



Health Infrastructure NSW
Westmead Hospital Redevelopment
Asbestos Quantification Assessment

Westmead NSW

6 July 2015
EW-JBSG-CO-RT-0003
50369/100702 (Rev 0)
JBS&G

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Executive Summary

JBS&G Australia Pty Ltd (JBS&G) was engaged by Health Infrastructure NSW (HI, the client) to complete an asbestos quantification assessment (AQA) for the Westmead Hospital Redevelopment, Westmead Hospital, Westmead NSW (the 'site', **Figure 1** and **Figure 2**).

The Westmead Hospital Redevelopment comprises the redevelopment of part of the Ageing, Disability and Home Care Agency (ADHC) Lot and part of the Westmead Hospital Lot into new hospital buildings, car parks and a new main thoroughfare, with associated service and infrastructure works.

There is an anecdotal history of asbestos being present within the soils and buildings at the site, which is neither unique or nor surprising for a facility of this type and age. Currently, the presence of asbestos in soils at the site is primarily based on anecdotal evidence, desktop studies of the history of the site and/or on the results of qualitative investigations that have been undertaken at the site that have encountered asbestos.

A quantitative assessment of asbestos in soils in accordance with current NSW EPA published or approved guidelines is required to be undertaken to enable appropriate asbestos management strategies to be formulated for the redevelopment.

The objective of the AQA is to undertake a quantitative assessment of asbestos in soils at the site and to draw conclusions regarding the suitability of the site to be redeveloped for continued use as a health services facility or to make recommendations, such that identified contamination is remediated /managed in such a manner as to enable such conclusions.

In accordance with the limitations in **Section 12**, the following conclusions and recommendations are provided.

It is considered the site can be made suitable for the proposed health services facility (hospital) land use, subject to the implementation of a Remediation Action Plan (RAP) to address the identified asbestos impact, and the implementation of a Long Term Environmental Management Plan (LTEMP) to address long term site maintenance of the remedial strategy.

Fill materials are considered to be impacted with asbestos across the extent of Westmead Hospital Lot and the south-eastern portion of the ADHC Lot.

Bonded ACM concentrations in soil exceeded the risk based site specific assessment criteria in 58 of 159 samples in the 0 to 1 m bgs depth range, in 17 of 86 samples in the 1 to 2 m bgs depth range and in 15 of 55 samples in the 2 to 3 m bgs depth range on the Westmead Hospital Lot.

FA/AF concentrations in soil exceeded the risk based site specific assessment criteria in 68 of 159 samples in the 0 to 1 m bgs depth range, in 22 of 86 samples in the 1 to 2 m bgs depth range and in 15 of 55 samples in the 2 to 3 m bgs depth range on the Westmead Hospital Lot.

Criteria exceedances are presented in **Table A** and **Figures 5a-c** and **Figures 6a-c**.

It is recommended that a RAP be developed in accordance with the relevant regulatory requirements that documents the procedures and standards to be followed in order to address the identified asbestos impact, ensuring the protection of human health and the surrounding environment, such that the asbestos impact is remediated / managed in such a manner as to make the site suitable for the proposed future uses.

A LTEMP should be prepared if the management strategy for the identified asbestos impact includes on-site containment, such as the placement of a marker and capping layer to address the long term site maintenance of the remedial strategy.

A Construction Environmental Management Plan (CEMP) should be prepared prior to redevelopment works, which documents the environmental monitoring and management measures required to be implemented during the remediation and construction related activities associated with the construction of the site.

1. Introduction

1.1 Background

JBS&G Australia Pty Ltd (JBS&G) was engaged by Health Infrastructure NSW (HI, the client) to complete an asbestos quantification assessment (AQA) for the Westmead Hospital Redevelopment, Westmead Hospital, Westmead NSW (the 'site', **Figure 1** and **Figure 2**).

The Westmead Hospital Redevelopment comprises the redevelopment of part of the Ageing, Disability and Home Care Agency (ADHC) Lot and part of the Westmead Hospital Lot into new hospital buildings, car parks and a new main thoroughfare, with associated service and infrastructure works.

There is an anecdotal history of asbestos being present within the soils and buildings at the site, which is neither unique or nor surprising for a facility of this type and age. Currently, the presence of asbestos in soils at the site is primarily based on anecdotal evidence, desktop studies of the history of the site and/or on the results of qualitative investigations that have been undertaken at the site that have encountered asbestos.

A quantitative assessment of asbestos in soils in accordance with current NSW EPA published or approved guidelines is required to be undertaken to enable appropriate asbestos management strategies to be formulated for the redevelopment.

1.2 Objectives

The objective of the AQA is to undertake a quantitative assessment of asbestos in soils at the site and to draw conclusions regarding the suitability of the site to be redeveloped for continued use as a health services facility or to make recommendations, such that identified contamination is remediated /managed in such a manner as to enable such conclusions.

1.3 Scope of Work

The scope of work comprised:

- Review of available site history, background information and previous contamination and hazardous material reports as relevant to asbestos;
- Development and documentation of a conceptual site model (CSM) based on the available information;
- Development and documentation of the data quality objectives for the AQA in general accordance with relevant NSW Environment Protection Authority (EPA) or EPA endorsed guidelines;
- Implementation of a quantitative assessment of asbestos to determine the type and extent of asbestos in soils at the site in accordance with relevant regulatory guidance and the Sampling, Analytical and Quality Plan (SAQP), JBS&G 2015a¹;
- Implementation of an airborne asbestos fibre monitoring program during the intrusive sampling program;
- Utilise quantitative asbestos in soil data to assist in preparation of a Human Health Risk Assessment (HHRA) to determine site specific criteria for asbestos in soils;

¹ *Asbestos Quantification in Accessible Soils Sampling, Analysis and Quality Plan*, Westmead Hospital Redevelopment, Westmead NSW. January 2015. 50369/60412 (Rev A). JBS&G. (JBS&G 2015a).

- Comparison of collected field and laboratory analytical data against the risk based site specific criteria established in the HHRA in relation to assessment of land use suitability;
- Preparation of an AQA in general accordance with relevant EPA or EPA endorsed guidelines;
- Assessment of whether the site is suitable for the proposed land use in regards to asbestos in soils, or where the site was not identified as suitable, provision of recommendations for future remediation/management actions required to make the site suitable.

2. Site Condition & Surrounding Environments

2.1 Site Identification

The location of the site is shown in **Figure 1**. The site layout of the site and approximate assessment boundary are shown in **Figure 2**. The site details are summarised in **Table 2.1**.

Table 2.1 Summary Site Details

Lot/DP	Part Lot 100 in DP 1119583 and Part Lot 4 in DP 1077852
Site Address	Corner Darcy and Institute Road, Westmead Hospital Redevelopment, Westmead, NSW
Local Government Authority	Parramatta City Council
Approximate Geographical Coordinates (MGA 56)	Easting: 313654 Northing: 6257991
Site Area/s (ha)	Approximately 10 ha
Site Zoning	SP2 (Health Services Facility)
Previous Use	Agricultural land, showground and speedway.
Current Use	Hospital and care facility.

2.2 Site Description

The site comprises part of the operational Westmead Hospital and part of the operational Ageing, Disability and Home Care (ADHC) Lot. Site features are primarily single or multi-story buildings, car parks and landscaped areas, including Westmead Oval. The site does not include any of the primary hospital buildings.

2.3 Surrounding Land-use

The surrounding land-uses of the redevelopment site are detailed below.

- North – Hospital facilities including ADHC, Redbank House and CareFlight. Further afield, Toongabbie Creek and the industrial estate off Briens Road.
- East – Hospital facilities including the main hospital buildings and Westmead Children's Hospital. Further afield lay Cumberland Hospital, across Toongabbie Creek, and residential properties.
- South – Hospital facilities including the main hospital buildings heading towards Hawkesbury Road. Hawkesbury Road and Darcy Road lay to the south. Further afield are educational and residential properties.
- West – Hospital facilities including Staff Car Park 7 and College of Dental Therapy. Mons Road and Darcy Road lay to the west. Further afield includes a variety of educational, commercial and residential properties.

2.4 Topography

The site generally has a slight slope to the north and north east, from Hawkesbury Road towards Toongabbie Creek. Localised cutting and filling have altered topography on the site. The site has an approximate elevation between 30 m Australian Height Datum (AHD) at the corner of Darcy and Hawkesbury Roads to 10 m AHD at Toongabbie Creek.

2.5 Geology and Soil

The site is underlain by two geological formations. The southern portion of site is underlain by Ashfield Shale of the Wianamatta Group, which comprises black to dark grey shale and laminite. The northern portion of the site, towards Toongabbie Creek, is underlain by Hawkesbury Sandstone, which comprises medium to coarse-grained quartz sandstone with very minor shale and laminite lenses.

Review of eSPADE² indicated that the site soils comprise residual soils of the Blacktown soil landscape group that are shallow to moderately deep hardsetting mottled texture contrast soils, red and brown podzolic soils on crests grading to yellow podzolic soils on lower slopes in drainage lines.

Investigations encountered fill material across the majority of the site at depths from up to approximately 7 m bgs. Observations of depths of fill materials are presented in **Section 9.1**.

2.6 Acid Sulfate Soils

Review of the Prospect / Parramatta River 1:25 000 Acid Sulfate Soil Risk Map indicates a low probability of acid sulfate soils being present at the site, within alluvial, creek and river sediment adjacent to Toongabbie Creek.

2.7 Hydrology

The nearest water body is Toongabbie Creek, which is located to the north of the site. Toongabbie Creek flows towards the east and is a major tributary of Parramatta River.

Surface water is anticipated to primarily enter the stormwater system with infiltration in the accessible soils, grassed areas and garden beds. Overland flow paths are present onsite which lead to Toongabbie Creek.

2.8 Hydrogeology

A single groundwater bore (GW10837) was located within 2 km of the site, and is located on ADHC. GW10837 was an industrial well, whose licence has been cancelled. A single water bearing zone of 23 to 24 m bgs was identified in the driller's log.

Recent groundwater investigations, as reported in DP 2015a, have indicated the shallow aquifer from approximately 4.4 to 6.7 m bgs on average. It was anticipated that the groundwater flow direction would be towards Toongabbie Creek. DP 2015a groundwater data are in general agreement with locations to the north and north-west indicating groundwater is at approximately 12m AHD and locations in the south indicating groundwater is at approximately 15 to 16m AHD.

2.9 Meteorology

Mean monthly temperature ranges from 17.4 degrees Celsius to 28.4 degrees Celsius. Mean monthly average rainfall ranges from 45.6 mm to 124.8 mm. Summer winds tend to be from the east, whereas winter winds tend to be from the west.

Data from Parramatta North (Masons Drive) Meteorological Station³ approximately 3 kilometres from the site.

² <http://www.environment.nsw.gov.au/eSpadeWebapp/>. Department of Environment and Heritage, NSW Government. Accessed 13/01/2015.

³ <http://www.bom.gov.au/climate/data/index.shtml>. Accessed 13/1/2015.

3. Previous Site Investigations

Previous investigations have been completed at the site. The following investigation reports were available for review as part of the preparation of this assessment:

- *Investigation into the Presence of Inground Asbestos Waste at Westmead Hospital.* Envirosciences Pty Limited. August 1992. (Envirosciences 1992).
- *Report on Asbestos Contamination Assessment, Cnr Darcy and Institute Road, Westmead. Project 30140.* Douglas Partners Pty Ltd. December 2001. (DP 2001).
- *Regulation Project, James Hardie Asbestos Waste Contamination Legacy, Summary Project Report.* NSW DECCW. April 2010. (DECCW 2010).
- *Preliminary Environmental Site Assessment, Westmead Large Residential Centre, Westmead, NSW.* JBS&G (NSW&WA) Pty Ltd. October 2013. (JBS&G 2013a).
- *Detailed Site Investigation, Proposed Car Park, Westmead Health Lot, Cnr Darcy and Institute Roads, Westmead. Project 73603.01.* Douglas Partners Pty Ltd. November 2013. (DP 2013).
- *Report on Contamination Risks, Westmead Hospital Redevelopment. Project 73960.* Douglas Partners Pty Ltd. July 2014. (DP 2014).
- *Westmead Oval Asbestos Quantification, Westmead Hospital, Westmead NSW.* JBS&G Australia Pty Ltd. December 2014. (JBS&G 2014a).
- *Car Park 7 Asbestos Quantification, Westmead Hospital, Westmead NSW.* JBS&G Australia Pty Ltd. December 2014. (JBS&G 2014b).
- *Detailed Site Investigation Westmead Hospital Redevelopment.* Douglas Partners Pty Ltd. January 2015. (DP 2015a).
- *Human Health Risk Assessment of Potential Asbestos Emissions from Impacted Soils, Westmead Hospital Redevelopment.* JBS&G Australia Pty Ltd. May 2015. (JBS&G 2015b).
- *Data Gap Assessment Westmead Hospital Redevelopment.* JBS&G Australia Pty Ltd. May 2015. (JBS&G 2015c).

The following sections present a summary of relevant information included in each of the above reports.

3.1 Investigation of Asbestos Waste (Envirosciences 1992)

Reports on a review of historical information including historical aerial photographs and previously completed investigation reports at Westmead Hospital.

The consultant concluded that there was no evidence of a commercial or private landfill but a former watercourse running parallel with Institute Road and the oval had been filled, probably for flood mitigation. The source of the fill was not known. Likely sources of asbestos in the soil were identified as:

- Demo waste from former Showground buildings;
- Asbestos waste used as fill for muddy areas when the site was used as a showground;
- Asbestos waste from James Hardie used to raise ground levels adjacent to Toongabbie Creek; and
- Waste construction material from the construction of the hospital.

The consultant considered that subsequent earthworks activities at the site have resulted in the asbestos being distributed across large areas of the site. A previous report reported asbestos in shallow soils on the oval and anecdotal evidence indicated that asbestos waste from James Hardie was used to raise the oval.

Figure 4 of the report illustrated the known and suspected areas of asbestos contamination in soil.

The consultant considered that the amount of asbestos containing material discovered in the car park of the Brain Injury Unit was not indicative of systematic dumping.

“White powdery material” excavated during the construction of the tunnel for ICP & MR and ward Block D was not analysed for asbestos but the area where it was encountered has been shown as contaminated on Figure 4.

The report provided advice on the OH&S procedures for undertaking excavations and other operations at the Hospital.

The report provides only an anecdotal and historical review. No intrusive works were undertaken. Previous reports by Coffey are referenced but only minor detail of the results is provided.

3.2 Asbestos Contamination Assessment Car Park 7 (DP 2001)

DP conducted an Asbestos Contamination Assessment in Car Park 7 for a proposed multi storey carpark with underground parking in the area of the current staff and visitor Car Park 7. The assessment did not include a review of the site history. A site walkover, test bores at 8 locations to a nominal depth of 3 m and visual observation of the subsurface soils at an additional 4 locations were conducted (total of 12 test bores). Filling material comprising silty clay to gravelly clays was observed from a depth of 0.5 m bgs underlying bitumen areas to 1.5 m bgs in garden/landscaped areas. Two locations, bores 7 and 11, contained some ash material, although samples from these locations were not analysed as the assessment was restricted to asbestos.

Asbestos in a bonded matrix was positively identified in four of six near surface filling material samples (Sample locations 2, 5, 7 and 10). Visual observations of asbestos fragments in the filling material associated with garden areas were in agreement with the positively identified samples. No asbestos was observed or identified in underlying natural clays.

3.3 Regulation Project, James Hardie Contamination Legacy (DECCW 2010)

Identifies 27 sites previously impacted by the activities of James Hardie Industries including the former Parramatta Showgrounds on Old Windsor Road Westmead that was subsequently developed into a hospital. The site was not inspected by the EPA and the presence of visible asbestos, a summary of the survey, actions taken or recommended and the site owner were recorded as ‘not available’. The results of a follow up inspection were recorded that the site was confirmed as having been redeveloped. The report provides no specific information about the location or extent of the asbestos at the site.

This report supports anecdotal evidence that asbestos waste from James Hardie was deposited at the oval, as identified in Envirosciences (1992).

3.4 Preliminary Site Assessment (JBS&G 2013a)

JBS&G conducted a Preliminary Environment Site Assessment (PESA) at the Department of Ageing, Disability and Home Care (ADHC) campus at Westmead, NSW. The scope of work comprised a desktop study and site walkover to identify areas of environmental concern (AECs) and chemicals of potential concern (COPCs), as presented in **Table 4.1** below.

Table 4.1: AECs and COPCs identified in JBS&G 2013a.

