NT]	[NR]	[NR]
Fluoranthene in ASLP	mg/L	0.001	Org-012 ASLP	<0.001	[NT]	[NT]	LCS-W1	77%
Pyrene in ASLP	mg/L	0.001	Org-012 ASLP	<0.001	[NT]	[NT]	LCS-W1	76%
Benzo(a)anthracene in ASLP	mg/L	0.001	Org-012 ASLP	<0.001	[NT]	[NT]	[NR]	[NR]
Chrysene in ASLP	mg/L	0.001	Org-012 ASLP	<0.001	[NT]	[NT]	[NR]	[NR]
Benzo(bjk)fluoranthene in ASLP	mg/L	0.002	Org-012 ASLP	<0.002	[NT]	[NT]	[NR]	[NR]
Benzo(a)pyrene in ASLP	mg/L	0.001	Org-012 ASLP	<0.001	[NT]	[NT]	LCS-W1	70%
Indeno(1,2,3-c,d)pyrene - ASLP	mg/L	0.001	Org-012 ASLP	<0.001	[NT]	[NT]	[NR]	[NR]
Dibenzo(a,h)anthracene in ASLP	mg/L	0.001	Org-012 ASLP	<0.001	[NT]	[NT]	[NR]	[NR]
Benzo(g,h,i)perylene in ASLP	mg/L	0.001	Org-012 ASLP	<0.001	[NT]	[NT]	[NR]	[NR]
Surrogate p-Terphenyl-d_{14}	%		Org-012	78	[NT]	[NT]	LCS-W1	79%

Report Comments:

Asbestos ID was analysed by Approved Identifier:	Not applicable for this job
Asbestos ID was authorised by Approved Signatory:	Not applicable for this job

INS: Insufficient sample for this test	PQL: Practical Quantitation Limit	NT: Not tested
NR: Test not required	RPD: Relative Percent Difference	NA: Test not required
<: Less than	>: Greater than	LCS: Laboratory Control Sample

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Spikes for Physical and Aggregate Tests are not applicable.
For VOCs in water samples, three vials are required for duplicate or spike analysis.

Duplicates: <5xPQL - any RPD is acceptable; >5xPQL - 0-50% RPD is acceptable.
Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals; 60-140% for organics (+/-50% surrogates) and 10-140% for labile SVOCs (including labile surrogates), ultra trace organics and speciated phenols is acceptable.

In circumstances where no duplicate and/or sample spike has been reported at 1 in 10 and/or 1 in 20 samples respectively, the sample volume submitted was insufficient in order to satisfy laboratory QA/QC protocols.

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Where sampling dates are not provided, Envirolab are not in a position to comment on the validity of the analysis where recommended technical holding times may have been breached.

Measurement Uncertainty estimates are available for most tests upon request.

CHAIN OF CUSTODY RECORD

ABN 50 005 085 521

☑ Eurofins | mgt Sydney Lab — Unit F3 Building F 16 Mars Road Lane Cove West NSW 2066 P +61 2 9900 8400 E EnviroSampleNSW@eurofins.com.au

☐ Eurofins | mgt Brisbane Lab — Unit 1, 21 Smallwood Place Murarrie QLD 4172 P +61 7 3902 4600 E EnviroSampleQLD@eurofins.com.au

☐ Eurofins | mgt Melbourne Lab — 2 Kingston Town Close Oakleigh VIC 3166 P +61 3 8564 5000 F +61 3 8564 5090 E EnviroSampleVic@eurofins.com.au

Company	Prensa Pty Ltd
Address	Level 2, 115 Military Road, Neutral Bay NSW 2089
Contact Name	Simon Hay / Anthony Plumb
Contact Phone №	0424 703 009 / 02 8698 2500
Special Direction	5 Day T/A
Relinquished by (Signature)	Simon Hay
(Time / Date)	14:00 23/9/16

Purchase Order	55499
Eurofins | mgt Quote №	
Project Manager	Simon Hay
Project №	55499 Newcastle DSI
Project Name	55499 Newcastle DSI
Electronic Results Format	esDAT
Email for Results	simon.hay@prensa.com.au

Turn Around Requirements: ☐ 1 DAY* ☐ 2 DAY* ☐ 3 DAY* * Surcharges apply; ☑ 5 DAY (Std.) ☐ Other ( )

Analysis (Note: Where analysis are requested, please specify "Total" or "Filtered".): Combo B7 + Combo B15

Containers: 1L Plastic; 250mL Plastic; 125mL Plastic; 200mL Amber Glass; 40mL Vial; 125mL Amber Glass; Jar

Method of Shipment: ☐ Courier (#) ☐ Hand Delivered ☐ Postal

№	Client Sample ID	Date	Matrix		Sample Comments / DG Hazard Warning
1	55499_QC2	22/09/16	Soil	X	
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					

Laboratory Use Only

Received By	Jupan	SYD | BNE | MEL | PER | ADL | NEW | DAR	Date	23/09/__	Time	6:45pm	Signature
Received By		SYD | BNE | MEL | PER | ADL | NEW | DAR	Date	__/__/__	Time	__:__	Signature

Temperature

Report № 517149

Q53009_R4 Modified by S Kojma Approved by T Lakeland Approved on 11 August 2015

Submission of samples to the laboratory will be deemed as acceptance of Eurofins | mgt Standard Terms and Conditions unless agreed otherwise. A copy of Eurofins | mgt Standard Terms and Conditions is available on request.

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NATA # 1261
Site # 1254 & 14271

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NATA # 1261 Site # 18217

Brisbane
1/21 Smallwood Place
Murarrie QLD 4172
Phone : +61 7 3902 4600
NATA # 1261 Site # 20794

Sample Receipt Advice

Company name:	**Prensa Pty Ltd NSW**
Contact name:	Simon Hay
Project name:	55499 NEWCASTLE DSI
Project ID:	55499 NEWCASTLE DSI
COC number:	Not provided
Turn around time:	5 Day
Date/Time received:	Sep 23, 2016 6:45 PM
Eurofins | mgt reference:	**517149**

Sample information

- ☑ A detailed list of analytes logged into our LIMS, is included in the attached summary table.
- ☑ All samples have been received as described on the above COC.
- ☑ COC has been completed correctly.
- ☑ Attempt to chill was evident.
- ☑ Appropriately preserved sample containers have been used.
- ☑ All samples were received in good condition.
- ☑ Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.
- ☑ Appropriate sample containers have been used.
- ☒ 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 Simon Hay - simon.hay@prensa.com.au.

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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.

Prensa Pty Ltd NSW
Level 2, 115 Millitary Road
Neutral Bay
NSW 2089

Attention: **Simon Hay**

Report **517149-S**
Project name 55499 NEWCASTLE DSI
Project ID 55499 NEWCASTLE DSI
Received Date Sep 23, 2016

Client Sample ID			**55499_QC2**
Sample Matrix			**Soil**
Eurofins | mgt Sample No.			**S16-Se23529**
Date Sampled			**Sep 22, 2016**
Test/Reference	LOR	Unit	
Total Recoverable Hydrocarbons - 1999 NEPM Fractions			
TRH C6-C9	20	mg/kg	< 20
BTEX			
Benzene	0.1	mg/kg	< 0.1
Toluene	0.1	mg/kg	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2
o-Xylene	0.1	mg/kg	< 0.1
Xylenes - Total	0.3	mg/kg	< 0.3
4-Bromofluorobenzene (surr.)	1	%	71
Total Recoverable Hydrocarbons - 2013 NEPM Fractions			
Naphthalene[N02]	0.5	mg/kg	< 0.5
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	< 50
TRH C6-C10	20	mg/kg	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20
Total Recoverable Hydrocarbons - 1999 NEPM Fractions			
TRH C10-C14	20	mg/kg	< 20
TRH C15-C28	50	mg/kg	< 50
TRH C29-C36	50	mg/kg	77
TRH C10-36 (Total)	50	mg/kg	77
Polycyclic Aromatic Hydrocarbons			
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2
Acenaphthene	0.5	mg/kg	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5
Anthracene	0.5	mg/kg	< 0.5
Benz(a)anthracene	0.5	mg/kg	< 0.5
Benzo(a)pyrene	0.5	mg/kg	< 0.5
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	< 0.5
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5
Chrysene	0.5	mg/kg	< 0.5
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5
Fluoranthene	0.5	mg/kg	< 0.5
Fluorene	0.5	mg/kg	< 0.5

Client Sample ID			55499_QC2
Sample Matrix			Soil
Eurofins | mgt Sample No.			S16-Se23529
Date Sampled			Sep 22, 2016
Test/Reference	LOR	Unit	
Polycyclic Aromatic Hydrocarbons			
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5
Naphthalene	0.5	mg/kg	< 0.5
Phenanthrene	0.5	mg/kg	< 0.5
Pyrene	0.5	mg/kg	< 0.5
Total PAH*	0.5	mg/kg	< 0.5
2-Fluorobiphenyl (surr.)	1	%	107
p-Terphenyl-d14 (surr.)	1	%	128
Organochlorine Pesticides			
Chlordanes - Total	0.1	mg/kg	< 0.1
4.4'-DDD	0.05	mg/kg	< 0.05
4.4'-DDE	0.05	mg/kg	< 0.05
4.4'-DDT	0.05	mg/kg	< 0.05
a-BHC	0.05	mg/kg	< 0.05
Aldrin	0.05	mg/kg	< 0.05
b-BHC	0.05	mg/kg	< 0.05
d-BHC	0.05	mg/kg	< 0.05
Dieldrin	0.05	mg/kg	< 0.05
Endosulfan I	0.05	mg/kg	< 0.05
Endosulfan II	0.05	mg/kg	< 0.05
Endosulfan sulphate	0.05	mg/kg	< 0.05
Endrin	0.05	mg/kg	< 0.05
Endrin aldehyde	0.05	mg/kg	< 0.05
Endrin ketone	0.05	mg/kg	< 0.05
g-BHC (Lindane)	0.05	mg/kg	< 0.05
Heptachlor	0.05	mg/kg	< 0.05
Heptachlor epoxide	0.05	mg/kg	< 0.05
Hexachlorobenzene	0.05	mg/kg	< 0.05
Methoxychlor	0.2	mg/kg	< 0.2
Toxaphene	1	mg/kg	< 1
Dibutylchlorendate (surr.)	1	%	72
Tetrachloro-m-xylene (surr.)	1	%	83
Polychlorinated Biphenyls (PCB)			
Aroclor-1016	0.5	mg/kg	< 0.5
Aroclor-1232	0.5	mg/kg	< 0.5
Aroclor-1242	0.5	mg/kg	< 0.5
Aroclor-1248	0.5	mg/kg	< 0.5
Aroclor-1254	0.5	mg/kg	< 0.5
Aroclor-1260	0.5	mg/kg	< 0.5
Total PCB*	0.5	mg/kg	< 0.5
Dibutylchlorendate (surr.)	1	%	72
Organophosphorus Pesticides (OP)			
Azinphos-methyl	0.2	mg/kg	< 0.2
Chlorpyrifos	0.2	mg/kg	< 0.2
Coumaphos	2	mg/kg	< 2
Demeton (total)	1	mg/kg	< 1
Diazinon	0.2	mg/kg	< 0.2
Dichlorvos	0.2	mg/kg	< 0.2
Dimethoate	0.2	mg/kg	< 0.2
Disulfoton	0.2	mg/kg	< 0.2

Client Sample ID			55499_QC2
Sample Matrix			Soil
Eurofins | mgt Sample No.			S16-Se23529
Date Sampled			Sep 22, 2016
Test/Reference	LOR	Unit	
Organophosphorus Pesticides (OP)			
Ethoprop	0.2	mg/kg	< 0.2
Fenitrothion	0.2	mg/kg	< 0.2
Fensulfothion	0.2	mg/kg	< 0.2
Fenthion	0.2	mg/kg	< 0.2
Malathion	0.2	mg/kg	< 0.2
Methyl parathion	0.2	mg/kg	< 0.2
Mevinphos	0.2	mg/kg	< 0.2
Monocrotophos	2	mg/kg	< 2
Parathion	0.5	mg/kg	< 0.5
Phorate	0.2	mg/kg	< 0.2
Profenofos	0.2	mg/kg	< 0.2
Prothiofos	0.5	mg/kg	< 0.5
Ronnel	0.2	mg/kg	< 0.2
Stirophos	0.5	mg/kg	< 0.5
Trichloronate	0.2	mg/kg	< 0.2
Triphenylphosphate (surr.)	1	%	103
Total Recoverable Hydrocarbons - 2013 NEPM Fractions			
TRH >C10-C16	50	mg/kg	< 50
TRH >C16-C34	100	mg/kg	< 100
TRH >C34-C40	100	mg/kg	< 100
Heavy Metals			
Arsenic	2	mg/kg	5.6
Cadmium	0.4	mg/kg	< 0.4
Chromium	5	mg/kg	19
Copper	5	mg/kg	53
Lead	5	mg/kg	41
Mercury	0.05	mg/kg	< 0.05
Nickel	5	mg/kg	18
Zinc	5	mg/kg	230
% Moisture	1	%	7.8