Area of Environmental Concern	Contaminants of Potential Concern
Fill material at the site including landscaped areas and stockpiles	Heavy metals, total petroleum hydrocarbons (TPH), benzene, toluene, ethylbenzene and xylenes (BTEX), polycyclic aromatic hydrocarbons (PAHs), organochlorine pesticides (OCPs), polychlorinated biphenyls (PCBs) and asbestos
Spills and Leaks from machinery at the site	Metals, TPH, BTEX and PAHs.
Site Building Structures	Asbestos, lead paint
Underground Storage Tanks	Metals, TPH, BTEX and PAHs
Above ground Storage Tanks – Boiler Room	Metals, TPH, BTEX and PAHs
Laundry	TPH, VOCs, SVOCs
Former market gardens	OCPs, OPPs, metals, herbicides
Contaminated material store	Bio hazardous waste
Off-site sources – Hospitals	Metals, TPH/BTEX, PAHs, asbestos

The site history review and site inspection indicated the potential for fill material underlying the current buildings/structures, as well as in the landscaped area in the eastern portion of the site. The source of the fill material at the site is not known and it has the potential to be contaminated. Additionally, a stockpile observed along the northern boundary is considered potentially contaminated.

Two (one petrol and one diesel) 10 000L USTs that were installed in 1969 and 1975 were observed during the site inspection. According to dangerous goods documentation, the two USTs had been abandoned *in-situ* in 2002. In addition, three ASTs that had been installed in 1992 were observed in the boiler room. It is understood the ASTs had not been used for a number of years.

3.5 Detailed Site Investigation Car Park 7 (DP 2013)

DP (2013) undertook a DSI in Car Park 7 consisting of a desktop study, 16 bores holes, 8 test pits and 3 groundwater monitoring wells. Filling depths were reported from 0.3 m to 1.9 m bgs, with the deepest filling observed in the eastern corner, southern corner and in the mounded garden areas. The following potential contamination sources and contaminants of concern (COC) were identified by DP (2013).

Table 4.2⁴: Contamination Sources and COCs, DP (2013).

Potential Source	Description of Potential Contaminating Activity	Contaminants of Concern	Risk Rating
Importation and placement of contaminated filling	Mounding of soil in grassed and garden areas suggests filling is present. The filling may have been imported from a contaminated site.	Various - Common contaminants associated with filling are heavy metals, total petroleum hydrocarbons (TPH), BTEXN, PAH, PCB, OCP, phenols and asbestos.	Moderate
Demolition of buildings	Buildings were demolished at the site in the 1970s. These buildings may have contained hazardous building materials which could have contaminated the soil during demolition.	Asbestos, lead, and PCB	Low to Moderate
Previous use as speedway and storage of fuels	Spills and leaks of oils and fuels	TPH, BTEXN, PAH, and lead	Low
Current site use as a car park	Leaks of fuels or oils from vehicles	TPH, BTEXN, PAH, and lead	Low
Hospital waste materials	Improper disposal practices of generated waste materials from hospital premises	Various including arsenic, mercury, TPH, phenol, volatile organic compounds (VOC) –see Section 5.5.	Very low

Concentrations of PAH, TRH, BTEX, OCPs, PCBs and phenols for selected soil samples were within the adopted HILs, HSLs, EILs and ESLs. Eleven of 24 test locations were identified to contain ACM or detected asbestos in filling.

Groundwater concentrations of chromium were above the groundwater investigation level (GIL) at Bores 2, 4 and 10. Concentrations in zinc were above the GIL in Bore 10. PAH was detected in Bore 10 below the GIL. Ethylbenzene, xylenes and TRH were detected in Bore 10 below the respective HSLs. DP considered the source of detections to be probably from off-site, although this was not confirmed, and that given the majority of concentrations were within GILs and HSLs, further assessment was not required.

DP recommended, that given the considerable asbestos contamination identified, a RAP should be prepared for the remediation of the asbestos.

3.6 Report on Contamination Risks (DP 2014)

A draft copy of this report which provided an assessment of contamination risks for the proposed future redevelopment of Westmead Hospital. This report was limited in scope to a desktop assessment. The following contamination issues were identified:

- Asbestos in the soils and building structures;
- Hazardous building materials apart from ACM such as lead-based paints, Polychlorinated biphenyls (PCBs), phenols and synthetic mineral fibre (SMF) products;
- Underground Storage Tanks and potential soil and groundwater impacts;
- Construction waste; and
- Contaminants associated with hospitals such as a pathogens, radio-isotopes, phenol, pest control and herbicides.

⁴ Table extracted from DP 2013

3.7 Westmead Oval Asbestos Quantification (JBS&G 2014a)

JBS&G was commissioned by Western Sydney Local Health District (WSLHD) to undertake an asbestos quantification (AQ) assessment of 'the Oval' and surrounds, Westmead Hospital, Westmead NSW. A total of 69 locations to a vertical extent of 0.5 m bgs were assessed across the Oval and surrounds.

Soils in the Oval exceeded visible surface ACM site investigation levels in 1 of 26 locations, exceeded bonded ACM site investigation levels in 1 of 26 locations and exceeded AF / FA site investigation levels in 11 of 26 locations.

Soils in the surrounds exceeded visible surface ACM site investigation levels in 31 of 43 locations, exceeded bonded ACM site investigation levels in 25 of 43 locations and exceeded AF / FA site investigation levels in 34 of 43 locations.

All results for air monitoring samples were less than 0.01 fibres/mL. No fibres were reported in the field blank.

The following recommendations were made:

- The immediate preparation and implementation of an interim site management plan to address in the short term the identified asbestos in soil and aesthetic concerns identified at the site. As an immediate first step, access should be prevented to the surrounds as shown in Figure 8 and perimeter air monitoring continued until the interim management measures are implemented in full in this part of the site.
- The preparation of a site specific Human Health Risk Assessment (HHRA) to derive appropriate site specific response levels for asbestos in soils.
- The preparation of a Remedial Action Plan (RAP) using the site specific response levels derived in the HHRA, to detail the actions required to address the management of asbestos in soils at the site.
- The updating of the current WSLHD asbestos register for Westmead Hospital, to take into account the findings from this investigation.
- The updating of the WSLHD AMP to provide specific details to staff / contractors / personnel undertaking activities on the site, including, but not limited to, ground disturbance and surface maintenance.

Sample locations from JBS&G 2014a that are located within the site boundary have been compared against the risk based criteria established in **Section 7**, included in **Table A** and presented in **Figure 3** of this assessment, but have not been discussed further in the results discussion (**Section 9**). The data have been considered in site characterisation (**Section 10**).

3.8 Car Park 7 Asbestos Quantification (JBS&G 2014b)

JBS&G was commissioned by WSLHD to undertake an asbestos quantification (AQ) assessment of accessible soils in Car Park 7 Westmead Hospital, Westmead NSW. A total of 25 locations to a vertical extent of 0.5 m bgs were assessed across the car park.

Accessible soils in Car Park 7 exceeded visible surface ACM site investigation levels in 17 of 25 locations, exceeded bonded ACM site investigation levels in 12 of 25 locations and exceeded AF / FA site investigation levels in 21 of 25 locations. It was concluded that Car Park 7 required remediation and/or management for the uses assessed in the investigation.

The following recommendations were made:

- The immediate preparation and implementation of an interim site management plan to address in the short term the identified asbestos in soil and aesthetic concerns identified at the site. As an immediate first step, 100 mm of ground coverage, such as mulch, should be placed on accessible soils in Car Park 7 and vehicle access to the accessible soils in Car Park 7 should be prevented through the placement of temporary barriers / boulders etc. Additionally, perimeter air monitoring should be continued until the interim management measures are implemented in full in this part of the site.
- The preparation of a site specific Human Health Risk Assessment (HHRA) to derive appropriate site specific response levels for asbestos in soils.
- The preparation of a Remedial Action Plan (RAP) using the site specific response levels derived in the HHRA, to detail the actions required to address the management of asbestos in soils at the site.
- The updating of the current WSLHD asbestos register for Westmead Hospital, to take into account the findings from this investigation.
- The updating of the WSLHD AMP Version 2.1 to provide specific details to staff / contractors / personnel undertaking activities on the site, including, but not limited to, ground disturbance and surface maintenance.

Sample locations from JBS&G 2014b that are located within the site boundary have been compared against the risk based criteria established in **Section 7**, included in **Table A** and presented in **Figure 3** of this assessment, but have not been discussed further in the results discussion (**Section 9**). The data have been considered in site characterisation (**Section 10**).

3.9 Detailed Site Investigation - Contamination (DP 2015a)

Douglas Partners undertook a combined geo-technical and contamination assessment of the site in late 2014, which comprised a desktop review and intrusive site investigation. DP (2015a) drilled 47 boreholes, excavated three test pits and installed 9 monitoring wells at the site. The investigation was stratified into three sampling areas, Area A (ADHC), Area B (Westmead Hospital Lot) and Area C (Car Park 4). A summary of soil sampling, fill depths and analytical frequency is presented in **Table 4.3**.

Table 4.3: DP 2015 Soil Sampling Summary

Area	Size (ha)	Sample Locations	Fill Samples Analysed	Natural Samples Analysed	Asbestos Observed or Detected	Depth of Fill (m bgs)	HIL / HSL Exceedances	EIL/ESL Exceedances
A	4.5	23	10	9	No	0.2 to 1.6	No	No
B	1.5	15	15	0	Yes	1.4 to 7.5	No	Yes
C	0.7	12	11	0	Yes	1.4 to 7.5	No	Yes

Chemical contaminant concentrations in all samples analysed were within the adopted health-based criteria for the site. Four samples (BH10/1.0m, BH19/2.5m, BH38/1.9-2.0 and BH45/1.8-2.0m) contained elevated concentrations of zinc in comparison to the adopted ecological based investigation levels, however, the 95% UCL for zinc was below the adopted criteria for this assessment.

No asbestos was detected or observed in Area A. Asbestos was observed or detected in 20 of 25 sample locations in Areas B and C, in bonded ACM and FA / AF.

A total of 9 groundwater samples (2 in December 2014 and 7 in January 2015) were collected and analysed. Three of the samples had elevated copper, nickel and zinc concentrations, which DP considered to be typical of a built-up urban environment in the Ashfield Shale and Hawkesbury Sandstone geological settings.

Hydrocarbons were detected in groundwater samples collected from BH47 and BH48 in the December 2014 sampling round. BH47 and BH48 were located adjacent to the UST and AST at the western edge of the Pathology building (Area B), which may indicate leakage has or is occurring. Low concentration of hydrocarbons were also detected in two wells in parking / road areas.

DP considered the propose development does not include any significant excavation that would intercept the groundwater table or utilise the groundwater during operations and therefore, considered the quality of groundwater shouldn't hinder the proposed redevelopment for commercial purposes.

It was recommended that the USTs and ASTs either be decommissioned, or operated and monitored in accordance with current regulatory guidance.

3.10 Site Suitability HHRA (JBS&G 2015b)

JBS&G was engaged by HI to undertake a human health risk assessment of the potential for asbestos fibres to be released from asbestos impacted soils present on the site.

The risk assessment considered the potential exposures of workers as employed at the hospital, potentially sensitive populations as present within and adjacent to the hospital grounds and potential future sub-surface intrusive / excavation workers.

The following conclusions and recommendations were provided:

- A program of soils assessment should be undertaken across the site to quantify levels of free asbestos and bound asbestos in soils. Site specific risk based assessment criteria have been derived for asbestos in soil concentrations:
 - o No free asbestos or asbestos fibres are present in soils at a level exceeding 0.01% by weight in soils;
 - o No asbestos as present in a bound matrix exceeding 0.025% bound asbestos by weight in soils; and
 - o No visible ACM is observable on the site surface;
- Air monitoring should further be undertaken to provide an additional line of assessment of the potential for asbestos risk during any removal / remediation works undertaken on the site. Consistent with Driscoll (2013) and reporting limits able to be achieved by analysis of air samples, an air monitoring action level for asbestos on the site should be 0.01 fibres/ml, with 0.02 fibres/ml set as the level at which work would typically cease in order to find and control the source of asbestos fibres.

3.11 Data Gap Assessment (JBS&G 2015c)

JBS&G was commissioned by HI to conduct a Data Gap Assessment for the Westmead Hospital Redevelopment.

The objective of the DGA was to address the identified data gaps and to draw conclusions regarding the suitability of the site to be redeveloped for continued use as a health services facility or to make recommendations, such that identified contamination would be remediated /managed in such a manner as to enable such conclusions.

Fifty-two soil samples locations and three groundwater monitoring locations were assessed as part of the DGA.

The following conclusions and recommendations were provided.

It was considered the site could be made suitable for the proposed health services facility (hospital) landuse, subject to the implementation of a RAP to address the known asbestos impact and AST and UST infrastructure and data gaps.

The concentrations of non-asbestos contaminants in soil were all less than the adopted site assessment criteria. The concentrations of contaminants in groundwater were generally less than the adopted site criteria, with the exception of four heavy metals, which are typically associated with built up urban environments.

To this extent, non-asbestos soil and groundwater contaminants were considered not to represent a potential risk to future onsite receptors or the environment. No background soil concentrations, chemical mixtures, aesthetic issues or offsite migrations risks were identified in this assessment.

It was recommended that a RAP considering all historical and current assessments be developed in accordance with the relevant regulatory requirements and implemented during the redevelopment works. The RAP, as a minimum, should include remedial /management procedures for the following contamination issues:

- Asbestos impacted fill materials;
- Removal of AST and UST Infrastructure;
- Data gap assessment of inaccessible areas (under buildings and structures);
- Off-site disposal of waste; and
- Importation of environmentally suitable backfill material.

3.12 Previous Hazardous Material Survey Reports

A number of previous hazardous material survey reports have been reviewed as part of this AQA for completeness and potentially relevant information with regards to the extent and type of asbestos in soils at the site. The reports reviewed are as follows:

- *Hazardous Materials Audit and Register, Marsden Centre, Mons Road, Westmead, NSW, 2145.* Environmental Monitoring Services. October 2005. (EMS 2005).
- *Westmead Coroners Court, Asbestos Reinspection Report: Version B.* Healthy Buildings International Pty Ltd. May 2009. (HBI 2009).
- *R1660a – Testing of Suspected Asbestos Containing Material.* Safe Environments Pty Ltd. October 2010. (SE 2010).
- *Hazardous Materials Survey, Westmead Large Residential Centre, Mons Road, Westmead.* JBS&G Pty Ltd. October 2013. (JBS&G 2013b).
- *Hazardous Materials Due Diligence Inspection Report for Westmead Hospital Redevelopment Project, Westmead Adult Hospital Lot.* Pickford & Rhyder Consulting. September 2014. (P&R 2014).
- *Pre-Demolition Hazardous Material Inspection – WSLHD Building, Westmead Hospital Redevelopment.* JBS&G Australia Pty Ltd. November. (JBS&G 2014c).
- *Asbestos Building Materials Assessment Westmead Tunnels Hawkesbury Road Westmead, NSW.* Prensa Pty Ltd. August 2014. (Prensa 2014a).

3.13 Data Integrity Assessment

All asbestos data collected for the site prior to JBS&G asbestos quantification assessments (JBS&G 2014a, 2014b and this AQA) were anecdotal or qualitative in nature. DP 2001, 2013 and 2015a all included asbestos sampling, however, sampling and analysis were qualitative in nature only. More recent JBS&G quantitative investigations in these areas of the site address previously qualitatively assessed areas and are considered to supersede the qualitative assessment of asbestos in soils in the DP investigations of the site. The type and extent (increased lateral and vertical extents) of asbestos impact identified in the quantitative assessments is considered to be more comprehensive than the type and extent of asbestos identified in the previously qualitative only assessments, and thus the omission of the qualitative data is considered not to reduce the integrity of data in this assessment. It is noted some aspects of the qualitative data sets, such as observations and depth of fill material in bore hole locations is considered reliable and beneficial to determine the vertical extent of fill materials and volume of asbestos impacted fill materials across areas of the site.

4. Summary Site History

A full site history was detailed in DP 2015a⁵. A summary of the WHR site history is presented below.

Table 4.1: ADHC Lot, Part Lot 4 in DP 1077852, History Summary

Period	Activity	Source
1930 to 1970	Area appeared to have been used for agricultural purposes. No residential or industrial development was apparent. Roads, presumably dirt, were apparent, with one in the location of the present day Institute Road, which is the dividing line between the ADHC and Westmead Hospital lots.	Historical Aerials.
1970	Development of land into current day ADHC campus lay out. Development completed whilst Parramatta Showground / Westmead Speedway was still present on adjacent lot. USTs installed in late 1960's or early 1970's.	Historical Aerials. Documentation.
1970s to 2002	No major changes to site layout.	Historical Aerials.
2002	Decommissioning of USTs.	WorkCover Documentation.
2002 until Current	No major changes to site layout.	Historical Aerials and site walkover.
2013-2015	Preliminary and detailed site assessments undertaken by Douglas Partners and JBS&G.	As referenced in Section 3 .

Table 4.2: Westmead Hospital Lot, Part Lot 100 in DP 1119583, History Summary

Period	Activity	Source
1930 to 1950	Area appeared to have been used for agricultural purposes. No residential or industrial development were apparent. Roads, presumably dirt, were apparent, with one in the location of the present day Institute Road, which is the dividing line between the ADHC and Westmead Hospital lots.	Historical Aerials.
1951	Parramatta Showground / Westmead Speedway were evident in the 1951 aerial.	Historical Aerials.
1960s	Additions in terms of stands, buildings, sheds associated with the showground and speedway.	Historical Aerials.

⁵ Draft Report on Site Investigation (Contamination), Westmead Hospital Redevelopment. 73960.01. Douglas Partners Pty Ltd. January 2015. (DP 2015a).

1968	Closure of racing at Westmead Speedway. Structures still apparent on site until 1970.	Website information.
1974-1975	Construction begins on Westmead Hospital on the site of the former Parramatta Showground / Westmead Speedway.	Website Information.
1978	Completion of Westmead Hospital. A large stockpile of material was apparent in the location of the current Westmead Hospital Oval. Anecdotal evidence of a large pit for building waste in the location of current day Car Park 4.	Website Information. Historical Aerials. Anecdotal
1980's to current	A number of minor improvements to Westmead Hospital Campus, including on-grade Car Parks and various buildings. No major changes to site layout.	Historical Aerials.
1992	Initial investigation in asbestos at Westmead Hospital, detailing areas of the site understood to have been filled.	Envirosciences 1992
2010	The site is understood to have been listed as Parramatta Showgrounds on Old Windsor Road, Westmead on the Regulation Project of James Hardie Contamination Legacy. The site was not inspected by the EPA and the presence of visible asbestos, a summary of the survey, actions taken or recommended and the site owner were recorded as 'not available'. The results of a follow up inspection were recorded that the site was confirmed as having been redeveloped.	DECCW 2010.
2013-2015	Detailed site assessments undertaken by Douglas Partners and JBS&G.	As referenced in Section 3.

5. Conceptual Site Model

5.1 Conceptual Site Model Definition

NEPC 2013⁶ identifies a conceptual site model (CSM) as a representation of site related information regarding contamination sources, receptors and exposure pathways between those sources and receptors. The development of a CSM is an essential part of all site assessments.

NEPC 2013 identified the essential elements of a CSM as including:

- Known and potential sources of contamination and contaminants of concern including the mechanism(s) of contamination;
- Potentially affected media (soil, sediment, groundwater, surface water, indoor and ambient air);
- Human and ecological receptors;
- Potential and complete exposure pathways; and
- Any potential preferential pathways for migration.

5.2 Areas of Environmental Concern

The area of environmental concern (AEC) within the scope of this assessment is the fill material present across the site.

5.3 Sources and Contaminants of Potential Concern

The contaminant of potential concern (COPC) within the scope of this assessment is asbestos and asbestos containing materials present within soils (fill materials).

Potential sources of impact for asbestos on the site include:

- Anecdotal evidence of the site as a potential James Hardie asbestos disposal site (see Appendix A of DECCW 2010).
- Poor demolition practices of previous site structures containing asbestos such as the showground and speedway buildings.
- Given the extensive use of asbestos in the construction of Westmead Hospital in the mid-1970s (as evident from current Hazardous Material Reports, P&R 2014), poor waste management of asbestos materials, such as dumping on ground surface or stockpiling of asbestos impacted materials.
- Widespread filling from an unknown origin across the site, including the large stockpile observed in the 1978 Aerial Photograph (presented in DP 2015) situated in the location of the current oval, which is anticipated to be linked to the original development of Westmead Hospital and/or dumping of asbestos impacted soils from offsite sources. The approximate location of the 1978 stockpile is presented on **Figure 2**.

The concentrations of all other assessed non-asbestos contaminants in soil were typically below the adopted site assessment criteria, as detailed in JBS&G 2015c and DP 2015. The concentrations of contaminants in groundwater were generally less than the adopted site criteria, with the exception of heavy metals, which are typically associated with built up urban environments.

⁶ *National Environment Protection (Assessment of Site Contamination) Amendment Measure 2013 (No. 1)*, National Environment Protection Council, 2013 (NEPC 2013).

5.4 Potential Human Receptors

Potential human receptors who may be exposed to the site impact in the future are discussed in detail in the HHRA, JBS&G 2015b.

5.5 Potential Exposure Pathways

Asbestos is potentially toxic by the inhalation route only. To this extent, the only potentially complete exposure pathway that has been identified for the site is inhalation of fibres. The extent of inhalation will be controlled by the amount of fibres released from the soil and the dispersion between the release point and the receptor.

5.6 Preferential Pathways

Fibres do not migrate through the soils, so preferential pathways, as defined by NEPC 2013, are not strictly applicable. However, the potential for dust, and associated fibre, release from soils is controlled by levels of soil moisture. Soil moisture is generally controlled on the site by maintenance of existing vegetation and areas of impervious surface cover.

5.7 Data Gaps

The following data gaps remain:

- Type and extent of asbestos in fill materials under inaccessible areas, i.e. buildings and structures across the site;
- Type and extent of asbestos below the vertical extent of this assessment, i.e. if finalised design plans are determined to include significant excavation or deep piers; and
- Type and extent of asbestos outside the lateral extent of this assessment, i.e., if finalised design plans change the lateral extent of the site boundaries.

6. Sampling and Analysis Plan

6.1 Data Quality Objectives

DQOs are statements that define the confidence required in conclusions drawn for data produced for a project, and which must be set to realistically define and measure the quality of data needed.

DQOs were developed for the investigation, as discussed in the following sections.

6.1.1 State the Problem

Previously, anecdotal and qualitative information have been the extent of knowledge regarding asbestos impact in fill materials at Westmead Hospital. Recently completed combined geo-technical and contamination assessments (DP 2015) have provided more qualitative data across the site. The qualitative data were not intended to quantify the extent of asbestos in soil as per WA DoH (2009) and NEPC (2013) guidance. As such, there are uncertainties with respect to the extent and nature of asbestos (bonded ACM, FA and AF) in fill materials across the site.

6.1.2 Identify the Decision

The following decisions are required to be made during the pre-remediation asbestos quantification works:

- Are the fill materials at the site impacted with asbestos?
- What is the nature of the asbestos present (*i.e.*, bonded ACM, FA and/or AF)?
- Where it is detected, what quantity of bonded ACM and/or FA/AF is present in each location? and
- Does the asbestos concentration in soil exceed the risk based site specific assessment criteria?
- Is a site management strategy required?

6.1.3 Identify Inputs to the Decision

Inputs required to address the decisions will be:

- Known areas of asbestos impact from previous anecdotal and contamination assessments;
- Physical observations of excavated borehole spoil to identify the type of asbestos impact (*i.e.*, bonded ACM or FA) and to quantify the mass of bonded ACM and/or FA and the mass of soil;
- Analytical data, consisting of assessment for asbestos concentrations in soil (bonded ACM, FA, AF and trace analysis);
- Confirmation that data generated by field works and sample analysis are of an acceptable quality by assessment of quality assurance / quality control against the data quality indicators; and
- Comparison of field and analytical asbestos concentrations in soil results against risk based site specific assessment criteria for asbestos concentration in soil.

6.1.4 Define the Study Boundaries

The site is described as Part Lot 100 in DP 1119583 and Part Lot 4 in DP 1077852, Westmead Hospital Lot and ADHC Lot, Westmead, NSW, as shown in **Figure 2**.

AQ boreholes in this assessment, which occurred prior to the finalisation of redevelopment plans, including cut and fill levels, extended laterally to the site boundary at the time of assessment.

AQ bore holes were extended vertically 0.3 m bgs into natural soils underlying fill materials where possible or to refusal within the fill (either refusal on fill with inclusions of shale or concrete, or due to suspected essential hospital service) or to the reach extent of the excavator (approximately 3 m bgs).

6.1.5 Develop a Decision Rule

The purpose of the works was to assess the contamination status of the site with regards to asbestos in soil against the risk-based assessment criteria derived in the HHRA, JBS&G 2015b.

Table 6.1: Asbestos Quantification Decision Rules

Decision Required to be Made	Decision Rule
Are the fill materials at the site impacted with asbestos?	If ACM or FA is observed or if ACM and/or FA/AF is detected above the LOR in analytical data, the answer is Yes . If no asbestos is observed and analytical detections are below the LOR, the answer is No .
What is the nature of the asbestos present (i.e., bonded ACM, FA or AF)?	Field observations (testpit / borehole logs) and analytical data will determine the nature of the asbestos present. Determination of the nature of asbestos will be conducted in accordance with the definitions in WA DoH 2009 and NEPM 2013.
Where it is detected, what quantity of ACM and/or FA/AF is present in each location?	Asbestos quantification data and analytical data will enable the calculation of the concentration of asbestos in soil.
Does the asbestos concentration in soil exceed the risk based site specific assessment criteria?	If the concentration of asbestos in soil is observed or detected <u>above</u> the risk based site specific assessment criteria, the answer is Yes . If concentration of asbestos in soil is observed or detected <u>below</u> the risk based site specific assessment criteria, the answer is No .
Is a site management strategy required?	Is the answer to any of the above decisions Yes? If Yes, a site management strategy will be required to be developed. If No, a site management is not required.

6.1.6 Specify Limits of Decision Error

There are two types of decision error identified in AS4482.1-2005 'Guide to the investigation and sampling of sites with potentially contaminated soil Part 1: Non-volatile and semi-volatile compounds'. These include:

- (a) Deciding that the site is acceptable when it actually is not; and
- (b) Deciding that the site is unacceptable when it is.

Limits are required to be set on each type of error presented here. AS4482.1-2005 nominates a 5% probability of (a) and 20% probability of (b). These have been adopted for this investigation for the assessment of soils.

The pre-determined Data Quality Indicators (DQIs) established for the project are discussed below in relation to precision, accuracy, representativeness, comparability, completeness and sensitivity (PARCCS parameters), and are shown in **Table 6.2**.

- **Precision** - measures the reproducibility of measurements under a given set of conditions. The precision of the laboratory data and sampling techniques is assessed by calculating the Relative Percent Difference (RPD) of duplicate samples.
- **Accuracy** - measures the bias in a measurement system. The accuracy of the laboratory data that are generated during this study is a measure of the closeness of the analytical results obtained by a method to the 'true' value. Accuracy is assessed by reference to the analytical results of laboratory control samples, laboratory spikes and analyses against reference standards.
- **Representativeness** – expresses the degree which sample data accurately and precisely represent a characteristic of a population or an environmental condition. Representativeness is achieved by collecting samples on a representative basis across the site, and by using an adequate number of sample locations to characterise the site to the required accuracy.
- **Comparability** - expresses the confidence with which one data set can be compared with another. This is achieved through maintaining a level of consistency in techniques used to collect samples; ensuring analysing laboratories use consistent analysis techniques and reporting methods.
- **Completeness** – is defined as the percentage of measurements made which are judged to be valid measurements. The completeness goal is set at there being sufficient valid data generated during the study.
- **Sensitivity** - expresses the appropriateness of the chosen field and laboratory methods, including the limits of reporting, in producing reliable data in relation to the adopted site assessment criteria.

Table 6.2: Summary of Quality Assurance / Quality Control Program

Data Quality Indicator	Frequency	Data Quality Acceptance Criteria
Precision		
Blind duplicates (intra laboratory)	1 / 20 samples	Agreement with primary sample
Blind duplicates (inter laboratory)	1 / 20 samples	
Representativeness		
Sampling appropriate for media and analytes	All samples	All samples
Samples extracted and analysed within holding times.	All samples	No holding time for asbestos
Comparability		
Standard operating procedures for sample collection & handling	All Samples	All samples
Standard analytical methods used for all analyses	All Samples	All samples
Consistent field conditions, sampling staff and laboratory analysis	All Samples	All samples
Limits of reporting appropriate and consistent	All Samples	All samples
Completeness		
Soil description and COCs completed and appropriate	All Samples	All samples
Appropriate documentation	All Samples	All samples
Satisfactory frequency and result for QC samples	All QA/QC samples	-
Data from critical samples is considered valid	-	Critical samples valid
Sensitivity		
Analytical methods and limits of recovery appropriate for media and adopted site assessment criteria	All Samples	LOR < adopted site criteria (where possible)

If any of the DQIs were not met, further assessment will be necessary to determine whether the non-conformance significantly affect the usefulness of the data.

6.1.7 Optimise the Design for Obtaining Data

Table 6.3 identifies the sampling design in accordance with EPA (1995) and WA DoH (2009) guidelines. A stratified systematic sampling plan has been implemented, given the site area is greater than 5 ha. The stratified sampling approach was driven by the Lots and the timing of their respective historical development, i.e., ADHC was developed in the 1960's prior to the development of Westmead Hospital in the 1970's.

To this extent, the likelihood of asbestos on ADHC was suspected, and a 1 X sampling density for a 3.5 ha site was implemented, resulting in a sampling grid area of approximately 625 m².

The likelihood of asbestos on Westmead Hospital Lot was likely and/or known, and a 2 X sampling density for a site greater than 5 ha was implemented, resulting in a sampling grid area of approximately 400 m².

Table 6.4 identifies the number of asbestos quantifications and asbestos laboratory analysis conducted as part of the asbestos quantification assessment.

Table 6.4: Asbestos Quantification Sampling Plan and Analysis

Sample Type	No. of Sampling Locations	Analyses (exc. QA/QC)
Asbestos Quantification	189 asbestos quantification sample locations	Asbestos Quantification (field) – 300 samples Asbestos Analysis (500mL) – 300 samples

The methodology outlined below specifies the design used to obtain data.

6.2 Asbestos Quantification of Accessible Fill Materials

Asbestos quantification boreholes were conducted on an approximate 20 m grid on Westmead Hospital Lot (to the south of Institute Road) or 25 m grid on ADHC Lot (to the north of Institute Road), as presented in **Figure 4**. Each field team comprised a backhoe with auger attachments and at least one JBS&G appropriately trained scientist experienced in the identification of asbestos. An additional appropriately trained support field staff or appropriately trained labourer was used to assist in sorting of materials, re-instatement of borehole locations and implementation of safety controls. The following method was adopted during asbestos quantification works:

- Borehole locations were surveyed using a Trimble GPS with an accuracy of sub 1 m. GPS data were subsequently used to plot the borehole locations on a site plan, presented in **Figure 4**, as well as being presented in a tabular format to enable investigation locations to be identified during subsequent remedial works.
- Boreholes were advanced to a depth of 0.3 m into natural soils as per WA DoH (2009), or to the limit of the reach of the backhoe used (which was approximately 3 m in depth) or to practical refusal; whichever was the shallower.
- At each sample location, observable bonded ACM and FA was quantified using methods advised in WA DoH (2009). Specifically, given that the fill materials are known to be clay, and previous investigations (JBS 2014a and 2014b) identified observable FA in the fill materials, fill materials were quantified by spreading the fill material for inspection on a contrasting colour material (e.g., plastic sheeting).
- A minimum of one 10 L sample of spoil from each 1 m depth interval was spread at a thickness of not more than 100 mm onto the contrasting colour material. All observable bonded ACM and FA per sample location was collected in separate sample bags (i.e., one sample bag for bonded ACM and one sample bag for FA per each 1 m interval) for weighing to enable asbestos soil concentrations to be calculated.

- The approximate mass of the soil volume was calculated using a soil density of 1.63 g/cm³ (from US EPA 2003⁷), which was based on the predominant fill type at the site being silty clay.
- At least one wetted discrete 500 ml sample was collected for laboratory asbestos analysis per 1 m depth interval at each sampling location, regardless of whether bonded ACM or FA was observed or not. Composite samples were not collected as part of the investigation, due to discrepancies in determining the weight of asbestos in the sample. Where possible, soil samples were collected in the proximity of observed bonded ACM or FA.
- At least one 500 ml sample from each location was analysed for asbestos in accordance with AS 4964-2004: Method for the Qualitative Identification of Asbestos in Bulk Samples.
- Discretionary sampling of bonded ACM, FA and AF was undertaken in relevant suspect spots within sampling locations, as advised in WA DoH (2009).
- Bonded ACM and FA collected and bagged from each depth interval was weighed in-house using a calibrated scale with an accuracy of 0.01 g and the measured weight recorded and presented in **Table A**.
- A bore log for each sampling location was recorded (provided in **Appendix A**), which noted the presence (and type) or absence of observable asbestos, soil description, dimensions of borehole, volume of spoil sampled at each depth and other observable contamination indicators such as staining, malodorous materials, ash and slag.
- If areas were not accessible for investigation during the current phase of works the extent of these areas was surveyed for future identification and assessment.

Where current sample locations were placed in the same location as historical shallow sample locations (i.e., **Figure 3**), asbestos quantifications were initiated from the next metre interval. For example, in the “AQ” series data, the historical locations were sampled at 0 – 0.1 m bgs and 0.1 – 0.5 m bgs in JBS&G 2014a. These data were considered to be representative of the 0 to 1 m bgs interval range, given the consistency of fill material observed. To this extent, current sample locations were conducted from the 1 to 2 m bgs interval range and beyond.

6.3 Use of Borehole for Asbestos Quantification

Although test pits are preferred in asbestos quantification assessment, boreholes were used for the purpose of this assessment due to the following:

- Indication of the type of asbestos impact comprising FA/AF from previous AQ assessments conducted on the Oval (JBS&G 2014a) and Car Park 7 (JBS&G 2014c); and,
- Requirement to minimise dust creation, soil disturbance and generation of spoil given the operational status of Westmead Hospital and ADHC.