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
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Sydney	Sep 30, 2016	14 Day
- Method: TRH C6-C36 - LTM-ORG-2010			
BTEX	Sydney	Sep 30, 2016	14 Day
- Method: TRH C6-C40 - LTM-ORG-2010			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Sydney	Sep 30, 2016	14 Day
- Method: TRH C6-C40 - LTM-ORG-2010			
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Sydney	Sep 30, 2016	14 Day
- Method: TRH C6-C36 - LTM-ORG-2010			
Polycyclic Aromatic Hydrocarbons	Sydney	Sep 30, 2016	14 Day
- Method: E007 Polyaromatic Hydrocarbons (PAH)			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Sydney	Sep 30, 2016	14 Day
- Method: TRH C6-C40 - LTM-ORG-2010			
Metals M8	Sydney	Sep 30, 2016	28 Day
- Method: LTM-MET-3040_R0 TOTAL AND DISSOLVED METALS AND MERCURY IN WATERS BY ICP-MS			
Eurofins | mgt Suite B15			
Organochlorine Pesticides	Sydney	Sep 30, 2016	14 Day
- Method: E013 Organochlorine Pesticides (OC)			
Polychlorinated Biphenyls (PCB)	Sydney	Sep 30, 2016	28 Day
- Method: E013 Polychlorinated Biphenyls (PCB)			
Organophosphorus Pesticides (OP)	Sydney	Sep 30, 2016	14 Day
- Method: E014 Organophosphorus Pesticides (OP)			
% Moisture	Sydney	Sep 26, 2016	14 Day
- Method: LTM-GEN-7080 Moisture			

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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

Company Name:	Prensa Pty Ltd NSW	**Order No.:**	
Address:	Level 2, 115 Millitary Road Neutral Bay NSW 2089	**Report #:**	517149
		Phone:	(02) 9033 8634
		Fax:	
Project Name:	55499 NEWCASTLE DSI		
Project ID:	55499 NEWCASTLE DSI		

Received:	Sep 23, 2016 6:45 PM
Due:	Oct 4, 2016
Priority:	5 Day
Contact Name:	Simon Hay

Eurofins | mgt Analytical Services Manager : Nibha Vaidya

Sample Detail						Eurofins | mgt Suite B15	Moisture Set	Eurofins | mgt Suite B7
Melbourne Laboratory - NATA Site # 1254 & 14271								
Sydney Laboratory - NATA Site # 18217						X	X	X
Brisbane Laboratory - NATA Site # 20794								
External Laboratory								
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**			
1	55499_QC2	Sep 22, 2016		Soil	S16-Se23529	X	X	X
Test Counts						1	1	1

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. 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.

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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	
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 - 1999 NEPM Fractions							
TRH C10-C14	mg/kg	< 20			20	Pass	
TRH C15-C28	mg/kg	< 50			50	Pass	
TRH C29-C36	mg/kg	< 50			50	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	mg/kg	< 0.5			0.5	Pass	
Acenaphthylene	mg/kg	< 0.5			0.5	Pass	
Anthracene	mg/kg	< 0.5			0.5	Pass	
Benz(a)anthracene	mg/kg	< 0.5			0.5	Pass	
Benzo(a)pyrene	mg/kg	< 0.5			0.5	Pass	
Benzo(b&j)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Benzo(g.h.i)perylene	mg/kg	< 0.5			0.5	Pass	
Benzo(k)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Chrysene	mg/kg	< 0.5			0.5	Pass	
Dibenz(a.h)anthracene	mg/kg	< 0.5			0.5	Pass	
Fluoranthene	mg/kg	< 0.5			0.5	Pass	
Fluorene	mg/kg	< 0.5			0.5	Pass	
Indeno(1.2.3-cd)pyrene	mg/kg	< 0.5			0.5	Pass	
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Phenanthrene	mg/kg	< 0.5			0.5	Pass	
Pyrene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Organochlorine Pesticides							
Chlordanes - Total	mg/kg	< 0.1			0.1	Pass	
4.4'-DDD	mg/kg	< 0.05			0.05	Pass	
4.4'-DDE	mg/kg	< 0.05			0.05	Pass	
4.4'-DDT	mg/kg	< 0.05			0.05	Pass	
a-BHC	mg/kg	< 0.05			0.05	Pass	
Aldrin	mg/kg	< 0.05			0.05	Pass	
b-BHC	mg/kg	< 0.05			0.05	Pass	
d-BHC	mg/kg	< 0.05			0.05	Pass	
Dieldrin	mg/kg	< 0.05			0.05	Pass	
Endosulfan I	mg/kg	< 0.05			0.05	Pass	
Endosulfan II	mg/kg	< 0.05			0.05	Pass	
Endosulfan sulphate	mg/kg	< 0.05			0.05	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Endrin	mg/kg	< 0.05			0.05	Pass	
Endrin aldehyde	mg/kg	< 0.05			0.05	Pass	
Endrin ketone	mg/kg	< 0.05			0.05	Pass	
g-BHC (Lindane)	mg/kg	< 0.05			0.05	Pass	
Heptachlor	mg/kg	< 0.05			0.05	Pass	
Heptachlor epoxide	mg/kg	< 0.05			0.05	Pass	
Hexachlorobenzene	mg/kg	< 0.05			0.05	Pass	
Methoxychlor	mg/kg	< 0.2			0.2	Pass	
Toxaphene	mg/kg	< 1			1	Pass	
Method Blank							
Polychlorinated Biphenyls (PCB)							
Aroclor-1016	mg/kg	< 0.5			0.5	Pass	
Aroclor-1232	mg/kg	< 0.5			0.5	Pass	
Aroclor-1242	mg/kg	< 0.5			0.5	Pass	
Aroclor-1248	mg/kg	< 0.5			0.5	Pass	
Aroclor-1254	mg/kg	< 0.5			0.5	Pass	
Aroclor-1260	mg/kg	< 0.5			0.5	Pass	
Total PCB*	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Organophosphorus Pesticides (OP)							
Azinphos-methyl	mg/kg	< 0.2			0.2	Pass	
Chlorpyrifos	mg/kg	< 0.2			0.2	Pass	
Coumaphos	mg/kg	< 2			2	Pass	
Demeton (total)	mg/kg	< 1			1	Pass	
Diazinon	mg/kg	< 0.2			0.2	Pass	
Dichlorvos	mg/kg	< 0.2			0.2	Pass	
Dimethoate	mg/kg	< 0.2			0.2	Pass	
Disulfoton	mg/kg	< 0.2			0.2	Pass	
Ethoprop	mg/kg	< 0.2			0.2	Pass	
Fenitrothion	mg/kg	< 0.2			0.2	Pass	
Fensulfothion	mg/kg	< 0.2			0.2	Pass	
Fenthion	mg/kg	< 0.2			0.2	Pass	
Malathion	mg/kg	< 0.2			0.2	Pass	
Methyl parathion	mg/kg	< 0.2			0.2	Pass	
Mevinphos	mg/kg	< 0.2			0.2	Pass	
Monocrotophos	mg/kg	< 2			2	Pass	
Parathion	mg/kg	< 0.5			0.5	Pass	
Phorate	mg/kg	< 0.2			0.2	Pass	
Profenofos	mg/kg	< 0.2			0.2	Pass	
Prothiofos	mg/kg	< 0.5			0.5	Pass	
Ronnel	mg/kg	< 0.2			0.2	Pass	
Stirophos	mg/kg	< 0.5			0.5	Pass	
Trichloronate	mg/kg	< 0.2			0.2	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	
Method Blank							
Heavy Metals							
Arsenic	mg/kg	< 2			2	Pass	
Cadmium	mg/kg	< 0.4			0.4	Pass	
Chromium	mg/kg	< 5			5	Pass	
Copper	mg/kg	< 5			5	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Lead	mg/kg	< 5			5	Pass	
Mercury	mg/kg	< 0.05			0.05	Pass	
Nickel	mg/kg	< 5			5	Pass	
Zinc	mg/kg	< 5			5	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C6-C9	%	89			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	93			70-130	Pass	
Toluene	%	89			70-130	Pass	
Ethylbenzene	%	97			70-130	Pass	
m&p-Xylenes	%	90			70-130	Pass	
o-Xylene	%	90			70-130	Pass	
Xylenes - Total	%	90			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	%	117			70-130	Pass	
TRH C6-C10	%	83			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C10-C14	%	104			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	%	128			70-130	Pass	
Acenaphthylene	%	116			70-130	Pass	
Anthracene	%	119			70-130	Pass	
Benz(a)anthracene	%	121			70-130	Pass	
Benzo(a)pyrene	%	122			70-130	Pass	
Benzo(b&j)fluoranthene	%	101			70-130	Pass	
Benzo(g.h.i)perylene	%	129			70-130	Pass	
Benzo(k)fluoranthene	%	119			70-130	Pass	
Chrysene	%	117			70-130	Pass	
Dibenz(a.h)anthracene	%	125			70-130	Pass	
Fluoranthene	%	122			70-130	Pass	
Fluorene	%	130			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	129			70-130	Pass	
Naphthalene	%	126			70-130	Pass	
Phenanthrene	%	125			70-130	Pass	
Pyrene	%	113			70-130	Pass	
LCS - % Recovery							
Organochlorine Pesticides							
Chlordanes - Total	%	91			70-130	Pass	
4.4'-DDD	%	97			70-130	Pass	
4.4'-DDE	%	96			70-130	Pass	
4.4'-DDT	%	105			70-130	Pass	
a-BHC	%	93			70-130	Pass	
Aldrin	%	98			70-130	Pass	
b-BHC	%	97			70-130	Pass	
d-BHC	%	105			70-130	Pass	
Dieldrin	%	93			70-130	Pass	
Endosulfan I	%	93			70-130	Pass	
Endosulfan II	%	94			70-130	Pass	
Endosulfan sulphate	%	100			70-130	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Endrin	%	96			70-130	Pass	
Endrin aldehyde	%	109			70-130	Pass	
Endrin ketone	%	99			70-130	Pass	
g-BHC (Lindane)	%	94			70-130	Pass	
Heptachlor	%	90			70-130	Pass	
Heptachlor epoxide	%	92			70-130	Pass	
Hexachlorobenzene	%	93			70-130	Pass	
Methoxychlor	%	92			70-130	Pass	
Toxaphene	%	92			70-130	Pass	
LCS - % Recovery							
Polychlorinated Biphenyls (PCB)							
Aroclor-1260	%	117			70-130	Pass	
LCS - % Recovery							
Organophosphorus Pesticides (OP)							
Demeton (total)	%	78			70-130	Pass	
Methyl parathion	%	117			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
TRH >C10-C16	%	113			70-130	Pass	
LCS - % Recovery							
Heavy Metals							
Arsenic	%	98			70-130	Pass	
Cadmium	%	99			70-130	Pass	
Chromium	%	101			70-130	Pass	
Copper	%	111			70-130	Pass	
Lead	%	75			70-130	Pass	
Mercury	%	113			70-130	Pass	
Nickel	%	101			70-130	Pass	
Zinc	%	90			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	S16-Se23460	NCP	%	90			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	S16-Se23460	NCP	%	91			70-130	Pass	
Toluene	S16-Se23460	NCP	%	93			70-130	Pass	
Ethylbenzene	S16-Se23460	NCP	%	102			70-130	Pass	
m&p-Xylenes	S16-Se23460	NCP	%	94			70-130	Pass	
o-Xylene	S16-Se23460	NCP	%	94			70-130	Pass	
Xylenes - Total	S16-Se23460	NCP	%	94			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
Naphthalene	S16-Se23460	NCP	%	112			70-130	Pass	
TRH C6-C10	S16-Se23460	NCP	%	82			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1					
TRH C10-C14	S16-Se23460	NCP	%	100			70-130	Pass	
Spike - % Recovery									
Polycyclic Aromatic Hydrocarbons				Result 1					
Acenaphthene	S16-Se23460	NCP	%	116			70-130	Pass	
Acenaphthylene	S16-Se23460	NCP	%	117			70-130	Pass	
Anthracene	S16-Se23460	NCP	%	123			70-130	Pass	
Benz(a)anthracene	S16-Se23460	NCP	%	107			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Benzo(a)pyrene	S16-Se23460	NCP	%	125			70-130	Pass	
Benzo(b&j)fluoranthene	S16-Se23460	NCP	%	85			70-130	Pass	
Benzo(g.h.i)perylene	S16-Se23460	NCP	%	113			70-130	Pass	
Benzo(k)fluoranthene	S16-Se23460	NCP	%	122			70-130	Pass	
Chrysene	S16-Se23460	NCP	%	125			70-130	Pass	
Dibenz(a.h)anthracene	S16-Se23460	NCP	%	109			70-130	Pass	
Fluoranthene	S16-Se23460	NCP	%	120			70-130	Pass	
Fluorene	S16-Se23460	NCP	%	124			70-130	Pass	
Indeno(1.2.3-cd)pyrene	S16-Se23460	NCP	%	113			70-130	Pass	
Naphthalene	S16-Se23460	NCP	%	129			70-130	Pass	
Phenanthrene	S16-Se23460	NCP	%	119			70-130	Pass	
Pyrene	S16-Se23460	NCP	%	118			70-130	Pass	
Spike - % Recovery									
Organochlorine Pesticides				Result 1					
Chlordanes - Total	S16-Se28930	NCP	%	91			70-130	Pass	
4.4'-DDD	S16-Se28930	NCP	%	101			70-130	Pass	
4.4'-DDE	S16-Se28930	NCP	%	97			70-130	Pass	
4.4'-DDT	S16-Se28930	NCP	%	91			70-130	Pass	
a-BHC	S16-Se28930	NCP	%	94			70-130	Pass	
Aldrin	S16-Se28930	NCP	%	36			70-130	Fail	Q08
b-BHC	S16-Se28930	NCP	%	100			70-130	Pass	
d-BHC	S16-Se28930	NCP	%	106			70-130	Pass	
Dieldrin	S16-Se28930	NCP	%	105			70-130	Pass	
Endosulfan I	S16-Se28930	NCP	%	91			70-130	Pass	
Endosulfan II	S16-Se28930	NCP	%	90			70-130	Pass	
Endosulfan sulphate	S16-Se28930	NCP	%	93			70-130	Pass	
Endrin	S16-Se28930	NCP	%	93			70-130	Pass	
Endrin aldehyde	S16-Se28930	NCP	%	110			70-130	Pass	
Endrin ketone	S16-Se28930	NCP	%	102			70-130	Pass	
g-BHC (Lindane)	S16-Se28930	NCP	%	79			70-130	Pass	
Heptachlor	S16-Se28930	NCP	%	74			70-130	Pass	
Heptachlor epoxide	S16-Se28930	NCP	%	97			70-130	Pass	
Hexachlorobenzene	S16-Se28930	NCP	%	88			70-130	Pass	
Methoxychlor	S16-Se28930	NCP	%	87			70-130	Pass	
Toxaphene	S16-Se28930	NCP	%	87			70-130	Pass	
Spike - % Recovery									
Polychlorinated Biphenyls (PCB)				Result 1					
Aroclor-1260	S16-Se28930	NCP	%	124			70-130	Pass	
Spike - % Recovery									
Organophosphorus Pesticides (OP)				Result 1					
Demeton (total)	S16-Se28113	NCP	%	6.0			70-130	Fail	Q08
Methyl parathion	S16-Se25663	NCP	%	122			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
TRH >C10-C16	S16-Se23460	NCP	%	109			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic	S16-Se23460	NCP	%	94			70-130	Pass	
Chromium	S16-Se23460	NCP	%	94			70-130	Pass	
Copper	S16-Se23460	NCP	%	109			70-130	Pass	
Lead	S16-Se23460	NCP	%	86			70-130	Pass	
Mercury	S16-Se23460	NCP	%	103			70-130	Pass	
Nickel	S16-Se23460	NCP	%	88			70-130	Pass	
Zinc	S16-Se23460	NCP	%	83			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	S16-Se23459	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	S16-Se23459	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	S16-Se23459	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	S16-Se23459	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	S16-Se23459	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	S16-Se23459	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total	S16-Se23459	NCP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	S16-Se23459	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
TRH C6-C10	S16-Se23459	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1	Result 2	RPD			
TRH C10-C14	S16-Se24982	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C15-C28	S16-Se24982	NCP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH C29-C36	S16-Se24982	NCP	mg/kg	< 50	< 50	<1	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	S16-Se29083	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Acenaphthylene	S16-Se29083	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Anthracene	S16-Se29083	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benz(a)anthracene	S16-Se29083	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(a)pyrene	S16-Se29083	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(b&j)fluoranthene	S16-Se29083	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(g.h.i)perylene	S16-Se29083	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(k)fluoranthene	S16-Se29083	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Chrysene	S16-Se29083	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dibenz(a.h)anthracene	S16-Se29083	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluoranthene	S16-Se29083	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluorene	S16-Se29083	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	S16-Se29083	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Naphthalene	S16-Se29083	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Phenanthrene	S16-Se29083	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Pyrene	S16-Se29083	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Organochlorine Pesticides				Result 1	Result 2	RPD			
Chlordanes - Total	S16-Se28929	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
4.4'-DDD	S16-Se28929	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4.4'-DDE	S16-Se28929	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4.4'-DDT	S16-Se28929	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
a-BHC	S16-Se28929	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Aldrin	S16-Se28929	NCP	mg/kg	0.12	0.10	23	30%	Pass	
b-BHC	S16-Se28929	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
d-BHC	S16-Se28929	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Dieldrin	S16-Se28929	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan I	S16-Se28929	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan II	S16-Se28929	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan sulphate	S16-Se28929	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin	S16-Se28929	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin aldehyde	S16-Se28929	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	