A minimum auger diameter of 150 mm was used throughout the assessment process, satisfying the minimum diameter for boreholes advised in WA DoH 2009. Specifically augers of 150 mm, 200 mm diameter and 450 mm diameter were used. Where a narrow diameter auger did not enable the collection of a 10 L sample per vertical metre, subsequent boreholes were drilled directly adjacent to the initial borehole until a volume of 10 L per metre interval was able to be collected for asbestos quantification.

⁷ *User's Guide for Evaluating Subsurface Vapor Intrusion into Buildings*. US EPA Office of Emergency and Remedial Response, June 19 2003 (US EPA 2003)

6.4 Calculation of Bonded ACM and FA Concentration

Asbestos percentage was calculated as per the formula below:

$$\%w/w \text{ asbestos in soil} = \% \text{ asbestos content} \times \frac{(\text{bonded ACM or FA})(kg)}{\text{soil volume (L)} \times \text{soil density (kg/L)}}$$

For observed bonded ACM, an asbestos content of 15% was used, in accordance with enHealth (2005).

For observed FA, a conservative asbestos content of 100% was used.

Laboratory estimations of asbestos content in bonded ACM, FA and AF was used for all analytical data calculations.

6.5 Soil Sampling Methodology

Soil samples were collected using a fresh pair of nitrile gloves per sampling event. During the collection of soil samples, potential indicators of significant contamination, other than ACM, were noted on the field sheets.

Re-useable equipment such as the solid flight auger, 10 L buckets and tarps were decontaminated by wetting, brushing / wiping and visual inspection to ensure no visible soil remained between sample locations.

Collected soil samples were immediately transferred to laboratory-supplied polyethylene ziplock bags, with appropriate asbestos warning labels and delivered to the testing laboratory. All samples were double bagged to minimise risk of fibre release. A chain-of-custody form was completed and forwarded with the samples.

Samples were analysed in accordance with the analytical schedule. All samples will remain at the primary laboratory for a period of two months if future analysis is required following the receipt of sample results.

6.6 Laboratory Analysis

JBS&G contracted Eurofins|MGT as the primary laboratory for the required analysis to which the primary and duplicate samples were submitted. Triplicates samples were submitted to Envirolab Services Pty Ltd. Both laboratories are NATA accredited for AS 4964-2004. In addition, the laboratories were required to meet JBS&Gs internal QA/QC requirements. Laboratory analysis of samples was conducted as summarised in **Table 6.4**.

7. Assessment Criteria

7.1 Regulatory Guidance

The investigation was undertaken with consideration to aspects of the following guidelines as relevant:

- *Contaminated Sites: Sampling Design Guidelines*, NSW EPA, 1995 (EPA 1995);
- *Contaminated Sites: Guidelines for Consultants Reporting on Contaminated Sites*, NSW OEH, 2011 (OEH 2011);
- *Contaminated Sites: Guidelines for the NSW Site Auditor Scheme, 2nd Edition*, NSW EPA, 2006 (DEC 2006);
- *National Environment Protection (Assessment of Site Contamination) Measure*, National Environment Protection Council, 1999 (as amended 2013) (NEPC 2013); and
- *Guidelines for the Assessment, Remediation and Management of Asbestos-Contaminated Sites in Western Australia*, Western Australia Department of Health (WA DoH 2009).

7.2 Assessment Criteria Selection

Schedule B7 of NEPC 2013 states “... the HILs developed for the commercial/industrial land use scenario are not applicable to a site used frequently by more sensitive groups such as children (within childcare centres, hospitals and hotels) and the elderly (within hospitals, aged care facilities and hospices).” Therefore, given the frequent site use by sensitive receptor groups (i.e., children, elderly and immunocompromised), the use of the generic commercial / industrial land use scenario (HIL D) provided in NEPC 2013, and used in previous assessments pertaining to the site and surrounding areas is considered inappropriate for the construction phase of the project and for the long term site use as a health services facility (i.e., hospital and associated services).

Consequently, a HHRA (JBS&G 2015b) was undertaken to determine site specific risk based criteria for asbestos in soils. Asbestos was identified as the primary COPC for site and it was considered that the pre-determined HILs provided in NEPC 2013 did not adequately consider the unique land use setting of the hospital.

7.3 Asbestos Concentration in Soil Criteria

The risk based criteria for asbestos concentration in soils is presented in **Table 7.1** below.

Table 7.1: Risk Based Criteria for Asbestos Concentration in Soil (% w/w)

	Risk Based Criteria for Asbestos Concentration in Soil
	Health Services Facility Land Use
ACM within surface soils (i.e. <0.1 m)	No visible ACM
Bonded ACM within soils >0.1 m	0.025% w/w ¹
FA / AF within soils	0.01% w/w ¹

Notes:

- 1- Derived from the HHRA, JBS&G 2015b.

8. Quality Assurance / Quality Control

8.1 QA/QC Results

The QA/QC results are summarised in **Table 8.1** and discussed in **Section 8.2** below.

Table 8.1: QA/QC Results Summary

Data Quality Indicator	Results	DQI Met?
Precision		
Blind duplicates (intra laboratory)	10 duplicates per 300 primary samples	Partial ¹
Blind duplicates (inter laboratory)	10 triplicates per 300 primary samples	
Representativeness		
Sampling appropriate for media and analytes	All sampling was conducted in accordance with the SAQP (JBS&G 2015a), guidance documents (NEPC 2013 and WA DoH 2009) and JBS&G procedures.	Yes
Samples extracted and analysed within holding times.	There are no published holding times for the analysis of asbestos. No other COPCs were analysed.	Yes
Comparability		
Standard operating procedures for sample collection & handling	Matthew Murray was the lead field staff throughout the project and ensured consistent implementation of standard operating procedures.	Yes
Standard analytical methods used for all analyses	Standard analytical methods were used as listed in the laboratory reports in Appendix B .	Yes
Consistent field conditions, sampling staff and laboratory analysis	Sampling was conducted by four total field staff using standard operating procedures. Matthew Murray, the lead field staff was present throughout all field works. Weather did not significantly impact field operations, due to the nature of the asbestos. The primary laboratory and secondary laboratory remained consistent throughout the investigation.	Yes
Limits of reporting appropriate and consistent	Limits of reporting for asbestos were consistent with WA DoH 2009 and NEPC 2013 health screening levels and therefore deemed appropriate for the purpose of the investigation.	Yes
Completeness		
Soil description and COCs completed and appropriate	All borehole logs and COCs were completed appropriately.	Yes
Appropriate documentation	Field documentation was appropriately completed.	Yes
Satisfactory frequency and result for QC samples	The QC results for asbestos are considered adequate for the purposes of the assessment.	Partial ¹
Data from critical samples is considered valid	Data from critical samples is considered valid.	Yes
Sensitivity		
Analytical methods and limits of recovery appropriate for media and adopted site assessment criteria	Analytical methods and limits of recovery were considered appropriate for media and adopted site assessment criteria for all soil analytes.	Yes

Notes:

- 1- Please see **Section 8.2** for discussion on DQI results.

8.2 QA/QC Discussion

Duplicate and triplicate agreement comparisons and results are presented in **Table B**.

8.2.1 Precision

Duplicate and triplicate samples were collected at a rate of 10 per 300 primary samples, which is below the 1 per 20 sampling rate prescribed in the SAQP.

Detections were in agreement between all primary and duplicate sample pairs analysed for bonded ACM. Detections were in agreement for nine of ten primary and triplicate sample pairs analysed for bonded ACM.

Detections were in agreement for eight of ten primary and duplicate sample pairs analysed for FA and AF. Detections were in agreement for seven of ten primary and triplicate sample pairs analysed for FA and AF.

Given the particulate structure of asbestos and the heterogeneous nature of the fill materials, the minor non-conformances in detections of bonded ACM and FA/AF in the duplicate and triplicate samples does not significantly impact on the precision of the data set. Where asbestos in both the primary and duplicate or triplicate sample has been detected, the highest concentration has been used.

8.2.2 Representativeness

All sampling was conducted in accordance with the SAQP (JBS&G 2015a) and in accordance with WA DoH 2009 and NEPC 2013 guidance. Given the clayey nature of the fill material and that FA was visually identified in field AQ processes during previous investigations (JBS&G 2014a and JBS&G 2014b), asbestos quantifications were conducted by spreading the minimum 10 litre sample on a contrasting coloured fabric, as recommend in WA DoH 2009.

Given the particulate structure of asbestos, there are no published holding times, and as such, all samples were analysed within an adequate time frame.

8.2.3 Comparability

Matthew Murray, a trained and experienced field staff, who is a competent person in accordance with SWA 2011a⁸, was the lead field scientist for the duration of the field works. Four other trained and experienced field staff assisted Matthew throughout the project and worked under his supervision to ensure consistency in application of the SAQP. In addition, all JBS&G field staff operated under JBS&Gs standard field procedures.

Field works were ceased during heavy rainfall events as this inhibited the ability of the field staff to spread, rake and inspect the generally gravelly clay fill materials due to the increased moisture content of the clay component. Given that asbestos is inert and insoluble, and that field work was ceased during heavy rainfall events, the variation in field conditions is unlikely to impact the comparability of the data sets.

Eurofins | mgt and Envirolab were used as the primary and secondary laboratories for the duration of the assessment. The laboratories implemented standard analytical procedures as detailed in the laboratory results in **Appendix B**.

8.2.4 Completeness

All field documentation including borehole logs and COCs were completed to a satisfactory standard. Soil descriptions adequately delineate between the fill materials and natural soils (where encountered), providing information on the depths of fill across the site to enable volume of fill calculations.

Due to the operational nature of the hospital, a number of locations were terminated at shallow depths due to suspected essential services. Given the surety of asbestos impact distribution and the good understanding of depth of fill materials across the site based on the DP 2015 and JBS&G AQAs, this is considered not to impact on the completeness of the data set.

⁸ *How to manage and control asbestos in the workplace - Code of Practice*, Safe Work Australia, 2011 (SWA 2011a).

8.2.5 Sensitivity

Laboratories utilised the large sample size provided by JBS&G (at least 500 mL) to conduct asbestos analysis in accordance with WA DoH 2009 and NEPC 2013 site investigation / health screening levels. The nominal detection limit of the AS4964-2004: Method for the Qualitative Identification of Asbestos in Bulk Samples is 0.01% w/w (i.e., 0.1 g/kg). This detection limit is consistent with the adopted site criteria. Furthermore, the larger 500 mL samples submitted to the laboratories are considered to result in a substantially lower detection limit being achieved in practice as examination of a large sample sizes (>500 mL) may improve the likelihood of identifying asbestos material in the greater than 2 mm fraction. On this basis, the sensitivity comparability of the analytical methods employed by the laboratories is considered to be appropriate for the purpose of this assessment.

8.3 QA/QC Conclusion

The field sampling and handling procedures produced QA/QC results which indicate the soil data are of an acceptable quality and suitable for use in the characterisation of the nature and degree of asbestos impact on the site.

The laboratory results indicate that the project laboratories were achieving required levels of sensitivity for the purposes of this assessment.

On the basis of the field and laboratory QA/QC program, the soil data are of an acceptable quality upon which to draw conclusions regarding the nature and extent of asbestos impact on the site.

9. Results

9.1 Field Observations

Field works were completed from November 2014 until May 2015. Field observations encountered at the site during AQ works are described below. A total of 189 borehole AQ locations were conducted, with a total of 300 asbestos quantifications conducted. Borehole logs are provided in **Appendix A. Table 9.1**, below, sources information from DP 2015, JBS&G 2014a, 2014b and this assessment to present summarised site observations and geology for the site.

Table 9.1 Summarised Site Observations and Geology

Location	Approximate Depth of Fill (m bgs)	Type of Fill	ACM observed	FA observed
ADHC	Range: 0.2 to 1.6 m bgs. Approximate Average: 0.7 m bgs.	Clay.	Single location (RAQ43) adjacent to Institute Road.	No
Westmead – Car Park 4 area	Range: 1.4 to 7.5 m bgs. Approximate Average: 5 m bgs.	Gravelly sandy clay.	Yes	Yes
Westmead – Car Park 6 area	Range: 1.4 to 3.8 m bgs. Approximate Average: 2 m bgs, increasing to 5 m bgs in eastern mound (east of cooling towers).	Gravelly clay.	Yes	Yes
Westmead Oval area (JBS&G 2014a)	Range: Up to 5m bgs. Approximate Average: 3.5 m in central portion.	Gravelly clay / silty clay with gravels.	Yes	Yes
Westmead Car Park 7 Area (JBS&G 2014b)	Range: 0.3 to 1.9 m bgs	Silty sand/gravelly clay.	Yes	Yes

9.1.1 ADHC Lot

The fill materials encountered underlying the ADHC Lot typically comprised brown, firm, heterogeneous clay, with minor areas of grey, firm, heterogeneous gravelly clay with inclusions of shale. Natural yellow to red to brown clays were observed to underlay the fill materials.

Fill materials in the ADHC Lot ranged from a depth of 0.2 m bgs to 1.6 m bgs. ACM was observed in a single sample (RAQ043-0-1). FA was not observed in any sample locations.

Depth of fill across the different areas of ADHC Lot is presented in **Table 9.1**.

9.1.2 Westmead Hospital Lot

The fill materials encountered underlying the Westmead Hospital Lot typically comprised brown, stiff, heterogeneous, low plasticity gravelly clay with inclusions of shale, ACM, FA and occasional inclusions of building debris.

ACM and FA were observed during asbestos quantification across Westmead Hospital Lot.

Depth of fill across the different areas of Westmead Hospital Lot are presented in **Table 9.1**.

9.2 Bonded ACM Results

Table A summarises the observational and analytical laboratory data for bonded ACM.

All bonded ACM observations or detections above the adopted site criteria were located on the Westmead Hospital Lot.

Bonded ACM was observed or detected above the adopted site criteria in 58 of 159 samples in the 0 to 1 m bgs depth range as presented in **Figure 5a**.

Bonded ACM was observed or detected above the adopted site criteria in 17 of 86 samples in the 1 to 2 m bgs depth range as presented in **Figure 5b**.

Bonded ACM was observed or detected above the adopted site criteria in 15 of 55 samples in the 2 to 3 m bgs depth range as presented in **Figure 5c**.

Bonded ACM was observed up to a maximum concentration of 0.5778% w/w and detected in laboratory analysis up to a maximum concentration of 1.0376% w/w.

9.3 FA/AF Results

Table A summarises the observational and analytical laboratory data for FA/AF results.

All FA/AF observations or detections above the adopted site criteria were located on the Westmead Hospital Lot.

FA/AF was observed or detected above the adopted site criteria in 68 of 159 samples in the 0 to 1 m bgs depth range as presented in **Figure 6a**.

FA/AF was observed or detected above the adopted site criteria in 22 of 86 samples in the 1 to 2 m bgs depth range as presented in **Figure 6b**.

FA/AF was observed or detected above the adopted site criteria in 12 of 55 samples in the 2 to 3 m bgs depth range as presented in **Figure 6c**.

FA was observed up to a maximum concentration of 0.7890% w/w. FA and/or AF was detected in laboratory analysis up to a maximum concentration of 1.5891% w/w.

FA and/or AF were detected below the adopted site criteria in the south-eastern portion of ADHC Lot in samples RAQ043 and RAQ064 (0 to 1 metre interval range).

9.4 Air Monitoring Results

All results for air monitoring samples were less than 0.01 fibres/mL. No fibres were reported in the field blank. Air monitoring results are provided in **Appendix C**.

10. Site Characterisation

10.1 Do the fill materials at the site contain asbestos?

Assessed fill materials within the Westmead Hospital Lot are impacted with asbestos, as shown in **Figure 7**. Asbestos was not detected in the assessed fill materials within the ADHC Lot, with the exclusion of the south-eastern corner of the ADHC Lot, as shown in **Figure 7**.

The JBS&G asbestos assessments have conclusively demonstrated that ACM, occurring as bonded ACM, FA and AF are associated with the gravelly clay fill material as encountered on Westmead Hospital Lot and the south-eastern corner of the ADHC Lot. The extent of asbestos impact can be considered to be present in all areas of the site where gravelly clay fill based soils are present, as presented in **Figure 7**.

10.2 What is the nature of the asbestos present (i.e., bonded ACM, FA or AF)?

Bonded ACM, FA and AF were observed and detected across the Westmead Hospital Lot and within the south-eastern corner of the ADHC Lot.

As per the conservative basis of risk assessment, JBS&G 2015b, and in accordance with WA DoH 2009, bonded ACM within the assessed portion and gravelly clay fill material of the Westmead Hospital Lot and the south-eastern corner of the ADHC Lot should be considered as FA/AF, as site conditions or historical factors appear conducive to the degradation of bonded ACM to a friable form or to the co-location of bonded ACM and FA/AF from the same source. To this extent, the assessed gravelly clay fill material as encountered on Westmead Hospital Lot and the south-eastern corner of the ADHC Lot is considered to be impacted with FA/AF.

10.3 Where it is detected, what quantity of ACM and/or FA/AF is present in each location?

Field and analytical data for all sample locations are presented in **Table A**.

Bonded ACM was observed up to a maximum concentration of 0.5778% w/w and detected in laboratory analysis up to a maximum concentration of 1.0376% w/w.

FA was observed up to a maximum concentration of 0.7890% w/w. FA and/or AF was detected in laboratory analysis up to a maximum concentration of 1.5891% w/w.

10.4 Does the asbestos concentration in soil exceed the risk based site specific assessment criteria?

Yes, bonded ACM concentrations in soil exceeded the risk based site specific assessment criteria in 58 of 159 samples in the 0 to 1 m bgs depth range, in 17 of 86 samples in the 1 to 2 m bgs depth range and in 15 of 55 samples in the 2 to 3 m bgs depth range on the Westmead Hospital Lot.

FA/AF concentrations in soil exceeded the risk based site specific assessment criteria in 68 of 159 samples in the 0 to 1 m bgs depth range, in 22 of 86 samples in the 1 to 2 m bgs depth range and in 15 of 55 samples in the 2 to 3 m bgs depth range on the Westmead Hospital Lot.

There were no observations or detected of asbestos concentrations in fill materials in the ADHC Lot.

Assessment criteria exceedances are presented in **Table A** and **Figures 5a-c** and **Figures 6a-c**.

10.5 Is a site management strategy required?

Yes, a site management strategy is required to remediate and manage the identified asbestos impact to make the site suitable for the proposed land use.

A Remedial Action Plan (RAP) should be prepared for the site that addresses the following remedial actions / management strategies:

- Remediation / management of asbestos impacted fill; and
- Validation sampling of inaccessible (under buildings and structures) soils.

A Long Term Environmental Management Plan (LTEMP) should be prepared if the management strategy for the identified asbestos impact includes on-site containment, such as the placement of a marker and capping layer.

11. Conclusions and Recommendations

In accordance with the limitations in **Section 12**, the following conclusions and recommendations are provided.

11.1 Conclusions

It is considered the site can be made suitable for the proposed health services facility (hospital) land use, subject to the implementation of a RAP to address the identified asbestos impact, and the implementation of a LTEMP to address long term site maintenance of the remedial strategy.

Fill materials are considered to be impacted with asbestos across the extent of Westmead Hospital Lot and the south-eastern portion of the ADHC Lot.

Bonded ACM concentrations in soil exceeded the risk based site specific assessment criteria in 58 of 159 samples in the 0 to 1 m bgs depth range, in 17 of 86 samples in the 1 to 2 m bgs depth range and in 15 of 55 samples in the 2 to 3 m bgs depth range on the Westmead Hospital Lot.

FA/AF concentrations in soil exceeded the risk based site specific assessment criteria in 68 of 159 samples in the 0 to 1 m bgs depth range, in 22 of 86 samples in the 1 to 2 m bgs depth range and in 15 of 55 samples in the 2 to 3 m bgs depth range on the Westmead Hospital Lot.

Criteria exceedances are presented in **Table A** and **Figures 5a-c** and **Figures 6a-c**.

11.2 Recommendations

It is recommended that a RAP be developed in accordance with the relevant regulatory requirements that documents the procedures and standards to be followed in order to address the identified asbestos impact, ensuring the protection of human health and the surrounding environment, such that the asbestos impact is remediated / managed in such a manner as to make the site suitable for the proposed future uses.

A Long Term Environmental Management Plan (LTEMP) should be prepared if the management strategy for the identified asbestos impact includes on-site containment, such as the placement of a marker and capping layer to address the long term site maintenance of the remedial strategy.

A Construction Environmental Management Plan (CEMP) should be prepared prior to redevelopment works, which documents the environmental monitoring and management measures required to be implemented during the remediation and construction related activities associated with the construction of the site.

12. Limitations

This report has been prepared for use by the client who has commissioned the works in accordance with the project brief only, and has been based in part on information obtained from the client and other parties.

The advice herein relates only to this project and all results conclusions and recommendations made should be reviewed by a competent person with experience in environmental investigations, before being used for any other purpose.

JBS&G accepts no liability for use or interpretation by any person or body other than the client who commissioned the works. This report should not be reproduced without prior approval by the client, or amended in any way without prior approval by JBS&G, and should not be relied upon by other parties, who should make their own enquires.

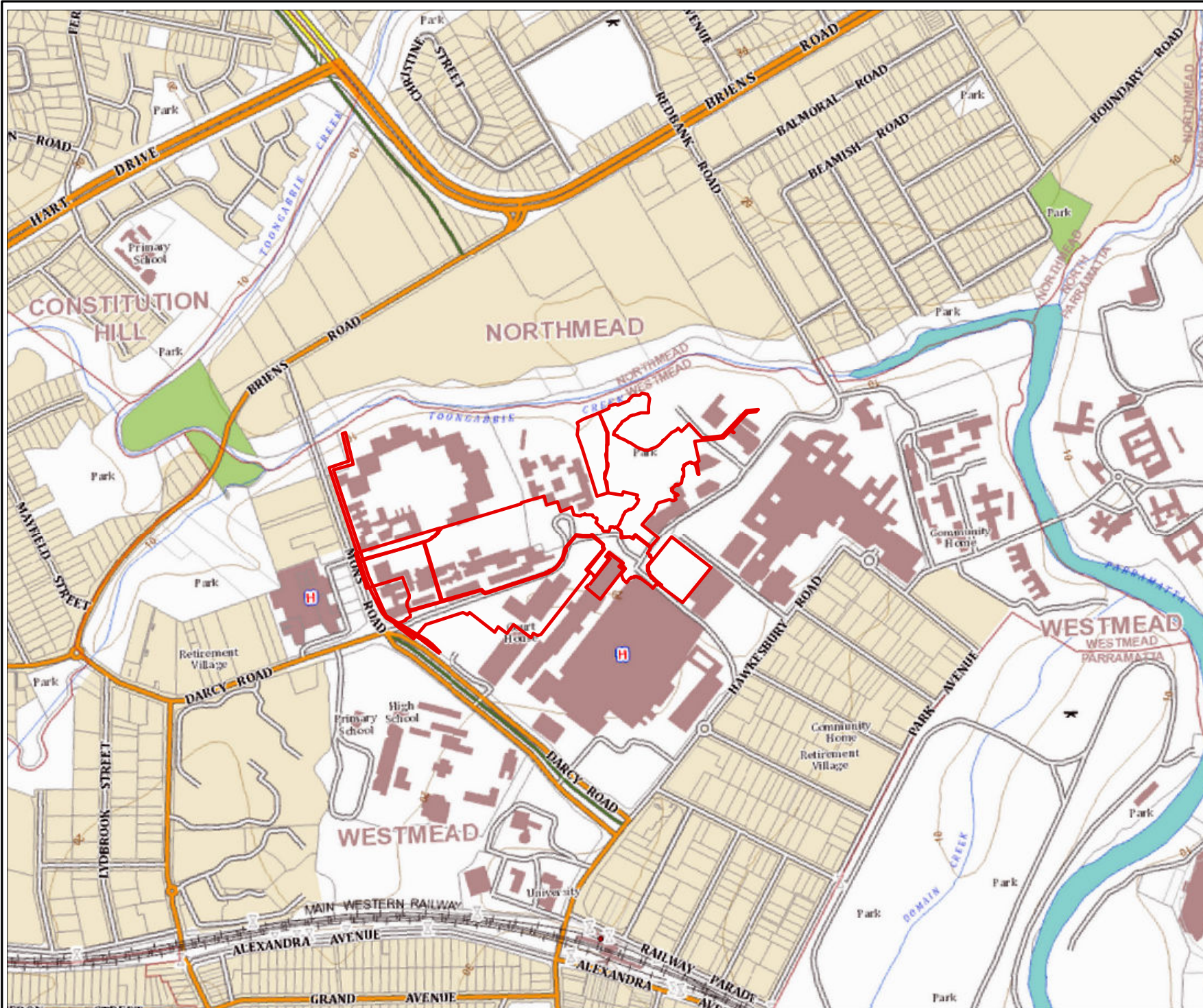
Sampling and chemical analysis of environmental media is based on appropriate guidance documents made and approved by the relevant regulatory authorities. Conclusions arising from the review and assessment of environmental data are based on the sampling and analysis considered appropriate based on the regulatory requirements.

Limited sampling and laboratory analyses were undertaken as part of the investigations undertaken, as described herein. Ground conditions between sampling locations and media may vary, and this should be considered when extrapolating between sampling points. Chemical analytes are based on the information detailed in the site history. Further chemicals or categories of chemicals may exist at the site, which were not identified in the site history and which may not be expected at the site.

Changes to the subsurface conditions may occur subsequent to the investigations described herein, through natural processes or through the intentional or accidental addition of contaminants. The conclusions and recommendations reached in this report are based on the information obtained at the time of the investigations.

This report does not provide a complete assessment of the environmental status of the site, and it is limited to the scope defined herein. Should information become available regarding conditions at the site including previously unknown sources of contamination, JBS&G reserves the right to review the report in the context of the additional information.

Figures



Legend:

Boundary_Assessment Area



Job No: 50369

Client: Health Infrastructure

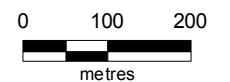
Version: R06 Rev B

Date: 28-May-2015

Drawn By: SE

Checked By: MH

Scale 1:9,000



Coor. Sys. GDA 1994 MGA Zone 56

**Health Infrastructure -
Westmead Hospital -
Stage 1 Early Works**

SITE LOCATION

FIGURE 1



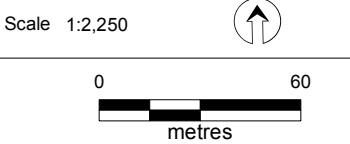
- Legend:**
- Boundary_Assessment Area
 - Boundary_ADHC_Westmead_Hospital
 - Boundary_Roadway
 - Trench
- Historical Features**
- Racetrack - Circa 1951-1970
 - Racetrack - Circa 1970-1978
 - Stockpile - Circa 1978



Job No: 50369

Client: Health Infrastructure

Version: R06 Rev B	Date: 29-May-2015
Drawn By: SE	Checked By: MH

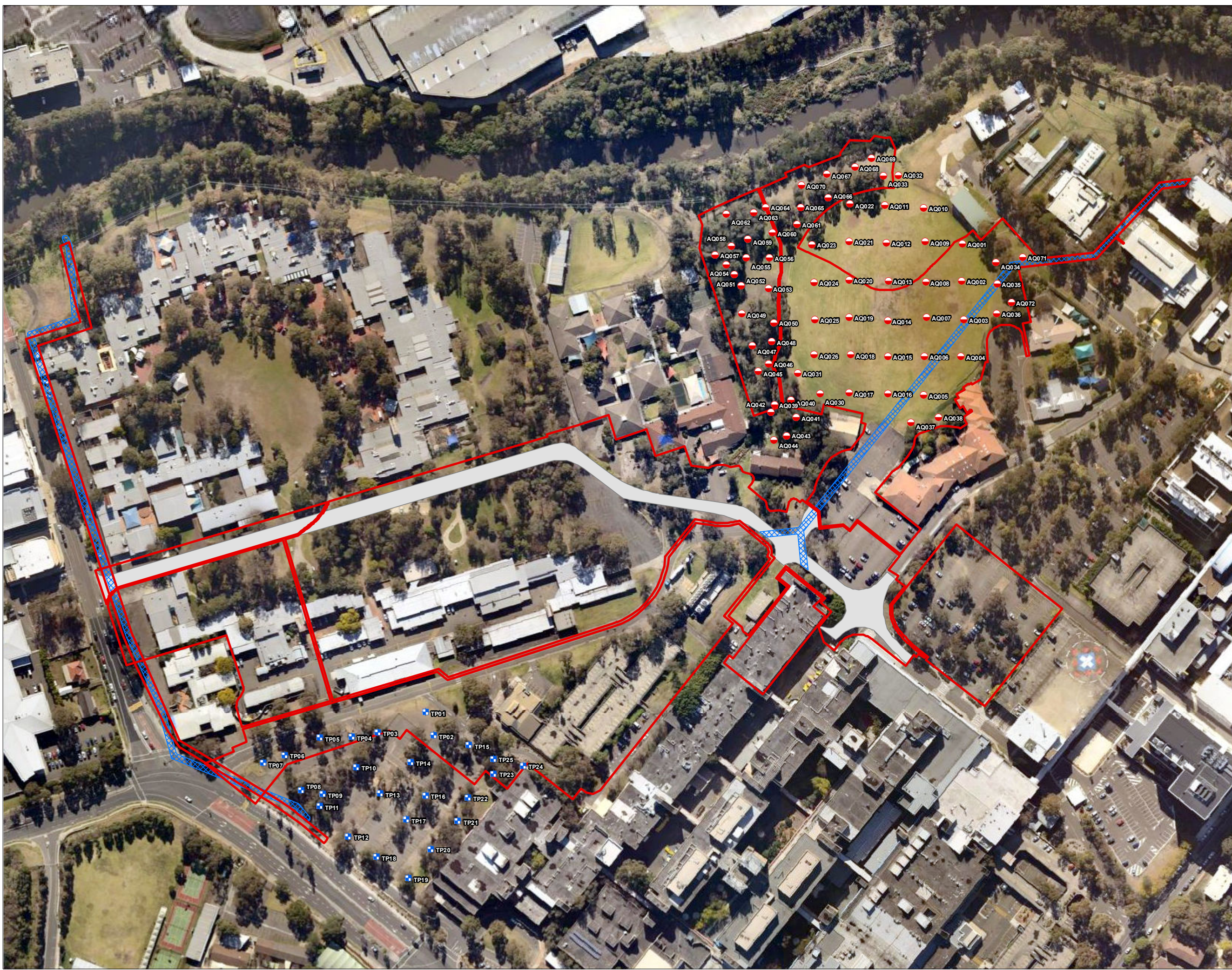


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Stage 1 Early Works**

SITE LAYOUT

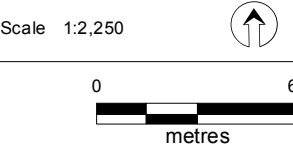
FIGURE 2:



- Legend:**
- Boundary_Assessment Area
 - Trench
 - Boundary Roadway
 - Sample Location JBS&G 2014a
 - Sample Location JBS&G 2014b



Job No: 50369
Client: Health Infrastructure
Version: R06 Rev B Date: 28-May-2015
Drawn By: SE Checked By: MH



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**HISTORICAL ASBESTOS
QUATIFICATION SAMPLE
LOCATIONS**

FIGURE 3:



- Legend:**
- Boundary_Assessment Area
 - Trench
 - Boundary Roadway
 - Sample Location



Job No: 50369

Client: Health Infrastructure

Version: R06 Rev B

Date: 29-May-2015

Drawn By: SE

Checked By: MH

Scale 1:2,250

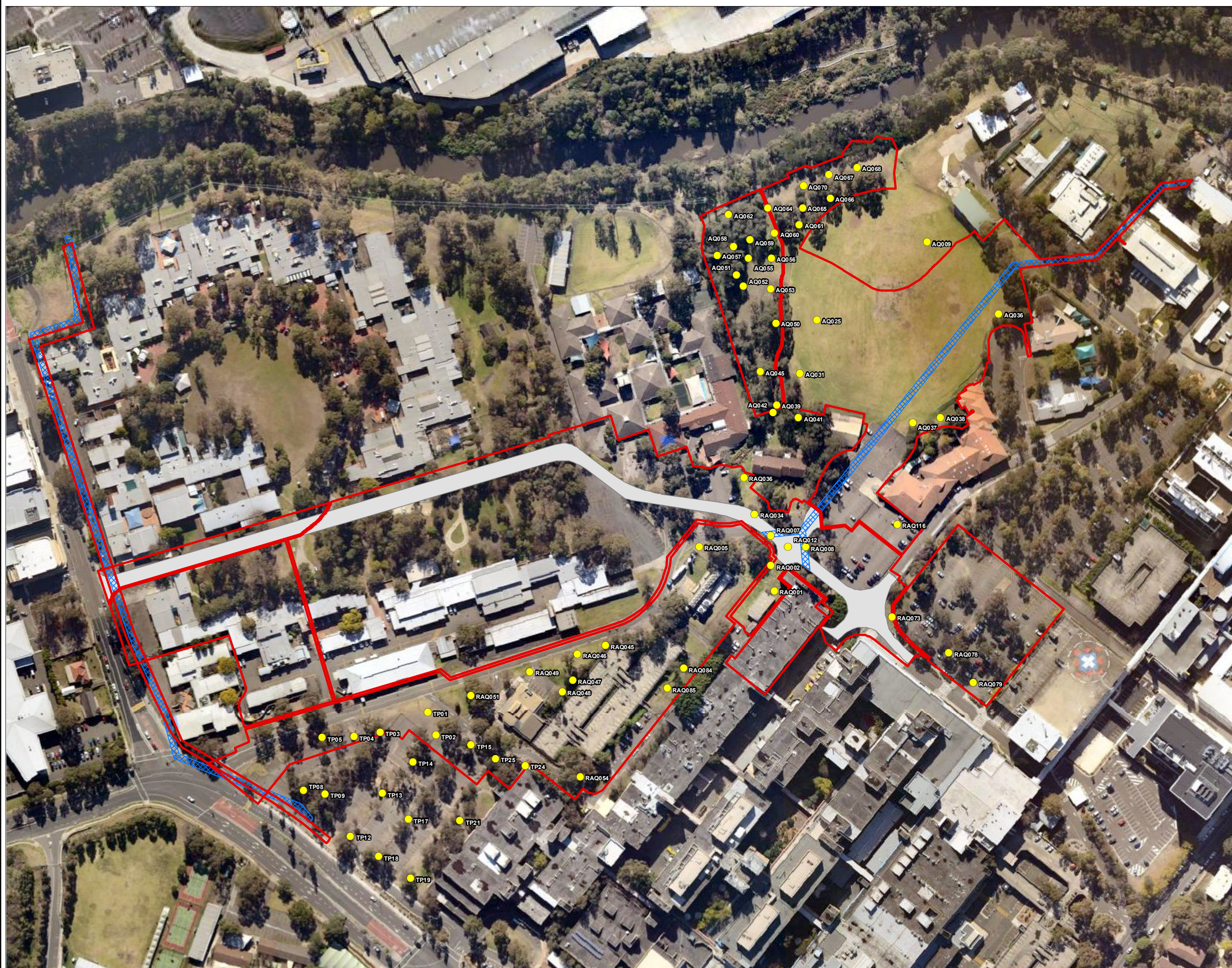


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**Health Infrastructure -
Westmead Hospital -
Stage 1 Early Works**