Duplicate									
Organochlorine Pesticides				Result 1	Result 2	RPD			
Endrin ketone	S16-Se28929	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
g-BHC (Lindane)	S16-Se28929	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor	S16-Se28929	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor epoxide	S16-Se28929	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Hexachlorobenzene	S16-Se28929	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Methoxychlor	S16-Se28929	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Toxaphene	S16-Se28929	NCP	mg/kg	< 1	< 1	<1	30%	Pass	
Duplicate									
Polychlorinated Biphenyls (PCB)				Result 1	Result 2	RPD			
Aroclor-1016	S16-Se28929	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Aroclor-1232	S16-Se28929	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Aroclor-1242	S16-Se28929	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Aroclor-1248	S16-Se28929	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Aroclor-1254	S16-Se28929	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Aroclor-1260	S16-Se28929	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Organophosphorus Pesticides (OP)				Result 1	Result 2	RPD			
Azinphos-methyl	S16-Se25661	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Chlorpyrifos	S16-Se25661	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Coumaphos	S16-Se25661	NCP	mg/kg	< 2	< 2	<1	30%	Pass	
Demeton (total)	S16-Se25661	NCP	mg/kg	< 1	< 1	<1	30%	Pass	
Diazinon	S16-Se25661	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Dichlorvos	S16-Se25661	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Dimethoate	S16-Se25661	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Disulfoton	S16-Se25661	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Ethoprop	S16-Se25661	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Fenitrothion	S16-Se25661	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Fensulfothion	S16-Se25661	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Fenthion	S16-Se25661	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Malathion	S16-Se25661	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Methyl parathion	S16-Se25661	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Mevinphos	S16-Se25661	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Monocrotophos	S16-Se25661	NCP	mg/kg	< 2	< 2	<1	30%	Pass	
Parathion	S16-Se25661	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Phorate	S16-Se25661	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Profenofos	S16-Se25661	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Prothiofos	S16-Se25661	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Ronnel	S16-Se25661	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Stirophos	S16-Se25661	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Trichloronate	S16-Se25661	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
TRH >C10-C16	S16-Se24982	NCP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH >C16-C34	S16-Se24982	NCP	mg/kg	< 100	< 100	<1	30%	Pass	
TRH >C34-C40	S16-Se24982	NCP	mg/kg	< 100	< 100	<1	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	S16-Se23459	NCP	mg/kg	11	13	18	30%	Pass	
Cadmium	S16-Se23459	NCP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	S16-Se23459	NCP	mg/kg	33	35	7.0	30%	Pass	
Copper	S16-Se23459	NCP	mg/kg	< 5	< 5	<1	30%	Pass	
Lead	S16-Se23459	NCP	mg/kg	20	21	5.0	30%	Pass	
Mercury	S16-Se23459	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Nickel	S16-Se23459	NCP	mg/kg	< 5	< 5	<1	30%	Pass	
Zinc	S16-Se23459	NCP	mg/kg	7.7	7.5	3.0	30%	Pass	

Duplicate									
				Result 1	Result 2	RPD			
% Moisture	S16-Se18050	NCP	%	8.0	7.8	2.0	30%	Pass	

Comments

Sample Integrity

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

Qualifier Codes/Comments

Code	Description
N01	F2 is determined by arithmetically subtracting the "naphthalene" value from the ">C10-C16" value. The naphthalene value used in this calculation is obtained from volatiles (Purge & Trap analysis).
N02	Where we have reported both volatile (P&T GCMS) and semivolatile (GCMS) naphthalene data, results may not be identical. Provided correct sample handling protocols have been followed, any observed differences in results are likely to be due to procedural differences within each methodology. Results determined by both techniques have passed all QAQC acceptance criteria, and are entirely technically valid.
N04	F1 is determined by arithmetically subtracting the "Total BTEX" value from the "C6-C10" value. The "Total BTEX" value is obtained by summing the concentrations of BTEX analytes. The "C6-C10" value is obtained by quantitating against a standard of mixed aromatic/aliphatic analytes.
N07	Please note:- These two PAH isomers closely co-elute using the most contemporary analytical methods and both the reported concentration (and the TEQ) apply specifically to the total of the two co-eluting PAHs
Q08	The matrix spike recovery is outside of the recommended acceptance criteria. An acceptable recovery was obtained for the laboratory control sample indicating a sample matrix interference

Authorised By

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Ivan Taylor	Senior Analyst-Metal (NSW)
Ryan Hamilton	Senior Analyst-Inorganic (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.

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Appendix F: Quality Assurance/Control

Quality Assurance and Quality Control

Field QA/QC

Sampling Procedures

Fieldwork was undertaken by qualified and experienced Prensa personnel in accordance with Prensa Work Instructions which are based on industry accepted standard practice and NEPM 2013.

Sampling, decontamination and storage works were conducted in accordance with the Prensa Environmental Work Instructions. Between each sampling location, new nitrile gloves were used to reduce the potential for cross contamination to occur.

Calibration certificates for the PID are provided in Appendix G.

Phosphate-free detergent was used to clean sampling instruments between sample locations. The sampling instruments were rinsed in deionised water and then sprayed with deionised water to minimise the potential for cross-contamination to occur.

Soil samples were placed in laboratory supplied jars, bags and bottles with Teflon lined lids and preservative, where required. The samples were stored in ice chests before being transported to the laboratory along with Chain of Custody documentation, which is included in Appendix E.

Quality Control Samples

Field Duplicate Samples

The purpose of duplicate samples were to estimate the variability of a given characteristic or contaminant associated with a population.

Field duplicate soil samples were collected from soil immediately adjacent to the primary sample by placing approximately equal portions of the primary sample into two (2) sample jars. Samples were labelled so as to conceal their relationship to the primary sample from the laboratory.

The blind and split duplicate samples analysed are outlined in Table F1.

Table F1: Field Blind and Split Duplicate Analysed

Medium	Primary Sample	Blind Replicate	Split Sample	Analysis
Fill	55499_BH7_0.1	55499_QC1	55499_QC2	TRH, BTEX, PAH, OCC/CPP, PCB and Heavy Metals,

The quantity of duplicate samples analysed conformed to the frequency set in the DQI (Appendix A).

Relative percent differences (RPDs) were calculated for each of the duplicate samples analysed. RPDs were calculated by dividing the difference between the primary sample and duplicate sample by the average of the two, as shown below:

$$RPD = \frac{(X_1 - X_2)}{(X_1+X_2)/2} \times 100\%$$

Where: X_1 = Primary sample result; and

X_2 = Replicate sample result.

When calculating the RPDs, the following procedures were also considered:

- RPDs were only considered when a concentration was greater than the PQL; and
- In instances where results were greater than the PQL for the one (1) sample, but below PQL for the corresponding primary or duplicate sample, a result equal to the PQL value was adopted where necessary in order to make a calculation possible.

RPDs for duplicate samples were calculated and the results are attached in Table T3 in the 'Tables' section of this report. RPDs have also been summarised in Table F2.

Table F2: Field Blind and Split Duplicate RPD results

Medium	Primary Sample	Blind Replicate	Split Sample	Results
Fill	55499_BH7_0.1	55499_QC1	55499_QC2	RPD results were within the acceptable ranges set out in the DQIs (Appendix A) with the exception of Benzo(a)pyrene TEQ calc(PQL) in 55499_QC2 (82%)

The quantity of duplicate samples conformed to the frequency set in the DQI (Appendix A).

The RPDs of soil duplicated sample pairs were generally below the acceptable limits.

The exceedance of RPDs from primary sample 55499_BH7_0.1 is close to the laboratory PQL and is likely attributable to heterogeneity of the fill.

Whilst it is noted that an RPD for soil sampled was beyond the acceptable criteria, the RPD results were not deemed to indicate significant deficiencies in the sampling methodology but rather related primarily to variations within soil samples, given the percentage of samples reported within acceptable ranges, as well as the evidence noted above. Therefore, elevated RPDs are not considered to affect the integrity of reliability of the overall results.

Blank and Spike Samples

Rinsate blanks and trip blanks were collected and submitted for laboratory analysis as outlined in Table F3. The results for the blank samples are summarised in Table T4 and Table T5 in the 'Tables' section of this report and in the laboratory reports in Appendix E.

Rinsate blanks consist of pre-preserved bottles filled with laboratory prepared water that is passed over decontaminated field equipment and then collected in containers used for the sampling process. Rinsate blanks were preserved in a similar manner to the original samples. The rinsate blank was a check on decontamination procedures.

Trip blanks assess the potential for cross contamination between transit from the site to the laboratory. Samples were analysed for volatile compounds. The trip blank sample was prepared by the primary laboratory, carried to the field unopened and subjected to the same preservation methods as the primary field samples.

Table F3: Blank Sample Analysis and Results

Type/Medium	Sample	Date	Analysis	Results
Trip Blank (Soil)	55499_TB1	22/09/2016	TRH $C_6 - C_{10}$ and BTEX	Concentrations less than LOR.
Rinsate Blank (Water)	55499_R1	22/09/2016	Metals, TRH, BTEX, PAH, OCP/OPP and PCB.	Concentrations were less than the DQIs with the exception of TRH $C_{10} - C_{16}$

The quantity of blanks samples analysed conformed to the frequency set in the DQI (Appendix A).

The laboratory reported that the positive result of TRH $C_{10} - C_{16}$ in the rinsate was due to a single peak with no hydrocarbon profile, consistent with plastic containers.

Based on the results it can be considered that:

- Decontamination procedures were adequate and contaminants were unlikely to have been introduced by contact of the sampling equipment with the soil sampled; and
- Cross contamination from the atmosphere between transit of samples from the site to the laboratory was unlikely to have occurred.

Laboratory Quality Assurance/Quality Control

The laboratories conducted their own internal quality program for assessment of the repeatability of the analytical procedures and instrument accuracy under their NATA accreditation. This included analysis of laboratory blank samples, duplicate samples, spike samples, control samples and surrogate spikes. The laboratory QA/QC procedures and results are described within the laboratory reports presented in Appendix E.

The laboratory internal QA/QC sample results were reviewed and were consistent with the laboratory's NATA guidelines. Furthermore, the adoption of the general advisory ranges for specific recoveries has been used to screen laboratory data. Where recoveries were outside these ranges the data was assessed in relation to specific laboratory comments, published industry 'norms' for specific parameters and/or the likely impact on the interpretation of the meaning of the results.

Based on the reported laboratory QA/QC samples and methods used, the results were considered to be acceptable.

Quality Statement

The sampling methods (including sample preservation, transport and decontamination procedures) and laboratory methods followed during the assessment were consistent with Prensa Work Instructions and were found to meet the DQIs for this project. It was considered that the data was sufficiently collected and results can be relied upon for the purpose of this assessment.

Appendix G: Calibration Certificates

Air-Met Scientific P/L
7-11 Ceylon Street
Nunawading
Victoria 3131, Australia

Calibration Certificate

This document hereby certifies that this instrument detailed has been calibrated to the parameters listed below.

Certificate Print Date: 3 June, 2016
Calibration Date: 1 June, 2016
Next Calibration Due: 1 December, 2016

Call ID: **00192655**
Job / SO Number: *217875*

Customer:	PRENSA	**Type:**	Port Gas Det
Model:	GAS	**Serial No:**	595-000852
Description:	MiniRae Lite		

Sensor	Date Code	Gas Bottle No.	Calibration Gas and Concentration	C.F	C.V	Certified	Instrument Readings Before / Span Res.	After
PID	//	SY129	ISOBUTYLENE 100PPM, BAL			NIST	103.0ppm	100.3ppm
	//							
	//							
	//							
	//							
	//							

Completed by: *Timothy Harmer* **Signed:**

Australian Standard Alarm Levels ☐

CF - Conversion Factor, CV Compensated Value
CV = CF * Span Gas

Appendix H: Correspondence

Anthony Plumb

From: David Windnagel <David.Windnagel@property.nsw.gov.au>
Sent: Wednesday, 12 October 2016 9:09 AM
To: Anthony Plumb
Cc: James Cameron
Subject: Fw: Contamination enquiry - 9 Church Street, Newcastle

Hi Anthony,

please see the email below. could we please update the report to reflect this information?

kind regards,

Dave.

From: Mark Manning <mmanning@ncc.nsw.gov.au>
Sent: Wednesday, 12 October 2016 09:05
To: David Windnagel
Subject: Contamination enquiry - 9 Church Street, Newcastle

Hi David

I refer to your enquiry regarding the contamination notification listed on the property at 9 Church Street, Newcastle (Lot 1 DP 1199904). The notification cites the use of the site for engine works and fuel/oil storage, but a review of the historical information reveals the above activities were conducted on the adjoining property at 1 Church Street. The contamination notification is not applicable to the property at 9 Church Street and Council will modify the notification shortly. Therefore, the property at 9 Church Street is not subject to any known contamination issue by Council.

If you have any further questions or require further assistance please contact me as below

Yours faithfully

Mark Manning | Senior Environment Protection Officer
Regulatory Services | Planning and Regulatory
The City of Newcastle
Phone: +61 2 4974 2540 | **Fax:** +61 2 4974 2501
Email: mmanning@ncc.nsw.gov.au
Web: www.newcastle.nsw.gov.au
Our Corporate Values: Cooperation | Respect | Excellence | Wellbeing

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The Newcastle Courthouse

Church Street, Newcastle, NSW



Asbestos Materials Report

Prepared for
Attorney General's Department of NSW
Locked Bag 5111
PARRAMATTA NSW 2124

Prepared by
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August 2008

File Ref 4009632.AA1

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1. Introduction

In general accordance with your instructions, we have completed this report in accordance with the current NSW Asbestos Legislation, and in particular the Occupational Health and Safety Act 2000 and the Occupational Health and Safety Regulation 2001.

The purpose of the audit is to identify the location and condition of all asbestos containing building materials present within the subject building and to assess the likely impact of these materials on the buildings occupants and any future building/refurbishment or fit-out works within the building.

2. Building Description

The Courthouse was built in three distinct phases and these have been referred to as Buildings A, B, and C. Building B was the original structure and is in the middle. It was built in the late 1800's and is essentially a sandstone structure with timber framed windows and a timber framed slate roof. Accommodation is mostly confined to two levels. Building A was built, it appears, in 1949 and is to the east of the original building. Building A was refurbished in 1980 with the refurbishment including new extensions at the front. The building has facilities over four levels with the upper roof level containing the plant room. Building C was built in 1966 and is to the west of the original structure. It has three levels including car parking facilities at the lower level.

Plans showing the different building sections and the asbestos contained can be found in Section 11.

3. Executive Summary and Recommendations

Asbestos materials are confirmed or presumed present within **Building A** in the form of:

- Asbestos based core material to all fire doors with the exception of two on Level 1.
- Asbestos based vinyl tiling to the Level 1 Plant Room.
- Asbestos based gaskets to boilers/compressors/pumps, etc in the plant and boiler rooms.
- Asbestos cement flue pipe to the hot water heater in the Level 3 Plant Room.
- Asbestos based vinyl tiling in the PABX room at the rear of the building.
- Asbestos based waterproofing membrane under newer membranes on the roof. This would apply anywhere in any of the three building sections.
- Asbestos core material to the PABX room fire door.
- Asbestos cement water piping and electrical conduit in underground locations.

Asbestos materials are confirmed or presumed present within **Building B** in the form of:

- Asbestos based core material to all fire doors with the exception of those noted above.
- Asbestos cement wall and ceiling linings within the Jury Toilets.
- Asbestos based vinyl tiling to the store room under the stairs behind Court Room 6.

- Asbestos cement linings to the fire hose reel cupboard on Level 2, adjacent to Legal Aid.
- Asbestos cement lining to a metal duct in the cell next to DOCS Control Room.
- Asbestos cement roof eaves to the raised roof section over Court Room 4 and to eaves at a lower level and visible from the rear.
- Asbestos cement linings to the Electrical cupboard and fire hose reel cupboard, Level 2, on the front wall of the Court Attendant's Room.
- Visible Asbestos cement debris on Level 1 in the cupboard between Cell 2 and the fire hose reel cupboard.
- Asbestos based waterproofing membrane under newer coverings on the roof. This would apply anywhere in any of the three building sections.
- Asbestos cement water piping and electrical conduit in underground locations.

Asbestos materials are confirmed or presumed present within **Building C** in the form of:

- Two disused asbestos cement flue pipes in the hot water cupboard adjacent to the roof access ladder.
- Asbestos based waterproofing membrane under newer membranes on the roof. This would apply anywhere in any of the three building sections.
- Asbestos cement roof eaves to roofing over both Courts 1 and 2.
- An asbestos cement flue pipe in the male toilet on Level 3.
- Asbestos cement linings within the electrical cupboards opening off the public foyers adjacent to Courts 1 and 2.
- Asbestos cement sheet covering a portion of the air vent to the rear wall of the car park.
- Visible asbestos cement debris to the rear of the building.
- On Level 1, treat all vinyl tiles as containing asbestos. This includes the Cleaner's Storage room, DOCS amenities, and the DOCS rooms adjacent to the stairs in the north-west corner.
- Asbestos cement water piping and electrical conduit in underground locations.

Materials such as those found on this site represent a minimal health risk if left undisturbed, are in good condition, and in the case of asbestos cement sheeting, are kept sealed with paint.

The following actions will need to be taken as part of the legislative requirements;

1. A Management Plan needs to be established. (See Section 12)
2. Where damage occurs to any asbestos cement sheet, the edges need to be sealed with paint. Debris needs to be collected and disposed of in accordance with the Code.
3. Warning signs need to be attached to or adjacent to any asbestos materials.
4. A centrally located sign is needed advising of the presence of an Asbestos Register and where it is located. This register should be available to "workers and their representatives, any other employers within the premises, any person removing

asbestos materials, any person engaged to perform work that may disturb any Asbestos Materials, and any other person who might be exposed."

5. Updating of the Register when Asbestos Materials are removed from the site or worked upon.

6. The Register including any risk assessments should be reviewed every 12 months or earlier where; (1) a risk assessment indicates the need for reassessment, or (2) any Asbestos Containing Materials have been disturbed.

7. **Consideration needs to be given into having the Asbestos Materials removed** – perhaps in a phased program. This removes the need for signs, annual inspections, and a Management Plan, etc.

4. Nature of Survey

The survey was undertaken on 14 August 2008 by way of a visual inspection of construction materials located on the building. Any samples of materials that were suspected of containing asbestos would be taken for analysis to an approved NATA registered laboratory. The samples would be analysed using polarised light microscopy supplemented with dispersion oil staining.

A total of eleven samples were taken for analysis and the results of the analysis are contained in the NATA endorsed laboratory report in Section 10 of this report.

Where applicable, a photographic record of materials was collected and included in the asbestos register.

5. Extent of Survey

The constraints of a "non destructive" survey limited the extent to which some elements of the buildings were able to be assessed, however, where possible, ceiling tiles were removed to inspect ceiling and roof voids, pipe riser shafts were inspected and hinged access panels were opened.

Whilst one can be reasonably confident that all asbestos containing materials that might be routinely encountered in the normal day-to-day activities of the buildings have been identified and assessed, no guarantees can be made that all asbestos materials were identified since demolition activities may well reveal materials in areas inaccessible to this inspection.

This report is confined to reporting the discovery (or non-discovery as the case may be) and presence of asbestos by visual inspection and non-destructive methods of those areas of the building(s) or property accessible to and inspected by Napier & Blakeley Pty Ltd at the date of inspection.

Given the intent of this inspection, we have not inspected parts of the building, covered up or otherwise made inaccessible during construction, alteration or fitting out of the building. We have therefore been unable to comment as to whether such areas are free from building materials containing asbestos.

6. Asbestos Materials Identified

Materials which are identified as containing or not containing asbestos, but which were not sampled due to their lack of accessibility (height), good condition (without causing damage),

possibility of causing contamination have been assumed to contain or not contain asbestos based on their age, physical appearance, fixing types (nail and screw heads, cover strips or cover battens) and the results of sample analysis for similar materials throughout the building. These materials are indicated as “assumed” or “presumed” to contain or not contain asbestos throughout this report.

6.1 Building A

Building A has at least 15 fire doors to the four levels. Only two were tested for the presence of asbestos based core material. Both were found to be free of asbestos and were located at the Chambers Room behind Court 8, and at the separation wall between Building A and Building B on Level 1 near the Lightwell. None have identification tags which would identify them as being the same as all the other fire doors. We recommend therefore that all other fire doors be treated as containing asbestos until they can be individually tested. The door to the boiler room has missing hardware and the core is exposed. We recommend that this door be replaced.

Asbestos based vinyl floor coverings are confirmed and presumed present in a number of locations including the PABX room at the rear, and the plant room on Level 1. Vinyl from the plant room was tested and found to contain Chrysotile asbestos. Vinyl from the Store Room behind Court 8 was tested and found to be free of asbestos. Any vinyl found within the building during any renovations should be presumed to contain asbestos.

Plant and Boiler Room equipment including boilers, pumps, and motors, should all be presumed to contain asbestos based gaskets.

The hot water heater in the level 3 plant room has an asbestos cement flue pipe present.

Membrane waterproofing material under the more recently added membranes should be presumed to contain asbestos given their extensive use in the past.

The site should be presumed to contain asbestos cement water pipes and electrical conduits that are not visible or are likely to be underground.

6.2 Building B

Building B had at least 5 fire doors that could be accessed and possibly some others that could not be at the time of the audit. Only one of these was tested and this was found to be free of asbestos as noted above. All others should be treated as containing asbestos and tested when repairs are needed or hardware needs to be changed.

Although unable to be accessed at the time of the inspection, toilets at the rear of the building and serving the Jury Room are likely to have asbestos cement wall and ceiling linings and also possibly asbestos cement toilet partitions. All fibre cement sheet in this area should be treated as containing asbestos.

Asbestos based vinyl floor coverings are confirmed present in the stair cupboard at the rear of Court 6. Vinyl from the cupboard was tested and found to contain Chrysotile asbestos. Vinyl from the Loft Store Room on Level 4 was tested and found to be free of asbestos. Any vinyl found within the building during any renovations should be presumed to contain asbestos.

A number of areas to Building B contained fibre cement linings which could not be tested but should be presumed to contain asbestos. These include linings to the level 2 fire hose reel

cupboard adjacent to Legal Aid, the roof eaves to the raised roof over Court 4, the roof eaves to lower sections of building as seen at the rear of the Jury Toilets, the electrical cupboard and fire hose reel cupboard on the front wall of the level 2 Court Attendant's room, and to the duct in the cell next to DOCS Control Room.

In addition, debris seen in the level 1 cupboard between Cell 2 and the fire hose reel cupboard should be presumed to be asbestos cement.

Samples of fibre cement ceiling were taken from the level 1 Court Records Room at the rear of the building and from the old Plant Room (now a DOCS Gym), and both were found to be free of asbestos.

Membrane waterproofing material under the more recently added membranes should be presumed to contain asbestos given their extensive use in the past.

The site should be presumed to contain asbestos cement water pipes and electrical conduits that are not visible or are likely to be underground.