**CURRENT ASBESTOS
QUANTIFICATION SAMPLE
LOCATIONS**

FIGURE 4:



- Legend:**
- Boundary_Assessment Area
 - Trench
 - Boundary Roadway
 - Bonded ACM in Soil (0.0 - 1.0 m BGS)



Job No: 50369

Client: Health Infrastructure

Version: R06 Rev B

Date: 29-May-2015

Drawn By: SE

Checked By: MH

Scale 1:2,250



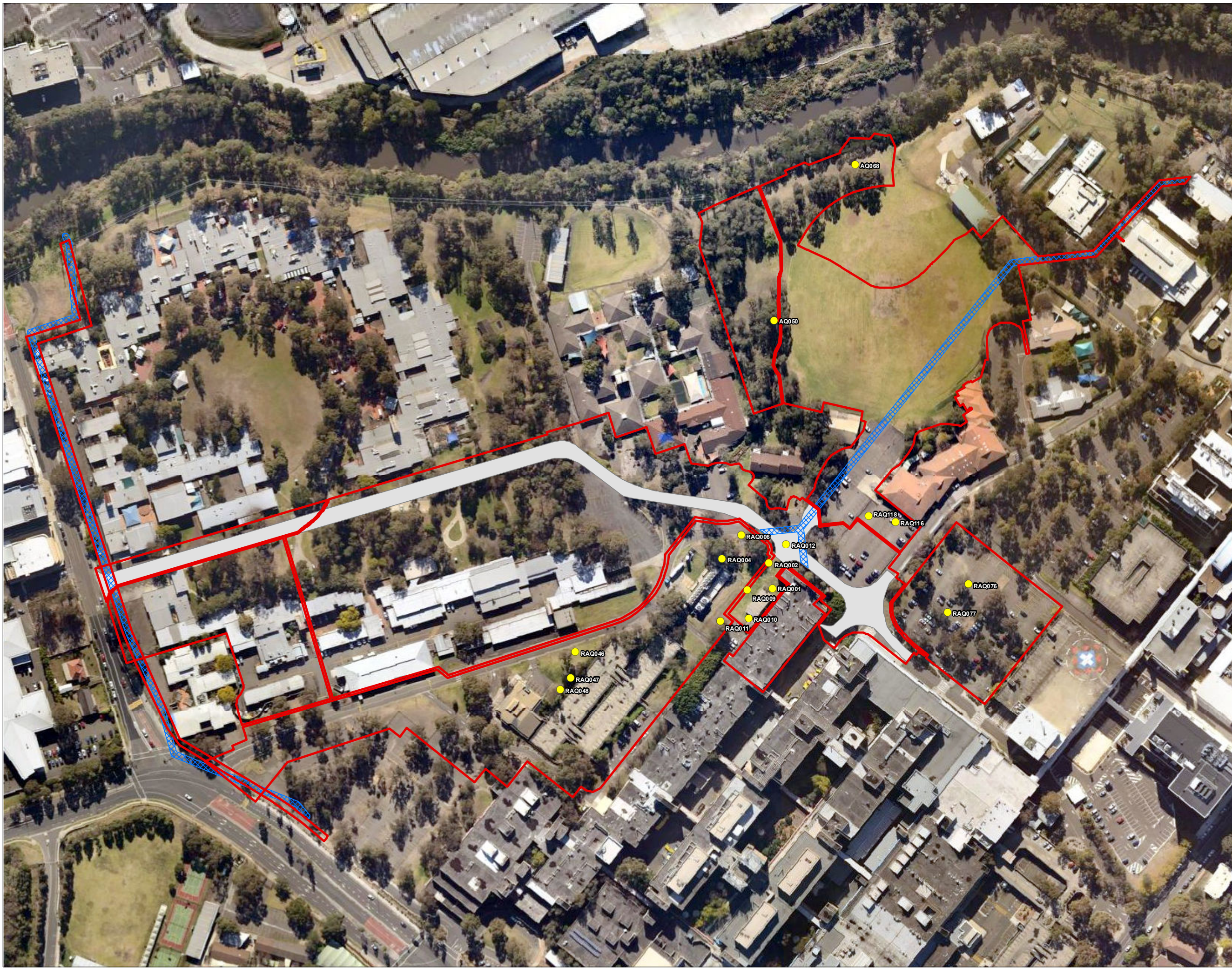
0 60
metres

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**Health Infrastructure -
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Stage 1 Early Works**

**KNOWN EXTENT OF BONDED
ACM IN SOIL EXCEEDANCES
(0.0 - 1.0 m BGS)**

FIGURE 5A:



- Legend:**
- Boundary_Assessment Area
 - Trench
 - Boundary Roadway
 - Bonded ACM in Soil (1.0 - 2.0 m BGS)



Job No: 50369
Client: Health Infrastructure
Version: R06 Rev B Date: 29-May-2015
Drawn By: SE Checked By: MH

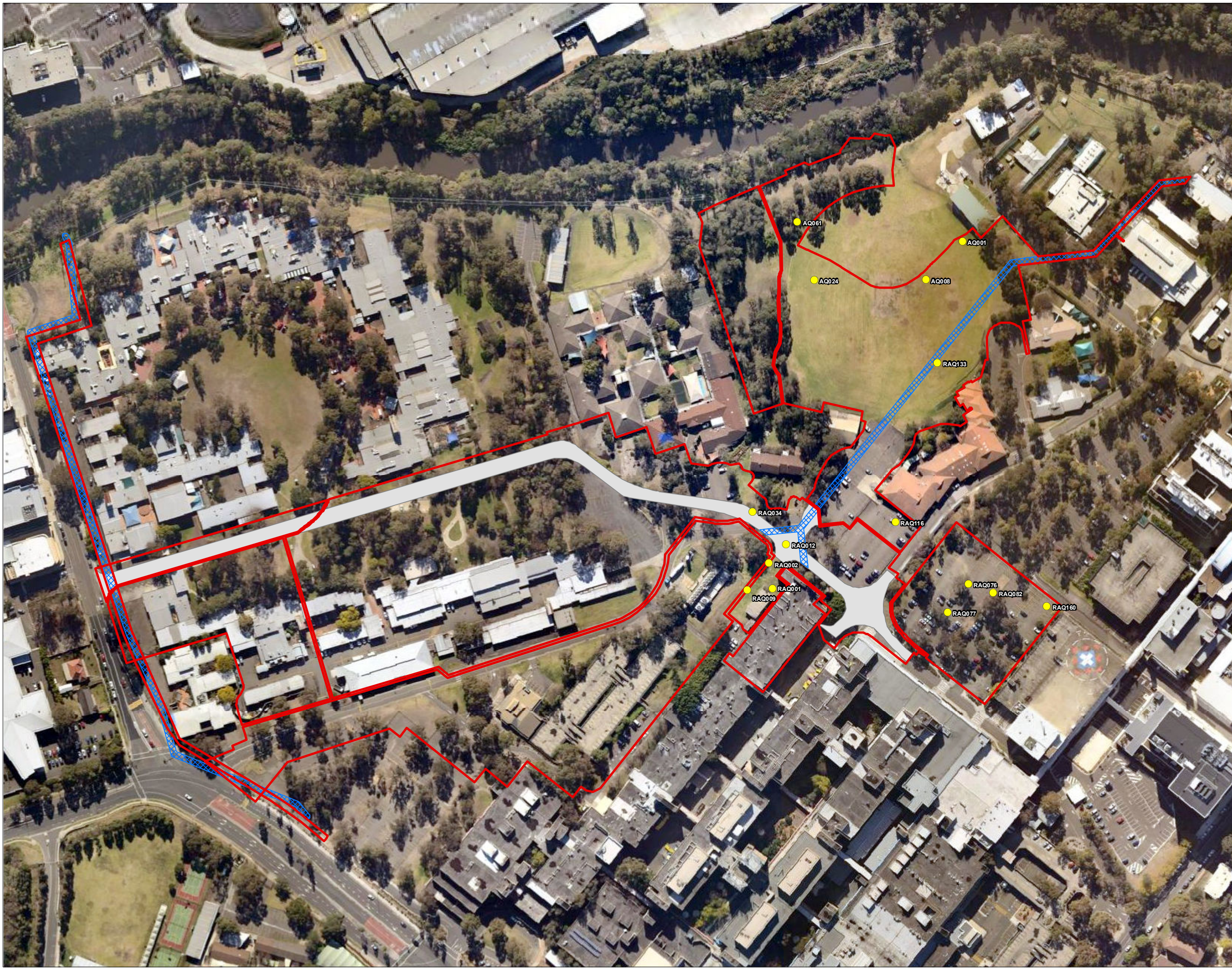
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metres

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Stage 1 Early Works**

**KNOWN EXTENT OF BONDED
ACM IN SOIL EXCEEDANCES
(1.0 - 2.0 m BGS)**

FIGURE 5B:



- Legend:**
- Boundary_Assessment Area
 - Trench
 - Boundary Roadway
 - Bonded ACM in Soil (2.0 - 3.0 m BGS)



Job No: 50369
Client: Health Infrastructure
Version: R06 Rev B Date: 29-May-2015
Drawn By: SE Checked By: MH

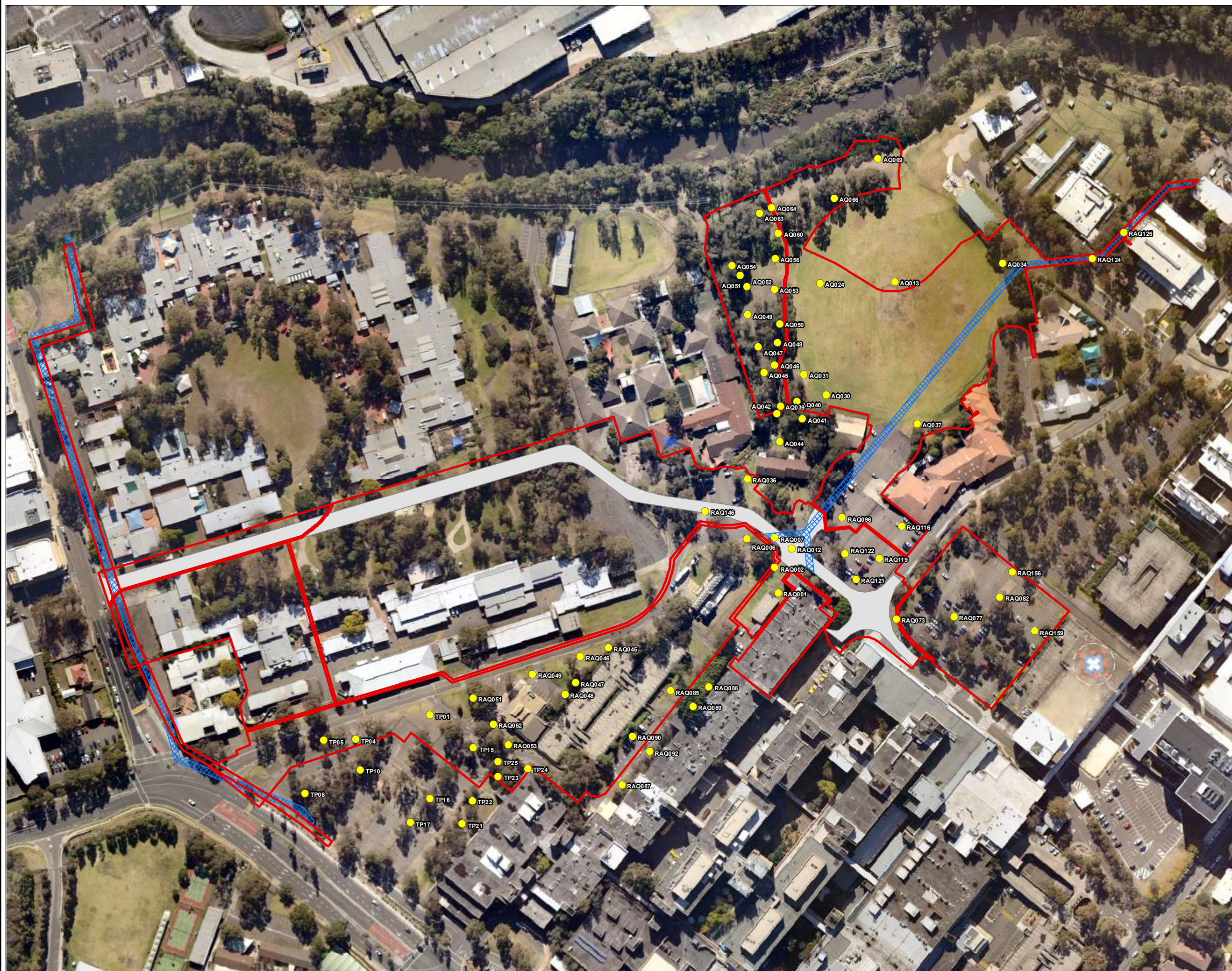
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**Health Infrastructure -
Westmead Hospital -
Stage 1 Early Works**

**KNOWN EXTENT OF BONDED
ACM IN SOIL EXCEEDANCES
(2.0 - 3.0 m BGS)**

FIGURE 5C:



- Legend:**
- Boundary_Assessment Area
 - Trench
 - Boundary Roadway
 - FA/AF in Soil (0.0 - 1.0 m BGS)



Job No: 50369
Client: Health Infrastructure
Version: R06 Rev B Date: 29-May-2015
Drawn By: SE Checked By: MH