6.3 Building C

Asbestos based vinyl floor coverings are confirmed present in the Level 1 Cleaner's Storage Room and in the Level 1 DOCS Change rooms. Samples from both were shown to contain Chrysotile asbestos. Vinyl tiling in all areas of level 1 at the front of the building in the north-west corner should also be presumed to contain asbestos. These were not sampled.

On Level 3, the building contains a number of asbestos cement flue pipes to hot water heaters. One is located in the male toilet on the south side of the building and two are located in the level 3 stairwell adjacent to the roof ladder access.

A number of areas in Building C are presumed to have asbestos cement linings including the roof eaves over Courts 1 and 2, the fire and electrical cupboards in the Court's 1 and 2 foyers, and a portion of the car park vent on the rear wall of level 1. A sample of the ceiling tiles found outside the DOCS Records Room was found to be free of asbestos.

We also note what is assumed to be asbestos cement debris scattered in small fragments around the rear of Buildings B and C.

Membrane waterproofing material under the more recently added membranes should be presumed to contain asbestos given their extensive use in the past.

The site should be presumed to contain asbestos cement water pipes and electrical conduits that are not visible or are likely to be underground.

7. Asbestos Management Plan and Safe Removal Of Asbestos

The National Code of Practice for the Management and Control of Asbestos in Workplaces [NOHSC:2018 (2005)] requires that Owners or Managers of buildings determine whether the building contains Asbestos; and if the building has **Asbestos Containing Materials**, the Owner or Manager must put in place an **Asbestos Management Plan** incorporating an **Asbestos Register**.

The Plan deals with identification, assessment and control of the asbestos. The general principals of the Development of the Asbestos Management Plan as outlined in the Code of Practice are reprinted in the Section 10.

Should maintenance, refurbishment or demolition work involving disturbance of asbestos materials be considered, then the asbestos material should be removed prior to the work commencing. All removal of asbestos should be carried out in accordance with the Code of Practice for the Safe Removal of Asbestos 2nd Edition [NOHSC:2002 (2005)]

Materials that were concealed during the survey but have become exposed during demolition works and are suspected of containing asbestos should have their composition determined prior to works in these areas continuing.

8. Asbestos Register – Methodology

If Asbestos Materials have been identified, an Asbestos Materials Register will be included in this report. In accordance with the regulation, information relating to the location, type, form, condition and risk have been provided. The following characteristics have been used to describe asbestos form and risk:

8.1 Matrix/ Form/ Stability

- Friable
  - Consisting of a soft matrix, easily crumbles or reduced to powder when rubbed between the fingers. Access to areas containing friable asbestos is only permitted under controlled conditions
- Hard
  - The asbestos fibre is not released when rubbed between the fingers but the structure of the matrix is destroyed by mechanical abrading, such as cutting or hammering.
- Bonded
  - The asbestos is firmly fixed in a solid matrix which even after mechanical abrading (such as cutting or hammering) does not readily release fibres from the matrix.

8.2 Risk Assessment

An assessment of the risk posed by each of the asbestos materials has been carried out for the subject building. The risk posed by these materials has been given a priority rating of 1, 2, 3 and 4 according to the following definitions.

8.2.1 Priority R1 – High Risk Potential

Friable asbestos materials as typically located in boilers, plant and pipe lagging, sprayed insulation materials, millboard etc - a potential health risk. Monitoring should be considered if it has not already been done. Requires immediate attention or removal. Label with warning signs

8.2.2 Priority R2 – Medium Risk Potential

Asbestos materials which are in a damaged or exposed state and in poor condition. Exposure to asbestos is likely to occur. Monitoring should be considered. Prompt remedial action is recommended to encapsulate/ treat or remove to reduce risk. Label with warning signs.

8.2.3 Priority R3 – Low Risk Potential

Asbestos materials whilst not a current substantial risk, if subject to demolition or disturbance, would pose a possible future risk. Appropriate remedial action should be undertaken when convenient. Prior to removal, effective management of the situation should be implemented (eg. monitoring). Label with warning signs.

8.2.4 Priority R4 – Minimal Risk Potential

Asbestos materials are stable, non-friable and effectively sealed against dispersion to atmosphere or contact. Health risk is negligible if left undisturbed under the control of an adequate management plan. Inspect annually. Label with warning signs.

9. Asbestos Materials Register

Asbestos Materials Register

Property details		Legend			
Property name	Newcastle Court House	**Type of asbestos**	**Matrix / form / stability**	**Condition**	**Risk rating**
Property address	Church Street NEWCASTLE NSW 2300	**CH** – Chrysotile	Friable	Sound	**R1** – High
		A – Amosite	Hard	Poor	**R2** – Medium
		CR – Crocidolite	Bonded	Damaged	**R3** – Low
NBC Project No.	4009632.AA1	**NT** – Not tested			**R4** - Minimal
Building ref					

Building A

Item ref	6.1	Location	  Photo of Boiler room door and PABX door
Level	All levels	All fire doors shown on plans with the exception of two that were tested on Level 1	
Type	NT	Description of material	
Matrix	Friable	Presumed asbestos based core material in doors that were not tested.	
Condition	Some damage noted		
Risk	R3	Comments / recommendations	
Sample ref	NT	Doors not tested had no identity tags to confirm they were the same as doors tested. Therefore treat all fire doors as containing asbestos until tested. Doors should be tested if repair works are needed or hardware needs to be changed. The boiler room door is damaged and we recommend its replacement.	
Date removed			

Item ref	6.1	Location	 
Level	Level 1	Plant and PABX Rooms	
Type	CH	Description of material	
Matrix	Bonded	Confirmed and presumed asbestos based vinyl tiling	
Condition	Sound		
Risk	R4	Comments / recommendations	
Sample ref	M001	Vinyl is a bonded product that represents a minimal health risk if left undisturbed. Label with warning label and avoid any abrasion by cutting, drilling, or sanding.	
Date removed			

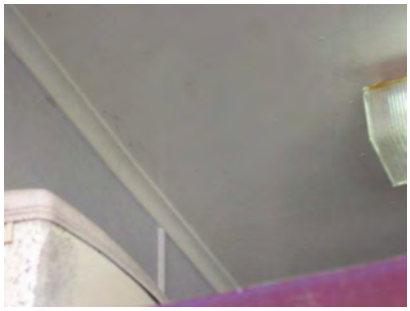
Item ref	6.1	Location	  
Level	Level 4	Roof Plant and Boiler Rooms	
Type	NT	Description of material	
Matrix	Bonded	Presumed asbestos based gaskets to boiler, pumps, and motors	
Condition	Sound		
Risk	R4	Comments / recommendations	
Sample ref	NT	The products represent a minimal health risk if left undisturbed. Label with warning labels and avoid abrasion by cutting or drilling.	
Date removed			

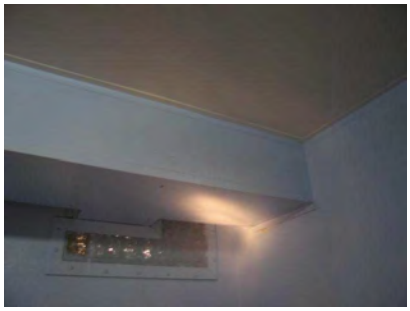
Item ref	6.1	Location	
Level	Four	Connected to top of hot water heater	
Type	NT	Description of material	
Matrix	Hard	Presumed asbestos cement flue pipe	
Condition	Sound		
Risk	R4	Comments / recommendations	
Sample ref	NT	Flue pipe is sound and represents a minimal health risk if left undisturbed. Apply warning labels and avoid any abrasion by cutting or drilling. Suggest that flue be sealed with a suitable paint.	
Date removed			

Item ref	6.1	Location	
Level	Level 4	Exterior roof areas	
Type	NT	Description of material	
Matrix	Not sighted	Presumed asbestos based membrane material under waterproofing membranes added more recently.	
Condition	Not sighted		
Risk	R4	Comments / recommendations	
Sample ref	NT	Any asbestos membranes present are encapsulated by the newer membranes and would offer a minimal health risk if left undisturbed. Take the appropriate precautions during any renovations or demolition.	
Date removed			

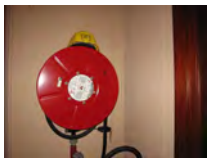
Item ref	6.1	Location	No Photo
Level	All levels	Below the building or within service ducts not sighted.	
Type	NT	Description of material	
Matrix	Hard	Presumed asbestos cement water and/or conduit pipes within hidden areas of the building or below the building.	
Condition	Not sighted		
Risk	R4	Comments / recommendations	
Sample ref	NT	Pipes would represent a minimal risk if left undisturbed. If discovered during any excavation or renovation, avoid any abrasion by cutting or drilling. Remove in accordance with the appropriate Code of Practice.	
Date removed			

Building B

Item ref	6.2	Location	
Level	Level 2	Jury Toilets at rear of building	
Type	NT	Description of material	
Matrix	Hard	Presumed asbestos cement wall and ceiling linings and possible toilet partitions	
Condition	Not fully sighted		
Risk	R4	Comments / recommendations	
Sample ref	NT	Toilets could not be accessed and photo was taken through rear window. Asbestos cement sheet represents a minimal health risk if left undisturbed and is kept sealed with paint. Apply warning labels and avoid any abrasion by cutting or drilling.	
Date removed			

Item ref	6.2	Location	
Level	Level 1	Cell on rear wall next to DOCS Control Room	
Type	NT	Description of material	
Matrix	Hard	Presumed asbestos cement lining over metal air duct. This could also be a feature of other cells.	
Condition	Sound		
Risk	R4	Comments / recommendations	
Sample ref	NT	Asbestos cement sheet represents a minimal health risk if left undisturbed and is kept sealed with paint. Apply warning labels and avoid any abrasion by cutting or drilling.	
Date removed			

Item ref	6.2	Location	
Level	Level 1	Stair cupboard behind Court 6	
Type	CH	Description of material	
Matrix	Bonded	Asbestos based vinyl floor tiling	
Condition	Sound		
Risk	R4	Comments / recommendations	
Sample ref	M004	Vinyl is a bonded product that represents a minimal health risk if left undisturbed. Label with warning label and avoid any abrasion by cutting, drilling, or sanding.	
Date removed			

Item ref	6.2	Location	  
Level	Level 2	Hose reel and electrical cupboards both next to the Legal Aid office and adjacent to the Court Attendant's office	
Type	NT	Description of material	
Matrix	Hard	Presumed asbestos cement linings within cupboards.	
Condition	Sound		
Risk	R4	Comments / recommendations	
Sample ref	NT	Asbestos cement sheet represents a minimal health risk if left undisturbed and is kept sealed with paint. Apply warning labels and avoid any abrasion by cutting or drilling.	
Date removed			

Item ref	6.2	Location	 Over Court 4  Rear Of Building
Level	Levels 2 and 4	Roof eaves at Level 2 and Level 3	
Type	NT	Description of material	
Matrix	Hard	Presumed asbestos cement roof eaves to roofing at the second level and roofing over Court 4	
Condition	Sound		
Risk	R4	Comments / recommendations	
Sample ref	NT	Asbestos cement sheet represents a minimal health risk if left undisturbed and is kept sealed with paint. Apply warning labels and avoid any abrasion by cutting or drilling.	
Date removed			

Item ref	6.2	Location	 
Level	Level 1	Small cupboard between Cell 2 and the hose reel cupboard	
Type	NT	Description of material	
Matrix	Hard	Presumed asbestos cement debris sighted in cupboard	
Condition	Damaged		
Risk	R4	Comments / recommendations	
Sample ref	NT	Debris unlikely to be exposing workers to air borne fibres. Remove as required.	
Date removed			

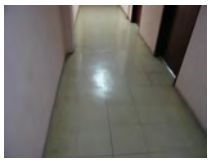
Item ref	6.2	Location	No Photo
Level	All levels	Below the building or within service ducts not sighted.	
Type	NT	Description of material	
Matrix	Hard	Presumed asbestos cement water and/or conduit pipes within hidden areas of the building or below the building.	
Condition	Not sighted		
Risk	R4	Comments / recommendations	
Sample ref	NT	Pipes would represent a minimal risk if left undisturbed. If discovered during any excavation or renovation, avoid any abrasion by cutting or drilling. Remove in accordance with the appropriate Code of Practice.	
Date removed			

Item ref	6.2	Location	No Photo
Level	Level 4	Exterior flat roof areas	
Type	NT	Description of material	
Matrix	Not sighted	Presumed asbestos based membrane material under waterproofing membranes added more recently.	
Condition	Not sighted		
Risk	R4	Comments / recommendations	
Sample ref	NT	Any asbestos membranes present are encapsulated by the newer membranes and would offer a minimal health risk if left undisturbed. Take the appropriate precautions during any renovations or demolition.	
Date removed			

Building C

Item ref	6.3	Location	 
Level	Level 3	Hot water cupboard adjacent to the roof access ladder and hot water cupboard in Male Toilet	
Type	NT	Description of material	
Matrix	Hard	Presumed asbestos cement hot water heater flue pipes x 3; now disconnected	
Condition	Sound		
Risk	R4	Comments / recommendations	
Sample ref	NT	Asbestos cement pipes represent a minimal health risk if left undisturbed and are kept sealed with paint. Apply warning labels and avoid any abrasion by cutting or drilling. Seal the one unsealed pipe with paint. Remove as required.	
Date removed			

Item ref	6.3	Location	
Level	Roof	Roofs over Courts 1 and 2	
Type	NT	Description of material	
Matrix	Hard	Presumed asbestos cement eaves linings	
Condition	Sound		
Risk	R4	Comments / recommendations	
Sample ref	NT	Asbestos cement sheet represents a minimal health risk if left undisturbed and is kept sealed with paint. Apply warning labels and avoid any abrasion by cutting or drilling.	
Date removed			

Item ref	6.3	Location	 
Level	Level 1	All rooms situated at car park level with vinyl tile flooring including Cleaner's Store, DOCS Amenities, and DOCS Records	
Type	CH	Description of material	
Matrix	Bonded	Presumed and confirmed asbestos based vinyl floor tiling.	
Condition	Sound		
Risk	R4	Comments / recommendations	
Sample ref	M008 M010	Vinyl is a bonded product that represents a minimal health risk if left undisturbed. Label with warning label and avoid any abrasion by cutting, drilling, or sanding.	
Date removed			

Item ref	6.3	Location	
Level	Level 1	Rear air vent to car park	
Type	NT	Description of material	
Matrix	Hard	Presumed asbestos cement linings over sections of vent	
Condition	Sound		
Risk	R4	Comments / recommendations	
Sample ref	NT	Asbestos cement sheet represents a minimal health risk if left undisturbed and is kept sealed with paint. These linings are not sealed. Seal with paint, apply warning labels, and avoid any abrasion by cutting or drilling.	
Date removed			

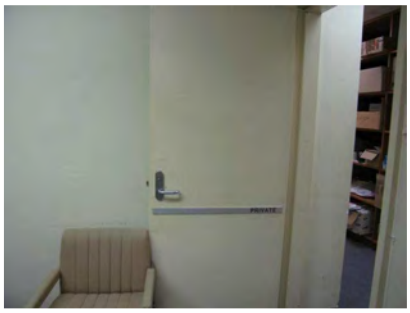
Item ref	6.3	Location	
Level	Levels 2 and 3	Service cupboards off public spaces outside Courts 1 and 2	
Type	NT	Description of material	
Matrix	Hard	Presumed asbestos cement linings inside cupboards	
Condition	Sound		
Risk	R4	Comments / recommendations	
Sample ref	NT	Asbestos cement sheet represents a minimal health risk if left undisturbed and is kept sealed with paint. Apply warning labels and avoid any abrasion by cutting or drilling.	
Date removed			

Item ref	6.3	Location	 
Level	Level 1	Rear of buildings, mainly B and C	
Type	NT	Description of material	
Matrix	Hard	Presumed asbestos cement debris.	
Condition	Damaged		
Risk	R4	Comments / recommendations	
Sample ref	NT	Debris unlikely to be exposing workers to air borne fibres. Removal, however, is recommended. Follow guidelines as set out in the Code of Practice.	
Date removed			

Item ref	6.3	Location	No Photo
Level	All levels	Below the building or within service ducts not sighted.	
Type	NT	Description of material	
Matrix	Hard	Presumed asbestos cement water and/or conduit pipes within hidden areas of the building or below the building.	
Condition	Not sighted		
Risk	R4	Comments / recommendations	
Sample ref	NT	Pipes would represent a minimal risk if left undisturbed. If discovered during any excavation or renovation, avoid any abrasion by cutting or drilling. Remove in accordance with the appropriate Code of Practice.	
Date removed			

Item ref	6.3	Location	
Level	Level 4	Exterior flat roof areas	
Type	NT	Description of material	
Matrix	Not sighted	Presumed asbestos based membrane material under waterproofing membranes added more recently.	
Condition	Not sighted		
Risk	R4	Comments / recommendations	
Sample ref	NT	Any asbestos membranes present are encapsulated by the newer membranes and would offer a minimal health risk if left undisturbed. Take the appropriate precautions during any renovations or demolition.	
Date removed			

Building Elements found to be Free of Asbestos



1. Fire door to Chambers behind Court 8 and Fire door separating Buildings A and B near bottom of ramp.

2. Vinyl flooring to store room behind Court 8



3. Vinyl to Loft Store room, Building B



4. Ceiling lining – Court Records



5. Ceiling lining -Building B – DOCS Gym and Plant room

6. Suspended ceiling tiles to DOCS Record Rooms

10. Certificates of Analysis

Parsons Brinckerhoff Australia Pty Limited
Level 4, 69 Ann Street
Brisbane QLD 4000
GPO Box 2907
Brisbane QLD 4001
Telephone +61 7 3854 6200
Facsimile +61 7 3854 6500
Email brisbane@pb.com.au

ABN 80 078 004 798
NCSI Certified Quality System ISO 9001

Certificate of Analysis

CLIENT:	Napier & Blakeley	CERTIFICATE NO:	2139079C-4116
CLIENT ADDRESS:	GPO Box 703, Brisbane, QLD 4001	DATE SAMPLED:	15/08/2008
TELEPHONE:	3221 8255	DATE RECEIVED:	21/08/2008
FAX:	jtrude@napierblakeley.	DATE ANALYSED:	21/08/2008
CONTACT:	John Trude		
LOCATION:	Newcastle Court House - Church Street, Newcastle NSW		
SAMPLED BY:	As Received		
TEST METHOD:	Qualitative identification of asbestos types in bulk samples at Parsons Brinckerhoff Queensland Laboratory by polarised light microscopy, including dispersion staining techniques using Parsons Brinckerhoff in-house method No.1 and N.A.T.A accreditation No.9607. This document is issued in accordance with NATA's accreditation requirements. Accredited for compliance with ISO/IEC:17025.		

Lab Number	Sample Id	Sample Description	Sample Dimensions cm	Identification Type
M001	Bld A - Level 1 Plant room Flooring	Vinyl Tiles	4 x 4	CH
M002	Bld A - Store Room behind Court 8	Vinyl Tiles	3 x 4	NAD
M003	Door to Office behind Court 8	Fire Door Core	1 x 1	NAD
M004	Bld B - Stairway Cupboard behind Court 6	Vinyl Tiles	3 x 3	CH
M005	Bld B - Level 1 Door between Bld A and B	Fire Door Core	1 x 1	NAD
M006	Bld B - Roof Storage Room	Vinyl Tiles	4 x 5	NAD
M007	Bld B - Court Records Room Ceiling	Fibrous Cement Sheeting	2 x 2	NAD
M008	Bld C - Car Park Change Room	Vinyl Tiles	4 x 3	CH

LEGEND

NAD - No Asbestos Detected
CH - Chrysotile Asbestos Detected
A - Amosite Asbestos Detected
C - Crocidolite Asbestos Detected
UMF - Unknown Mineral Fibres Detected

NATA
ACCREDITED FOR TECHNICAL COMPETENCE

Notes:

If no asbestos is detected in vinyl tiles, mastics, sealants, epoxy resins and ore samples then confirmation by another independent analytical technique is advised due to the nature of the samples.

The results contained within this report relate only to the sample(s) submitted for testing. PB accepts no responsibility for the initial collection, packaging or transportation of samples submitted by external persons. NATA does not accredit sampling. This document may not be reproduced except in full.

Approved Identifier
Name: Anthony Penfold
Signature

Approved Signatory
Name: Michael Shepherd
Signature

AUTHORISATION DATE
22/08/2008
Sample Locations Added

Parsons Brinckerhoff Australia Pty Limited
Level 4, 69 Ann Street
Brisbane QLD 4000
GPO Box 2907
Brisbane QLD 4001
Telephone +61 7 3854 6200
Facsimile +61 7 3854 6500
Email brisbane@pb.com.au

ABN 80 078 004 798
NCSI Certified Quality System ISO 9001

Certificate of Analysis

Certificate: Napier & Blakeley Certificate NO: 2139079C-4116

LOCATION: Newcastle Court House - Church Street, Newcastle NSW

Lab Number	Sample Id	Sample Description	Sample Dimensions cm	Identification Type
M009	Bld C - Level 1 DOCS Gym Ceiling	Fibrous Cement Sheeting	0.25 x 0.1	NAD
M010	Bld C - Level 1 Cleaner's Storage	Vinyl Tiles	2 x 2	C H
M011	Bld C - Level 1 Record Room Ceiling	Ceiling Tile	2 x 4	NAD

LEGEND

NAD - No Asbestos Detected
CH - Chrysotile Asbestos Detected
A - Amosite Asbestos Detected
C - Crocidolite Asbestos Detected
UMF - Unknown Mineral Fibres Detected

NATA
ACCREDITED FOR TECHNICAL COMPETENCE

Approved Identifier
Name: Anthony Penfold
Signature

Approved Signatory
Name: Michael Shepherd
Signature

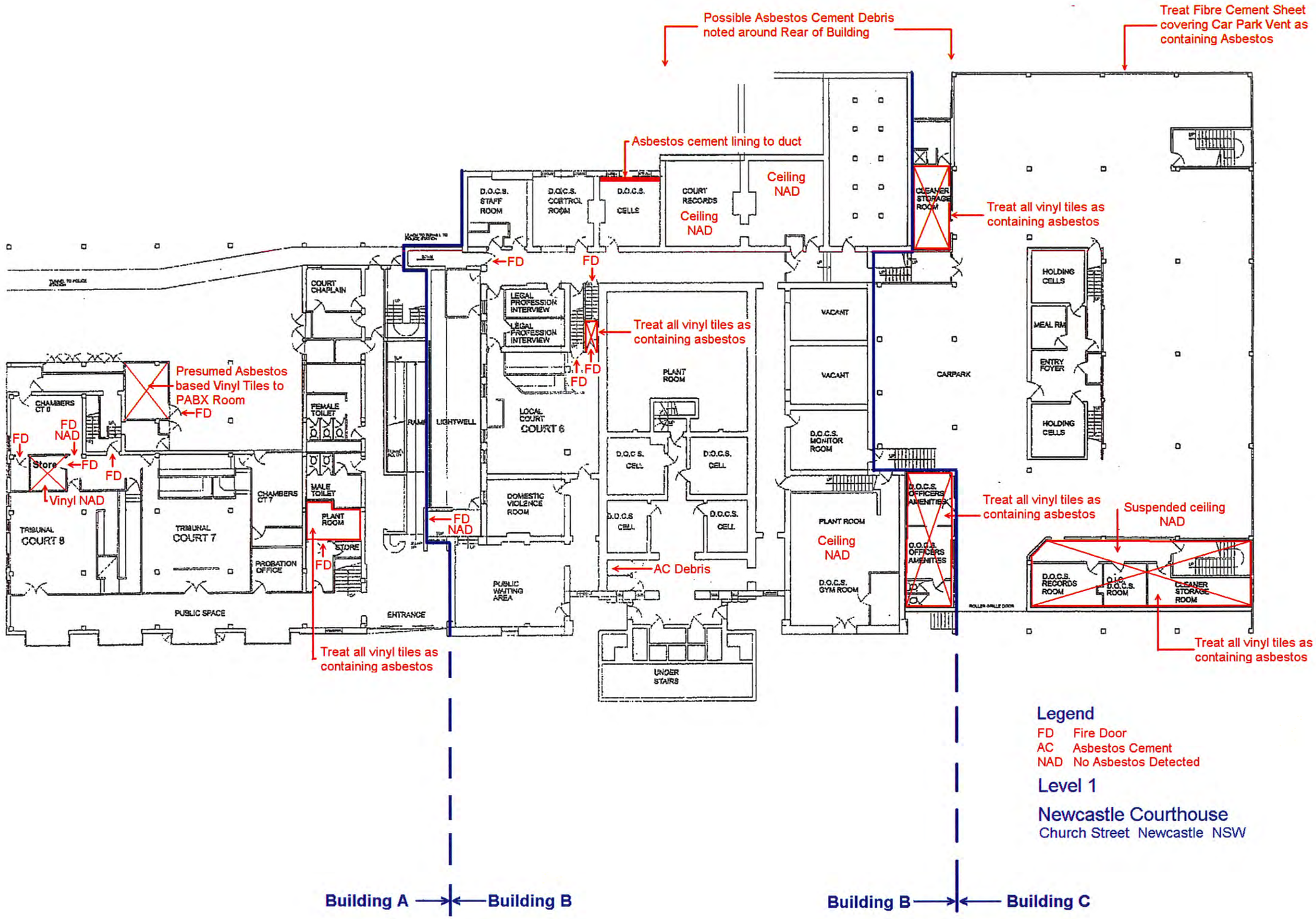
AUTHORISATION DATE
22/08/2008
Sample Locations Added

Notes:

If no asbestos is detected in vinyl tiles, mastics, sealants, epoxy resins and ore samples then confirmation by another independent analytical technique is advised due to the nature of the samples.

The results contained within this report relate only to the sample(s) submitted for testing. PB accepts no responsibility for the initial collection, packaging or transportation of samples submitted by external persons. NATA does not accredit sampling. This document may not be reproduced except in full.