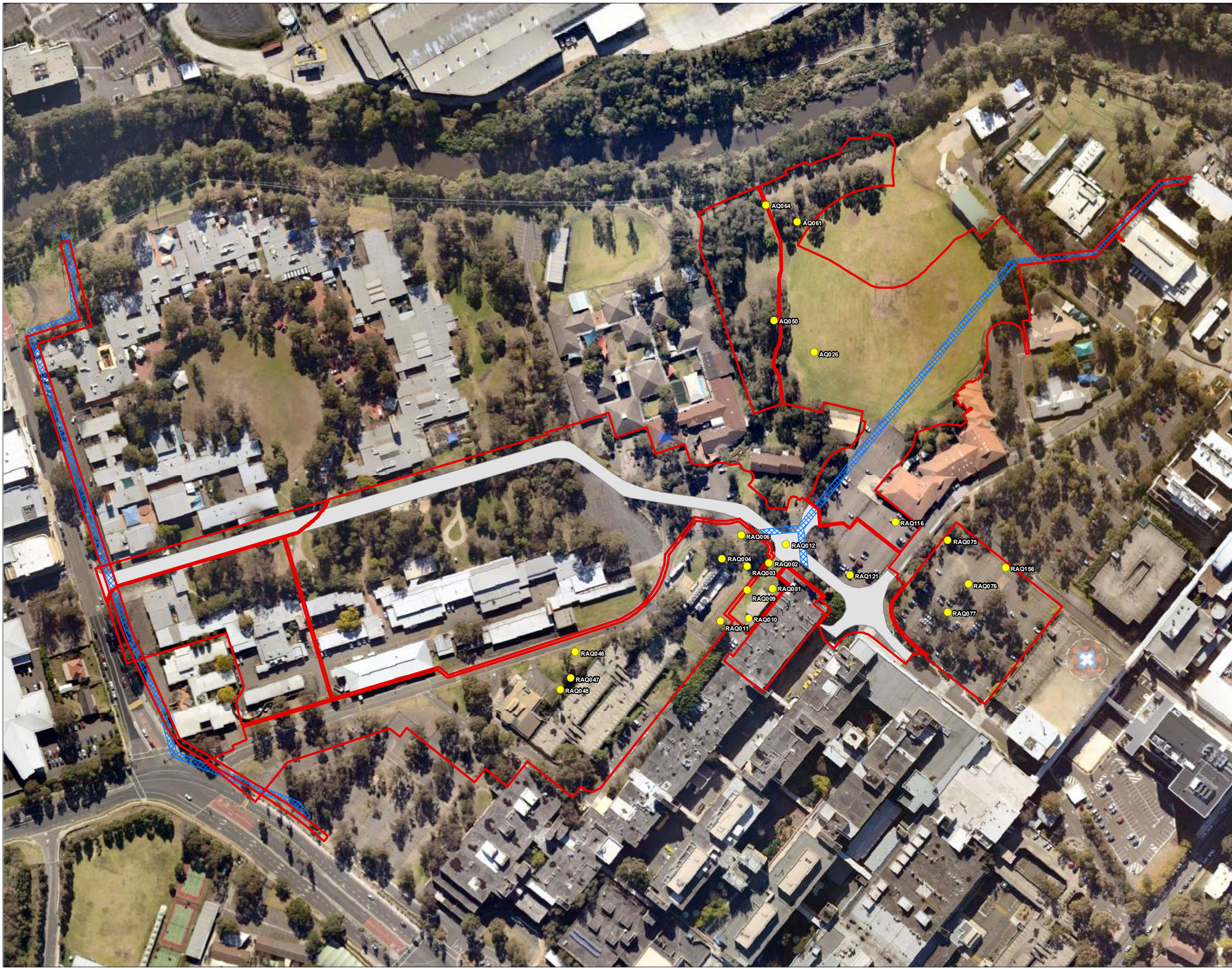
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KNOWN EXTENT OF FA/AF
IN SOIL EXCEEDANCES
(0.0 - 1.0 m BGS)

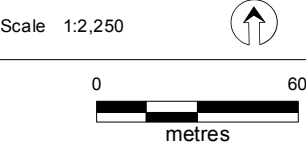
FIGURE 6A:



- Legend:**
- Boundary_Assessment Area
 - Trench
 - Boundary Roadway
 - FA/AF in Soil (1.0 - 2.0 m BGS)



Job No: 50369
Client: Health Infrastructure
Version: R06 Rev B Date: 29-May-2015
Drawn By: SE Checked By: MH

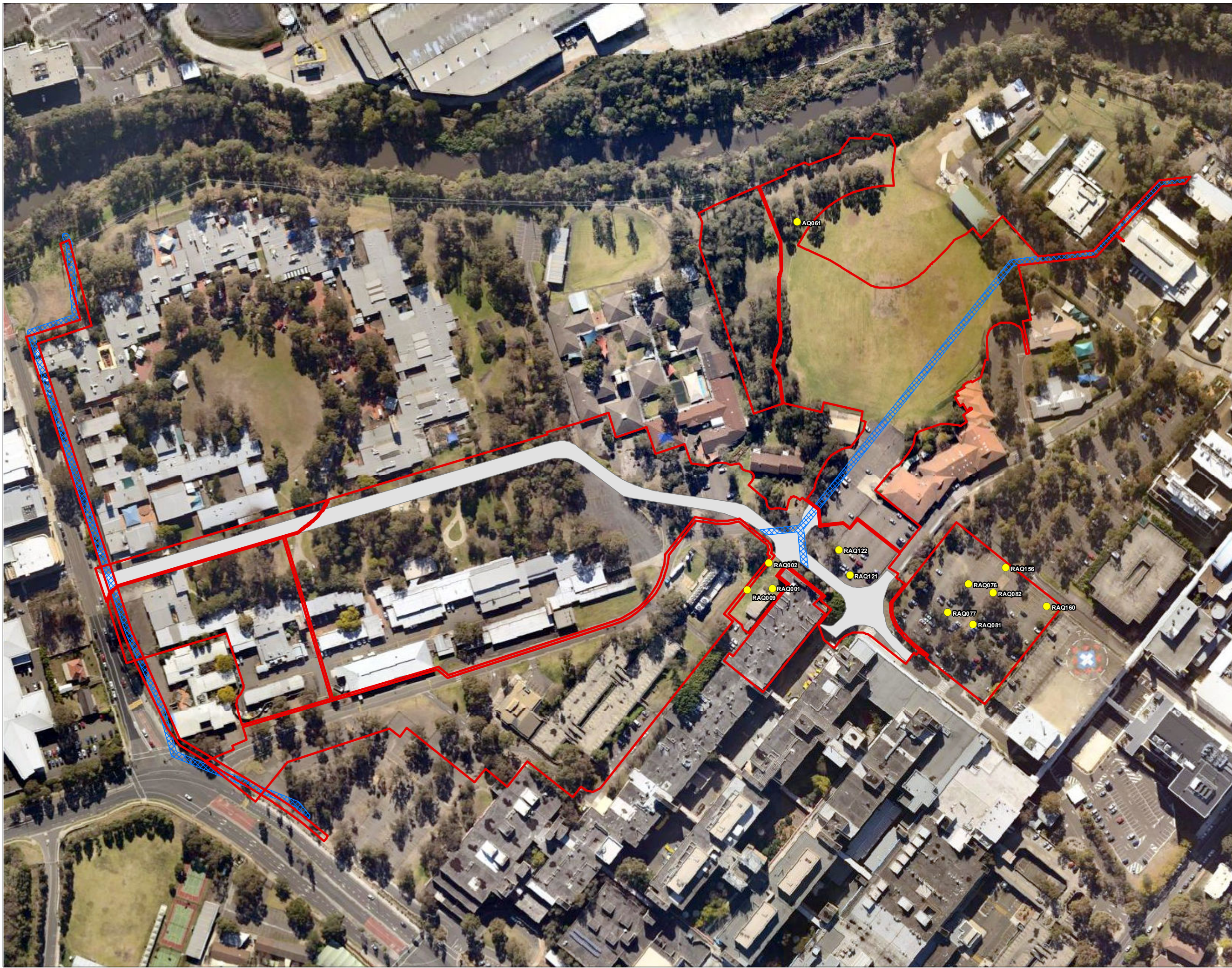


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**Health Infrastructure -
Westmead Hospital -
Stage 1 Early Works**

**KNOWN EXTENT OF FA/AF
IN SOIL EXCEEDANCES
(1.0 - 2.0 m BGS)**

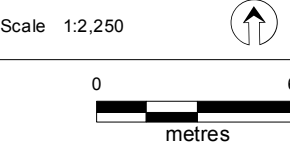
FIGURE 6B:



- Legend:**
- Boundary_Assessment Area
 - Trench
 - Boundary Roadway
 - FA/AF in Soil (2.0 - 3.0 m BGS)



Job No: 50369
Client: Health Infrastructure
Version: R06 Rev B Date: 29-May-2015
Drawn By: SE Checked By: MH



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**Health Infrastructure -
Westmead Hospital -
Stage 1 Early Works**

**KNOWN EXTENT OF FA/AF
IN SOIL EXCEEDANCES
(2.0 - 3.0 m BGS)**

FIGURE 6C:



- Legend:**
- Boundary_Seperable Portions
 - Boundary_Roadway
 - Trench
 - Extent of Remediation



Job No: 50369
Client: Health Infrastructure
Version: R06 Rev B Date: 07-Jul-2015
Drawn By: SE Checked By: MH

Scale 1:2,250

0 60
metres

Coord. Sys. GDA 1994 MGA Zone 56

**Health Infrastructure -
Westmead Hospital -
Stage 1 Early Works**

**APPROXIMATE EXTENT
OF REMEDIATION**

FIGURE 7:

Summary Tables

Table A: Asbestos Quantification Summary Table



Asbestos Concentration in Soils (JBS&G 2015b)		
Category	Criteria	Exceedance
Visible Surface Asbestos	No Visible ACM	Number
Bonded ACM in soils	0.025% w/w	Number
FA and AF in soils	0.01% w/w	Number

Sample Information				Field Asbestos Quantification								Laboratory Analysis										Trace Analysis
Sample ID	Data Source	Date	Lab Report Number	Approx. Volume of Soil (L)	Soil Mass (g)	Mass ACM (g)	Mass Asbestos in ACM (g)	[Asbestos from ACM in soil] (%w/w)	Mass FA (g)	Mass Asbestos in FA (g)	[Asbestos from FA in soil] (%w/w)	Sample Mass (g)	Mass ACM (g)	Mass Asbestos in ACM (g)	[Asbestos from ACM in soil] (%w/w)	Mass FA (g)	Mass Asbestos in FA (g)	AF Mass (g)	Mass Asbestos in AF (g)	Mass Asbestos in FA & AF (g)	[Asbestos from FA & AF in soil] (%w/w)	
RAQ001-0-1	2015	2015.01.17	444926	10.00	16300.00	No ACM observed	-	-	No FA observed	-	-	707	26.8419	4.0263	0.5698	13.4290	4.7002	8.1607	6.5286	11.2288	1.5891	Organic fibre detected.
RAQ001-1-2	2015	2015.01.17	444926	10.00	16300.00	No ACM observed	-	-	No FA observed	-	-	718	4.2000	0.6300	0.0877	0.1010	0.6060	0.9021	0.7217	1.3277	0.1089	Organic fibre detected.
RAQ001-2-3	2015	2015.01.17	444926	10.00	16300.00	No ACM observed	-	-	No FA observed	-	-	623	32.1100	4.8165	0.7726	0.4310	0.2478	0.6182	0.4946	0.7424	0.1191	Organic fibre detected.
RAQ002-0-1	2015	2015.01.17	444926	10.00	16300.00	No ACM observed	-	-	No FA observed	-	-	708	8.0942	1.2141	0.1716	0.0378	0.0227	1.3669	1.0935	1.1162	0.1577	Organic fibre detected.
RAQ002-1-2	2015	2015.01.29	446405	10.00	16300.00	124.13	18.6195	0.1142	2.24	2.24	0.0137	636	2.1536	0.3230	0.0508	0.8971	0.3588	0.8000	0.8000	1.1588	0.1821	Organic fibre detected.
RAQ002-2-3	2015	2015.01.29	446405	10.00	16300.00	108.38	16.2570	0.0997	No FA observed	-	-	789	0.0000	0.0000	<LOR	0.8971	0.3588	0.6500	0.6500	1.0088	0.1278	Organic fibre detected.
RAQ003-0-1	2015	2015.01.29	446405	10.00	16300.00	18.99	2.8485	0.0175	No FA observed	-	-	580	0.0000	0.0000	<LOR	0.0021	0.0015	0.0080	0.0080	0.0095	0.0016	Organic fibre detected.
RAQ003-1-2	2015	2015.01.29	446405	10.00	16300.00	25.57	3.8355	0.0235	1.42	1.42	0.0087	742	0.8423	0.1263	0.0170	0.0221	0.0133	0.4000	0.4000	0.4133	0.0557	Organic fibre detected.
RAQ004-0-1	2015	2015.01.29	446405	10.00	16300.00	20.23	3.0345	0.0186	No FA observed	-	-	743	0.0000	0.0000	<LOR	0.0000	0.0000	0.1446	0.0723	0.0723	0.0097	Organic fibre detected.
RAQ004-1-2	2015	2015.01.29	446405	10.00	16300.00	92.55	13.8825	0.0852	13.10	13.10	0.0804	775	0.0000	0.0000	<LOR	0.0419	0.0293	0.0100	0.0100	0.0393	0.0051	Organic fibre detected.
RAQ005-0-1	2015	2015.01.29	446405	10.00	16300.00	88.02	13.2030	0.0810	No FA observed	-	-	645	0.0000	0.0000	<LOR	0.0181	0.0127	0.0080	0.0080	0.0207	0.0029	Organic fibre detected.
RAQ006-0-1	2015	2015.01.29	446405	10.00	16300.00	10.89	1.6335	0.0100	No FA observed	-	-	645	0.0000	0.0000	<LOR	0.1151	0.0806	0.1334	0.0267	0.1073	0.0166	Organic fibre detected.
RAQ006-1-2	2015	2015.01.29	446405	10.00	16300.00	314.37	47.1555	0.2893	2.77	2.77	0.0170	789	0.0000	0.0000	<LOR	0.4182	0.2509	0.1862	0.0372	0.2882	0.0367	Organic fibre detected.
RAQ007-0-1	2015	2015.01.29	446405	10.00	16300.00	1.70	0.2550	0.0016	No FA observed	-	-	626	1.3896	0.2084	0.0333	0.1112	0.0778	0.0018	0.0018	0.0796	0.0127	Organic fibre detected.
RAQ008-0-1	2015	2015.01.29	446405	10.00	16300.00	48.00	7.2000	0.0442	No FA observed	-	-	867	0.0000	0.0000	<LOR	0.0000	0.0000	0.0300	0.0300	0.0300	0.0035	Organic fibre detected.
RAQ009-0-1	2015	2015.01.29	446405	10.00	16300.00	No ACM observed	-	-	No FA observed	-	-	702	0.0000	0.0000	<LOR	0.0000	0.0000	0.0250	0.0250	0.0250	0.0036	Organic fibre detected.
RAQ009-1-2	2015	2015.01.29	446405	10.00	16300.00	627.90	94.1850	0.5778	4.24	4.24	0.0260	549	0.0000	0.0000	<LOR	0.2241	0.1569	0.0350	0.0350	0.1919	0.0350	Organic fibre detected.
RAQ009-2-3	2015	2015.01.29	446405	10.00	16300.00	161.96	24.2940	0.1490	17.00	17.00	0.1043	765	13.4527	2.0179	0.2637	0.8861	0.5317	0.0350	0.0350	0.5667	0.0740	Organic fibre detected.
RAQ010-0-1	2015	2015.01.29	446405	10.00	16300.00	No ACM observed	-	-	No FA observed	-	-	686	0.0000	0.0000	<LOR	0.0000	0.0000	0.0200	0.0200	0.0200	0.0029	Organic fibre detected.
RAQ010-1-2	2015	2015.01.29	446405	10.00	16300.00	224.72	33.7080	0.2068	1.81	1.81	0.0111	676	12.9345	1.9402	0.2869	0.0785	0.0471	0.1500	0.1500	0.1971	0.0291	Organic fibre detected.
RAQ010-2-3	2015	2015.01.29	446405	10.00	16300.00	No ACM observed	-	-	No FA observed	-	-	659	0.0000	0.0000	<LOR	0.0000	0.0000	0.0157	0.0024	0.0024	<LOR	Organic fibre detected.
RAQ011-0-1	2015	2015.01.29	446405	10.00	16300.00	No ACM observed	-	-	No FA observed	-	-	570	0.0000	0.0000	<LOR	0.0000	0.0000	0.0150	0.0150	0.0150	0.0026	Organic fibre detected.
RAQ011-1-2	2015	2015.01.29	446405	10.00	16300.00	30.74	4.6110	0.0283	No FA observed	-	-	759	20.2964	3.0445	0.4103	1.1136	0.6682	0.0500	0.0500	0.7182	0.0947	Organic fibre detected.
RAQ012-0-1	2015	2015.01.29	446405	10.00	16300.00	57.65	8.6475	0.0531	No FA observed	-	-	602	4.6989	0.7048	0.1170	1.5055	1.2044	0.0500	0.0500	1.2544	0.2083	Organic fibre detected.
RAQ012-1-2	2015	2015.01.29	446405	10.00	16300.00	163.94	24.5910	0.1509	1.43	1.43	0.0088	806	0.0000	0.0000	<LOR	0.1491	0.0895	0.0700	0.0700	0.1595	0.0198	Organic fibre detected.
RAQ012-2-3	2015	2015.01.29	446405	10.00	16300.00	75.71	11.3565	0.0697	No FA observed	-	-	731	0.0000	0.0000	<LOR	0.0335	0.0134	0.0160	0.0160	0.0294	0.0040	Organic fibre detected.
RAQ013-0-1	2015	2015.01.29	446405	10.00	16300.00	25.00	3.7500	0.0230	No FA observed	-	-	794	0.0000	0.0000	<LOR	0.0000	0.0000	0.0380	0.0380	0.0380	0.0048	Organic fibre detected.
RAQ014-0-1	2015	2015.01.29	446405	10.00	16300.00	No ACM observed	-	-	No FA observed	-	-	794	0.0000	0.0000	<LOR	0.0000	0.0000	0.0020	0.0020	0.0020	<LOR	Organic fibre detected.
RAQ014-1-2	2015	2015.01.29	446405	10.00	16300.00	19.81	2.9715	0.0182	No FA observed	-	-	845	0.0000	0.0000	<LOR	0.0000	0.0000	0.0015	0.0015	0.0015	<LOR	Organic fibre detected.
RAQ014-2-3	2015	2015.01.29	446405	10.00	16300.00	No ACM observed	-	-	No FA observed	-	-	530	0.0000	0.0000	<LOR	0.0000	0.0000	0.0035	0.0035	0.0035	<LOR	Organic fibre detected.
RAQ015-0-1	2015	2015.01.29	446405	10.00	16300.00	No ACM observed	-	-	No FA observed	-	-	738	0.0000	0.0000	<LOR	0.0046	0.0032	0.0000	0.0000	0.0032	<LOR	Organic fibre detected.
RAQ015-1-2	2015	2015.01.29	446405	10.00	16300.00	No ACM observed	-	-	No FA observed	-	-	793	0.0000	0.0000	<LOR	0.0678	0.0407	0.0000	0.0000	0.0407	0.0051	Organic fibre detected.
RAQ015-2-3	2015	2015.01.29	446405	10.00	16300.00	No ACM observed	-	-	No FA observed	-	-	894	0.0000	0.0000	<LOR	0.0000	0.0000	0.0035	0.0035	0.0035	<LOR	Organic fibre detected.
RAQ016-0-1	2015	2015.01.29	446405	10.00	16300.00	12.42	1.8630	0.0114	No FA observed	-												