11. Floor Plans



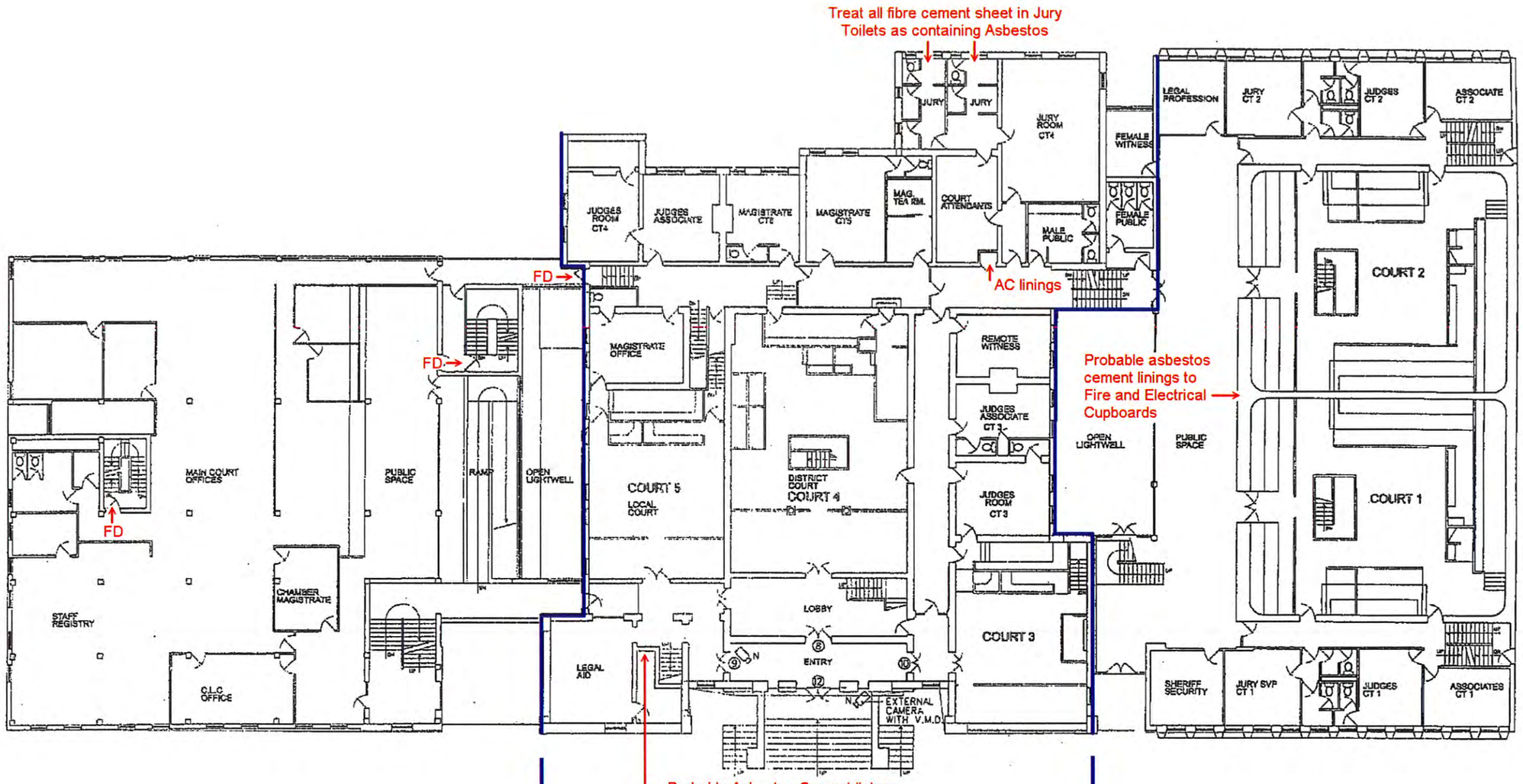
Legend

FD Fire Door
AC Asbestos Cement
NAD No Asbestos Detected

Level 1

Newcastle Courthouse

Church Street Newcastle NSW



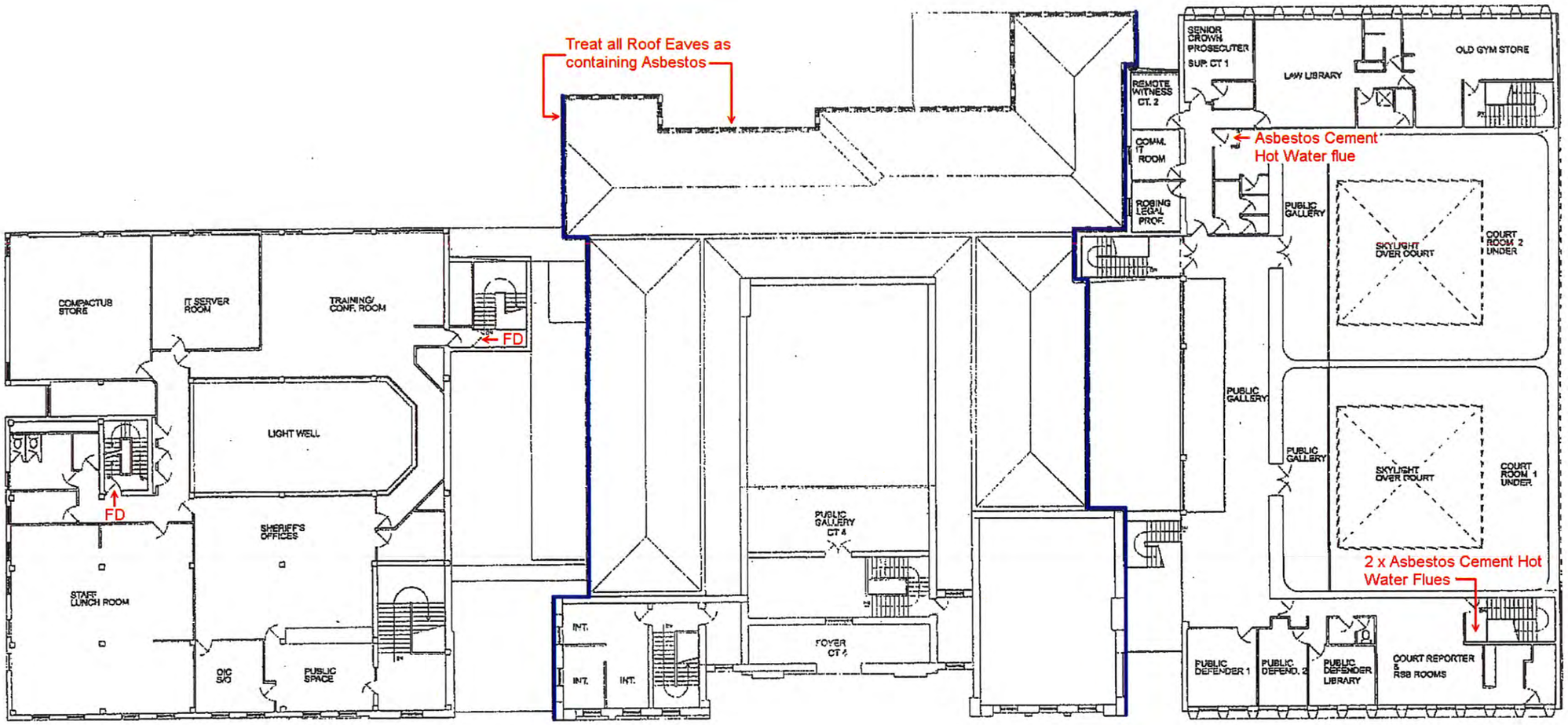
Legend

FD Fire Door
AC Asbestos Cement
NAD No Asbestos Detected

Level 2

Newcastle Courthouse

Church Street Newcastle NSW



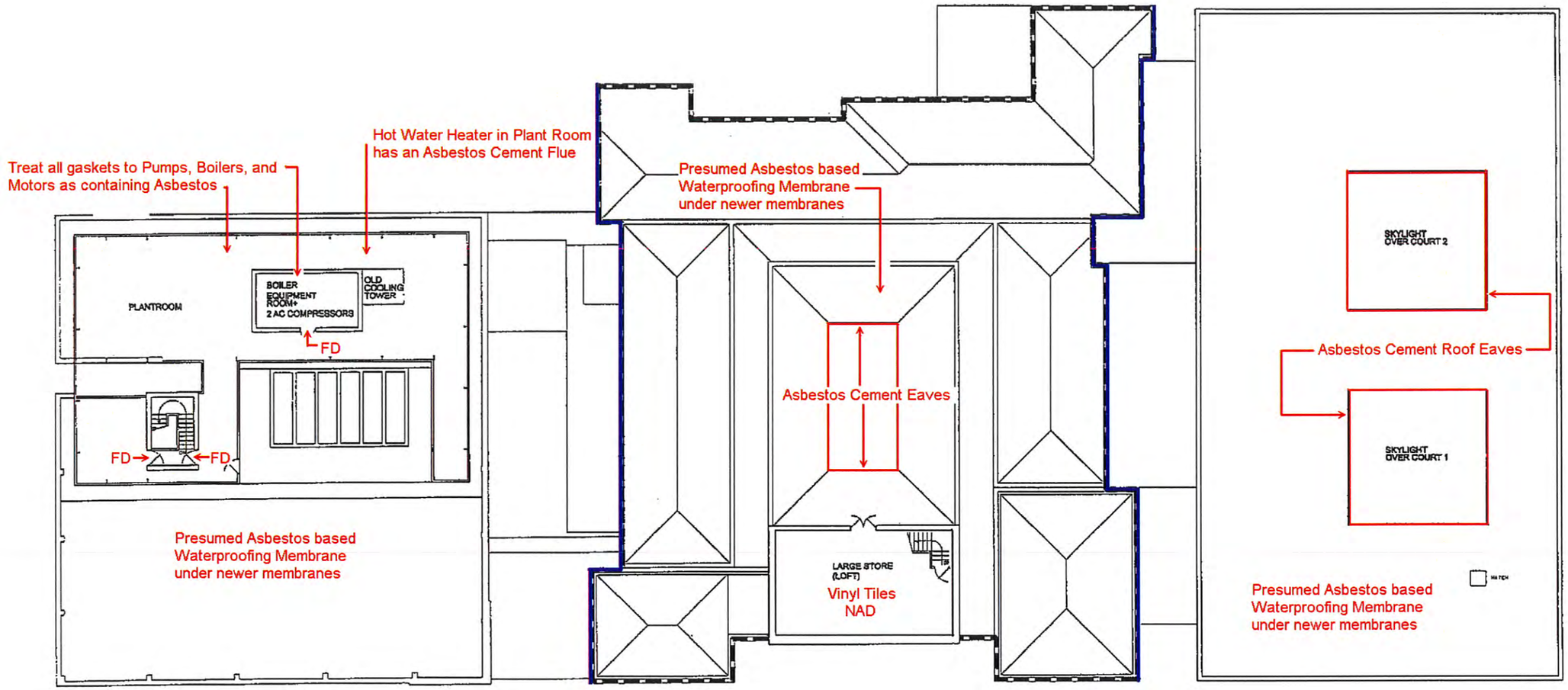
Legend

FD Fire Door
AC Asbestos Cement
NAD No Asbestos Detected

Level 3

Newcastle Courthouse

Church Street Newcastle NSW



Legend

FD Asbestos Based Core Material to Fire Door
AC Asbestos Cement

Level 4

Newcastle Courthouse

Church Street Newcastle NSW

12. Development of an Asbestos Management Plan

This is reprinted from the National Code of Practice for the Management and Control of Asbestos in Workplaces [NOHSC:2018 (2005)]

PART 8. DEVELOPMENT OF AN ASBESTOS MANAGEMENT PLAN

The purpose of an asbestos management plan is to help persons with control of premises to comply with the asbestos prohibition and prevent exposure to airborne asbestos fibres while ACM remain in the workplace.

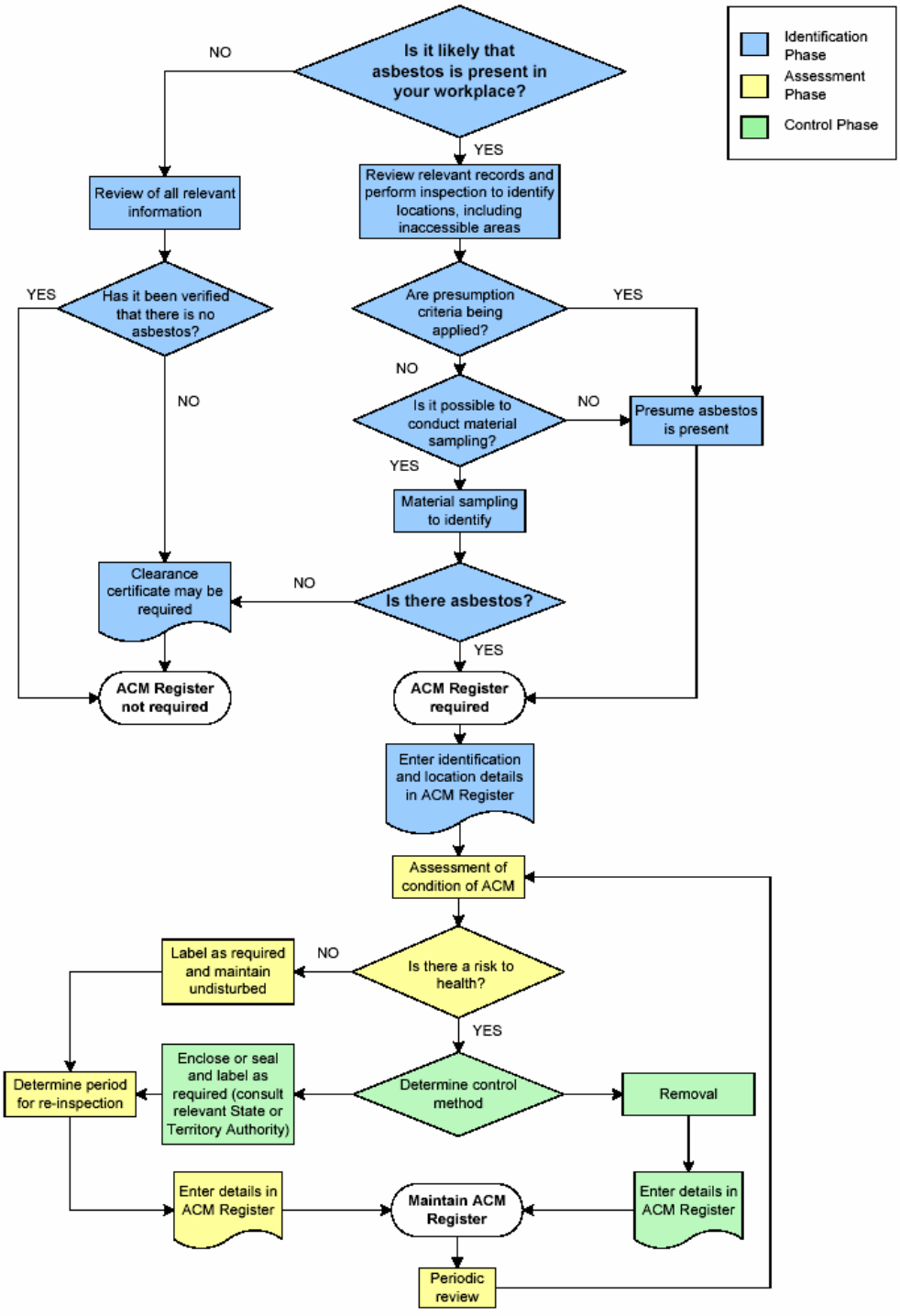
8.1 General principles

The following general principles must be applied in developing an asbestos management plan:

- The ultimate goal is for all workplaces to be free of ACM. Accordingly, consideration should be given to the removal of ACM during renovation, refurbishment and/or maintenance, where practicable, in preference to other control measures such as enclosure, encapsulation or sealing.
- Reasonable steps must be taken to label all identified ACM. Where ACM are identified or presumed, the locations must be recorded in a register of ACM (see **Part 9**).
- A risk assessment must be conducted for all identified or presumed ACM (see **Part 10**).
- Control measures must be established to prevent exposure to airborne asbestos fibres and should take into account the results of risk assessments conducted for the identified or presumed ACM (see **Part 11**)
- If ACM are identified or presumed, there must be full consultation, involvement and information sharing during each step of the development of the asbestos management plan – i.e. during the identification, risk assessment and establishment of control measures (see **Part 7**).
- The identification of ACM and associated risk assessments should only be undertaken by competent persons.
- All workers and contractors on premises where ACM are present or presumed to be present, and all other persons who may be exposed to ACM as a result of being on the premises, must be provided with full information on the occupational health and safety consequences of exposure to asbestos and appropriate control measures. The provision of this information should be recorded.

Figure 1 summarises how these general principles should be applied in the workplace.

Figure 1. General principles of an asbestos management plan



8.2 Contents

The asbestos management plan should be broad-ranging, and should include the following information components:

- the workplace's register of ACM (see section 9.3 of **Part 9**);
- details of any maintenance or service work on the ACM, including:
    - the company who is performing, or performed, the work;
    - the date/s the maintenance or service work was undertaken;
    - the scope of work undertaken; and
    - any clearance certificates.
- mechanisms for providing all relevant people with information about the location, type and condition of the ACM, the risks they pose and the control measures adopted to eliminate or minimise these risks;
- decisions about management options (i.e. to maintain the ACM or replace them with non-asbestos alternatives), including the reasons for these decisions;
- a timetable for action, including priorities and date(s) for reviewing the risk assessment(s) and specific circumstances and activities that may impact timings (i.e. plant shut-down periods);
- monitoring arrangements;
- the responsibilities of all persons involved and the sections of the plan they are responsible for;
- training arrangements for workers and contractors;
- a procedure for reviewing and updating the management plan and the register of ACM, including a timetable; and
- safe work methods.

The asbestos management plan should be clear and unambiguous.

It should set out the aims of the plan, what is going to be done, when it's going to be done and how it is going to be done.

There should be clear lines of responsibility, with each person involved understanding their roles and responsibilities.

Relevant Australian Government, State or Territory OHS legislation should be checked for further information on individual obligations relevant to the management plan.

8.3 Reviews of the asbestos management plan

The asbestos management plan should be reviewed whenever the register of ACM is reviewed (see section 9.3.1 of **Part 9**).

These reviews should critically reassess all asbestos management processes and their effectiveness in:

- preventing exposure to airborne asbestos fibres;
- controlling maintenance workers and contractors;
- highlighting the need for action to maintain or remove ACM;
- raising awareness among all workers; and
- maintaining the accuracy of the register of ACM.

13. Identification of ACM in the Workplace

This is reprinted from the Code of Practice for the Management and Control of Asbestos in Workplaces [NOHSC:2018(2005)]

PART 9. IDENTIFICATION OF ACM IN THE WORKPLACE

Persons with control of premises must ensure all ACM in their workplaces are identified, as far as practicable.

More specifically, there is a need to:

- identify the locations of all ACM and determine whether any inaccessible areas are likely to contain ACM; and
- identify the types (e.g. asbestos cement sheet, asbestos lagging on pipes and flues, ACM gaskets in plant or machinery) and condition (i.e. damaged or intact) of ACM.

Only persons competent in the identification of ACM are permitted to carry out these tasks.

Appendix A lists common examples of ACM in Australian workplaces. It is obvious from this list that asbestos is commonly found not only in the buildings and structures of premises but also in plant, gaskets, exhausts, brakes, insulation around ovens, etc. Even in recently constructed buildings and structures, which may themselves generally be regarded as free of ACM, there is a potential for second-hand plant and other installed items to have asbestos components.

Some State and Territory OHS authorities require a clearance certificate to be obtained to certify that ACM is *not* present, regardless of the age of the building, structure, plant or equipment. Your State or Territory OHS authority should be consulted about this requirement.

The minimum respiratory protective equipment to be worn when conducting an inspection of ACM is a class P2 half face respirator, but a risk assessment may show additional personal protective equipment (PPE), including higher-level respiratory protective equipment, is required. This is particularly important when a person is entering areas where friable ACM may not be immediately visible, such as a ceiling cavity where sprayed asbestos insulation materials may be present. The use of disposable coveralls should also be considered in these circumstances (see section 11.7 of **Part 11** and ***Appendix C***).

Care should be taken not to disturb any materials suspected of containing asbestos, except for the purposes of sampling.

The presence or absence of asbestos in a material cannot be definitively determined without the aid of a microscope or a similar visual aid.

If reliable information such as a manufacturers warning label or the results of material sampling indicates that asbestos is present in a material, the precautions outlined later in this code should be followed.

If the person with control is uncertain about whether a material contains asbestos, they should either arrange for a sample to be taken for analysis (see section 9.1) or apply the presumption criteria (see section 9.2).

9.1 Material sampling and analysis

It is important that samples of materials suspected of containing asbestos are taken only by competent persons and are analysed only by accredited laboratories.

The sample should be representative of the suspected ACM (e.g. for the walls of multi-storey buildings, at least one sample should be taken on each floor). If there are any variations in the appearance, texture or colour of the material, additional samples should be taken.

The samples should be adequately labelled to enable identification of the address and specific location from which the material was sampled and should include the date of sampling and the batch identification number.

Where necessary, any damage caused by the sampling of a suspected ACM should be repaired without causing further disturbance to the ACM.

If there are inaccessible areas that are likely to contain ACM, the person with control should *presume* that asbestos is present (see section 9.2).

9.2 Presuming that materials contain asbestos

Rather than taking samples to determine whether a material contains asbestos, the person with control may simply *presume* the material contains asbestos.

Once such a presumption has been made, the material must be treated as an ACM, with work practices and disposal criteria as required for the presence of asbestos, until the material is removed or testing has confirmed that it does not, in fact, contain asbestos.

The list of common ACM in ***0*** may be used as an aid in determining which materials, if any, may be presumed to contain asbestos.

As indicated above, if there are inaccessible areas that are likely to contain ACM the person with control should presume that asbestos is present in these areas. For example, it may be reasonable to presume that wall cavities or ceiling spaces contain ACM such as asbestos insulation.

It may also be more cost effective in other circumstances to apply the presumption instead of sampling and analysing suspected ACM, as would otherwise be required to rule out the presence of asbestos.

The workplace's register of ACM must state all the presumptions made about materials in the workplace.

This can be done through a simple, generic statement relating to all occurrences of a specific type of product or situation. For example, a generic presumption statement in the register might read, 'All wall cavities are presumed to contain asbestos' or 'All underground conduits are presumed to contain asbestos.'

9.3 Register of ACM

Persons with control of premises must keep an accurate register of ACM on the premises.

The register should contain the following information:

- Identification:
    - the date(s) on which the inspection/identification was made and details on the competent person(s) who carried out the inspection/identification;
    - details on the locations, types (i.e. friable or non-friable) and condition (i.e. damaged or intact) of any ACM identified on the premises, including ACM in items of plant and equipment, and the type of asbestos involved (i.e. blue, brown or white);
    - details on any material presumed to contain asbestos (see section 9.2);
    - any inaccessible areas that are likely to contain ACM (see section 9.2); and
    - the results of any analysis that has confirmed a material in the workplace is or is not an ACM.
- Risk assessment (see **Part 10**):
    - the date when the risk assessment was made, and details on the competent person(s) who carried out the assessment;
    - the findings and conclusions of the risk assessment, including any reviews or revisions of the risk assessment; and
    - the results of any air monitoring for airborne asbestos fibres and an assessment of these results.
- Control measures (see **Part 11**):
    - the control measures recommended and decided upon as a result of the risk assessment;
    - any maintenance or service work on an ACM, including the company or persons involved, the date and scope of the work undertaken and details on clearance certificates.

The person with control should ensure workers at the workplace are informed about the register of ACM. Before any work that may expose persons to airborne asbestos fibres is performed, the register should be made readily accessible to:

- workers and their representatives;
- any other employers within the premises;
- any person removing ACM;

- any person engaged to perform work that may disturb ACM, including presumed ACM (see section 9.2); and
- any other person who might be exposed.

9.3.1 Reviewing the register of ACM

The register of ACM, including any risk assessments, should be reviewed every 12 months or earlier where:

- a risk assessment indicates the need for reassessment (see section 10.1); or
- any ACM has been disturbed or removed.

A visual inspection of identified ACM should be undertaken as part of any review.

9.4 Identifying ACM at domestic premises

All contracting businesses that perform work which may involve exposure to asbestos, including work at domestic premises, should establish an asbestos management plan for the work they are contracted to carry out (see **Part 8**).

Although many domestic premises contain ACM, they are unlikely to have a register of ACM for reference.

Accordingly, before commencing any work in domestic premises precautions should be taken to identify the likelihood that ACM are present. Although particular caution needs to be taken when working on buildings built prior to 1990, recycled materials in later buildings may also contain asbestos.

The list of common ACM in Appendix A includes many materials found in domestic premises.

Work at domestic premises that may involve exposure to ACM includes:

- demolition and renovation;
- electrical maintenance or installation, including work on electrical meter boards;
- the maintenance or installation of walls, roofing, ceilings or flooring; and
- plumbing maintenance or installation.

If there are any known or suspected ACM on the premises the owner, occupier and/or resident should be informed. Before work continues, the presence of asbestos should either be confirmed or ruled out through sampling and analysis (see section 9.1) or presumed (see section 9.2).

For confirmed or presumed ACM the work should then proceed only in accordance with the risk assessment and control measures outlined in **Part 10 and Part 11** of this code of practice. The NOHSC *Code of Practice for the Safe Removal of Asbestos* [NOHSC:2002 (2005)] should also be referred to if removal is identified as the best control measure.

The owner, occupier and/or residents of the premises should be informed of the nature of any work to be undertaken and the reasons for the precautions.

If ACM remain is to remain *in situ*, the owner of the premises should be provided with a report outlining the location of the ACM and any work carried out on the ACM.

9.5 Warning signs and labels

All warning signs and labels should comply with Australian Standard 1319 *Safety Signs for the Occupational Environment*.

Examples of warning signs and labels are shown in ***Figure 2***.

9.5.1 Warning signs

Any areas of a workplace which contain ACM, including plant, equipment and components, should be signposted with warning signs to ensure that the asbestos is not unknowingly disturbed without the correct precautions being taken.

These signs should be placed at all of the main entrances to the work areas where asbestos is present.

9.5.2 Labels

All identified or presumed ACM — or their enclosures if the ACM are inaccessible — should be clearly labelled.

In conjunction with warning signs and the register of ACM (see section 9.3), these labels should warn people of the presence of ACM.

A competent person should determine the number and positions of the labels required.

The location of labels should be consistent with the location of the ACM as outlined by information in the register of ACM.

Labels used for this purpose must identify the material as containing asbestos.

If a risk assessment suggests an ACM might be disturbed or persons might be exposed and it is not practical to label the ACM (e.g. floor tiles or a friable ACM such as lagging), a prominent warning sign, specifying the ACM, should be posted in its immediate vicinity.

For example, if floor tiles have been identified as containing asbestos, an appropriate warning sign, displayed on an adjacent wall, might read, 'WARNING. FLOOR TILES CONTAIN ASBESTOS. DO NOT DISTURB WITHOUT PROPER TRAINING AND EQUIPMENT.'

Note: The examples of warning signs and labels in ***Figure 2*** provide only an indication of the words that may be used to alert persons to the presence of ACM and asbestos hazards. *The wording is not mandatory.* Other warning signs and labels may be used, provided they meet the requirements of AS 1319.

Figure 2 – Examples of warning signs and labels