Asbestos Concentration in Soils (JBS&G 2015b)		
Category	Criteria	Exceedance
Visible Surface Asbestos	No Visible ACM	Number
Bonded ACM in soils	0.025% w/w	Number
FA and AF in soils	0.01% w/w	Number

Sample Information				Field Asbestos Quantification								Laboratory Analysis										
Sample ID	Data Source	Date	Lab Report Number	Approx. Volume of Soil (L)	Soil Mass (g)	Mass ACM (g)	Mass Asbestos in ACM (g)	[Asbestos from ACM in soil] (%w/w)	Mass FA (g)	Mass Asbestos in FA (g)	[Asbestos from FA in soil] (%w/w)	Sample Mass (g)	Mass ACM (g)	Mass Asbestos in ACM (g)	[Asbestos from ACM in soil] (%w/w)	Mass FA (g)	Mass Asbestos in FA (g)	AF Mass (g)	Mass Asbestos in AF (g)	Mass Asbestos in FA & AF (g)	[Asbestos from FA & AF in soil] (%w/w)	Trace Analysis
RAQ034-1-2	2015	2015.01.31	446405	10.00	16300.00	No ACM observed	-	-	No FA observed	-	-	802	0.0000	0.0000	<LOR	0.0000	0.0000	0.0000	0.0000	0.0000	<LOR	Organic fibre detected. No respirable fibres detected.
RAQ035-0-1	2015	2015.01.31	446405	10.00	16300.00	No ACM observed	-	-	No FA observed	-	-	660	0.0000	0.0000	<LOR	0.0052	0.0036	0.0400	0.0400	0.0436	0.0066	Organic fibre detected.
RAQ036-0-1	2015	2015.01.31	446405	10.00	16300.00	33.36	5.0040	0.0307	1.03	1.03	0.0063	835	0.0000	0.0000	<LOR	0.0786	0.0629	0.1145	0.0229	0.0858	0.0103	Organic fibre detected.
RAQ037-0-1	2015	2015.02.02	446405	10.00	16300.00	No ACM observed	-	-	No FA observed	-	-	864	0.0000	0.0000	<LOR	0.0000	0.0000	0.0000	0.0000	0.0000	<LOR	Organic fibre detected. No respirable fibres detected.
RAQ038-0-1	2015	2015.02.02	446405	10.00	16300.00	No ACM observed	-	-	No FA observed	-	-	791	0.0000	0.0000	<LOR	0.0000	0.0000	0.0000	0.0000	0.0000	<LOR	Organic fibre detected. No respirable fibres detected.
RAQ039-0-1	2015	2015.02.02	446405	10.00	16300.00	No ACM observed	-	-	No FA observed	-	-	641	0.0000	0.0000	<LOR	0.0000	0.0000	0.0000	0.0000	0.0000	<LOR	Organic fibre detected. No respirable fibres detected.
RAQ040-0-1	2015	2015.02.02	446405	10.00	16300.00	No ACM observed	-	-	No FA observed	-	-	805	0.0000	0.0000	<LOR	0.0000	0.0000	0.0000	0.0000	0.0000	<LOR	Organic fibre detected. No respirable fibres detected.
RAQ041-0-1	2015	2015.02.02	446405	10.00	16300.00	No ACM observed	-	-	No FA observed	-	-	752	0.0000	0.0000	<LOR	0.0000	0.0000	0.0000	0.0000	0.0000	<LOR	Organic fibre detected. No respirable fibres detected.
RAQ042-0-1	2015	2015.02.02	446405	10.00	16300.00	No ACM observed	-	-	No FA observed	-	-	736	0.0000	0.0000	<LOR	0.0000	0.0000	0.0000	0.0000	0.0000	<LOR	Organic fibre detected. No respirable fibres detected.
RAQ043-0-1	2015	2015.02.02	446405	10.00	16300.00	9.87	1.4805	0.0091	No FA observed	-	-	632	0.0000	0.0000	<LOR	0.0060	0.0042	0.0150	0.0150	0.0192	0.0030	Organic fibre detected.
RAQ044-0-1	2015	2015.02.02	446405	10.00	16300.00	No ACM observed	-	-	No FA observed	-	-	705	0.0000	0.0000	<LOR	0.0000	0.0000	0.0000	0.0000	0.0000	<LOR	Organic fibre detected. No respirable fibres detected.
RAQ045-0-1	2015	2015.01.30	446405	10.00	16300.00	296.44	44.4660	0.2728	No FA observed	-	-	608	17.8000	2.6700	0.4395	0.3078	0.2462	0.0242	0.0242	0.2704	0.0445	Organic fibre detected.
RAQ046-0-1	2015	2015.01.30	446405	10.00	16300.00	312.22	46.8330	0.2873	No FA observed	-	-	661	21.6942	3.2541	0.4926	1.5578	0.9347	0.3187	0.3187	1.2534	0.1897	Organic fibre detected.
RAQ046-1-2	2015	2015.01.30	446405	10.00	16300.00	162.59	24.3885	0.1496	No FA observed	-	-	418	10.1700	1.5255	0.3651	0.4309	0.2585	0.2036	0.2036	0.4621	0.1106	Organic fibre detected.
RAQ047-0-1	2015	2015.01.30	446405	10.00	16300.00	417.45	62.6175	0.3842	No FA observed	-	-	627	6.6539	0.9981	0.1592	5.1770	3.1062	0.6021	0.4215	3.5277	0.5628	Organic fibre detected.
RAQ047-1-2	2015	2015.01.30	446405	10.00	16300.00	171.69	25.7535	0.1580	128.61	128.61	0.7890	588	24.6604	3.6991	0.6293	0.2400	0.1440	0.2815	0.2815	0.4255	0.0724	Organic fibre detected.
RAQ048-0-1	2015	2015.01.30	446405	10.00	16300.00	195.13	29.2695	0.1796	No FA observed	-	-	573	11.9801	1.7970	0.3138	3.6970	2.2182	0.2840	0.2840	2.5022	0.4370	Organic fibre detected.
RAQ048-1-2	2015	2015.01.30	446405	10.00	16300.00	212.71	31.9065	0.1957	53.00	53.00	0.3252	689	20.3682	3.0552	0.4432	1.2561	0.7537	0.3339	0.3339	1.0876	0.1578	Organic fibre detected.
RAQ049-0-1	2015	2015.01.30	446405	10.00	16300.00	382.44	57.3660	0.3519	No FA observed	-	-	611	42.2642	6.3396	1.0376	1.0232	0.6139	0.2839	0.2839	0.8978	0.1469	Organic fibre detected.
RAQ050-0-1	2015	2015.01.30	446405	10.00	16300.00	No ACM observed	-	-	No FA observed	-	-	789	0.0000	0.0000	<LOR	0.0000	0.0000	0.0000	0.0000	0.0000	<LOR	Organic fibre detected. No respirable fibres detected.
RAQ050-1-2	2015	2015.01.30	446405	10.00	16300.00	No ACM observed	-	-	No FA observed	-	-	728	0.0000	0.0000	<LOR	0.0000	0.0000	0.0000	0.0000	0.0000	<LOR	Organic fibre detected. No respirable fibres detected.
RAQ051-0-1	2015	2015.01.30	446405	10.00	16300.00	71.68	10.7520	0.0660	No FA observed	-	-	703	0.0000	0.0000	<LOR	0.2586	0.0776	0.0281	0.0281	0.1057	0.0150	Organic fibre detected.
RAQ052-0-1	2015	2015.01.30	446405	10.00	16300.00	No ACM observed	-	-	No FA observed	-	-	680	0.3853	0.0578	<LOR	0.3368	0.1684	0.0103	0.0103	0.1787	0.0263	Organic fibre detected.
RAQ053-0-1	2015	2015.01.30	446405	10.00	16300.00	11.61	1.7415	0.0107	No FA observed	-	-	515	0.0000	0.0000	<LOR	0.1420	0.0710	0.0020	0.0020	0.0730	0.0142	Organic fibre detected.
RAQ053-1-2	2015	2015.01.30	446405	10.00	16300.00	12.19	1.8285	0.0112	No FA observed	-	-	703	0.0000	0.0000	<LOR	0.0026	0.0018	0.0005	0.0005	0.0023	<LOR	Organic fibre detected.
RAQ054-0-1	2015	2015.02.03	446405	10.00	16300.00	133.48	20.0220	0.1228	No FA observed	-	-	505	0.0000	0.0000	<LOR	0.0252	0.0151	0.0056	0.0056	0.0207	0.0041	Organic fibre detected.
RAQ054-1-2	2015	2015.02.03	446405	10.00	16300.00	3.47	0.5205	0.0032	No FA observed	-	-	633	0.0000	0.0000	<LOR	0.0209	0.0125	0.0344	0.0344	0.0469	0.0074	Organic fibre detected.
RAQ055-0-1	2015	2015.02.03	446405	10.00	16300.00	No ACM observed	-	-	No FA observed	-	-	626	0.0000	0.0000	<LOR	0.0000	0.0000	0.0000	0.0000	0.0000	<LOR	Organic fibre detected. No respirable fibres detected.
RAQ055-1-2	2015	2015.02.03	446405	10.00	16300.00	1.89	0.2835	0.0017	No FA observed	-	-	776	0.0000	0.0000	<LOR	0.0170	0.0119	0.0502	0.0502	0.0621	0.0080	Organic fibre detected.
RAQ056-0-1	2015	2015.02.04	446405	10.00	16300.00	No ACM observed	-	-	No FA observed	-	-	735	0.0000	0.0000	<LOR	0.0000	0.0000	0.0000	0.0000	0.0000	<LOR	Organic fibre detected. No respirable fibres detected.
RAQ057-0-1	2015	2015.02.04	446405	10.00	16300.00	No ACM observed	-	-	No FA observed	-	-	538	0.0000	0.0000	<LOR	0.0000	0.0000	0.0000	0.0000	0.0000	<LOR	Organic fibre detected. No respirable fibres detected.
RAQ058-0-1	2015	2015.02.04	446405	10.00	16300.00	No ACM observed	-	-	No FA observed	-	-	481	0.0000	0.0000	<LOR	0.0000	0.0000	0.0000	0.0000	0.0000	<LOR	Organic fibre detected. No respirable fibres detected.
RAQ059-0-1	2015	2015.02.04	446405	10.00	16300.00	No ACM observed	-	-	No FA observed	-	-	626	0.0000	0.0000	<LOR	0.0000	0.0000	0.0000	0.0000	0.0000	<LOR	Organic fibre detected. No respirable fibres detected.
RAQ060-0-1	2015	2015.02.04	446405	10.00	16300.00	No ACM observed	-	-	No FA observed	-	-	510	0.0000	0.0000	<LOR	0.0000	0.0000	0.0000	0.0000	0.0000	<LOR	Organic fibre detected. No respirable fibres detected.
RAQ061-0-1	2015	2015.02.05	447132	10.00	16300.00	No ACM observed	-	-	0.68	0.68	0.0042	778	0.0000	0.0000	<LOR	0.0510	0.0153	0.1186	0.0356	0.0509	0.0065	Organic fibre detected. No respirable fibres detected.
RAQ062-0-1	2015	2015.02.05	447132	10.00	16300.00	No ACM observed	-	-	No FA observed	-	-	774	0.0000	0.0000	<LOR	0.0000	0.0000	0.0000	0.0000	0.0000	<LOR	Organic fibre detected. No respirable fibres detected.
RAQ063-0-1	2015	2015.02.05	447132	10.00	16300.00	No ACM observed	-	-	No FA observed	-	-	734	0.0000	0.0000	<LOR	0.0000	0.0000	0.0000	0.0000	0.0000	<LOR	



Asbestos Concentration in Soils (JBS&G 2015b)		
Category	Criteria	Exceedance
Visible Surface Asbestos	No Visible ACM	Number
Bonded ACM in soils	0.025% w/w	Number
FA and AF in soils	0.01% w/w	Number

Sample Information				Field Asbestos Quantification								Laboratory Analysis										
Sample ID	Data Source	Date	Lab Report Number	Approx. Volume of Soil (L)	Soil Mass (g)	Mass ACM (g)	Mass Asbestos in ACM (g)	[Asbestos from ACM in soil] (%w/w)	Mass FA (g)	Mass Asbestos in FA (g)	[Asbestos from FA in soil] (%w/w)	Sample Mass (g)	Mass ACM (g)	Mass Asbestos in ACM (g)	[Asbestos from ACM in soil] (%w/w)	Mass FA (g)	Mass Asbestos in FA (g)	AF Mass (g)	Mass Asbestos in AF (g)	Mass Asbestos in FA & AF (g)	[Asbestos from FA & AF in soil] (%w/w)	Trace Analysis
RAQ073-0-1	2015	2015.02.05	447132	10.00	16300.00	71.45	10.7175	0.0658	7.35	7.35	0.0451	724	5.4818	0.8223	0.1136	0.3138	0.0941	0.0126	0.0126	0.1067	0.0147	Synthetic mineral fibre detected. Organic fibre detected. No respirable fibres detected.
RAQ073-1-2	2015	2015.05.02	456247	10.00	16300.00	No ACM observed	-	-	No FA observed	-	-	850	-	-	-	-	-	0.0052	0.0052	0.0052	0.0006	Organic fibre detected.
RAQ073-2-3	2015	2015.05.02	456247	10.00	16300.00	No ACM observed	-	-	No FA observed	-	-	733	-	-	-	-	-	0.0008	0.0008	0.0008	0.0001	Organic fibre detected.
RAQ074-0-1	2015	2015.02.07	447132	10.00	16300.00	No ACM observed	-	-	No FA observed	-	-	801	0.0000	0.0000	<LOR	0.0000	0.0000	0.0000	0.0000	0.0000	<LOR	Organic fibre detected. No respirable fibres detected.
RAQ074-1-2	2015	2015.05.02	456247	10.00	16300.00	No ACM observed	-	-	No FA observed	-	-	764	-	-	-	-	-	0.0012	0.0012	0.0012	0.0002	Organic fibre detected.
RAQ074-2-3	2015	2015.05.02	456247	10.00	16300.00	No ACM observed	-	-	No FA observed	-	-	660	-	-	-	-	-	0.0022	0.0022	0.0022	0.0003	Organic fibre detected.
RAQ075-0-1	2015	2015.02.07	447132	10.00	16300.00	10.68	1.6020	0.0098	No FA observed	-	-	784	0.0000	0.0000	<LOR	0.0236	0.0094	0.0012	0.0012	0.0106	0.0014	Organic fibre detected. No respirable fibres detected.
RAQ075-1-2	2015	2015.02.07	447132	10.00	16300.00	23.40	3.5100	0.0215	3.52	3.52	0.0216	849	0.0000	0.0000	<LOR	0.0842	0.0506	0.1909	0.0286	0.0792	0.0093	Organic fibre detected. No respirable fibres detected.
RAQ075-2-3	2015	2015.05.02	456247	10.00	16300.00	No ACM observed	-	-	No FA observed	-	-	594	28.5600	4.2840								
RAQ076-0-1	2015	2015.02.07	447132	10.00	16300.00	No ACM observed	-	-	1.12	1.12	0.0069	847	0.0000	0.0000	<LOR	0.0056	0.0039	0.0000	0.0000	0.0039	<LOR	Organic fibre detected. No respirable fibres detected.
RAQ076-1-2	2015	2015.02.07	447132	10.00	16300.00	105.13	15.7695	0.0967	1.12	1.12	0.0069	709	0.2888	0.1150	0.0163	0.3084	0.1234	0.0000	0.0000	0.1234	0.0174	Organic fibre detected. No respirable fibres detected.
RAQ076-2-3	2015	2015.05.02	456247	10.00	16300.00	No ACM observed	-	-	No FA observed	-	-	568	2.8107	0.4216	0.0740	1.3784	0.8270	0.4224	0.3802	1.2072	0.2126	Organic fibre detected.
RAQ077-0-1	2015	2015.02.07	447132	10.00	16300.00	No ACM observed	-	-	3.55	3.55	0.0218	999	1.3200	0.1980	0.0198	0.0623	0.0187	0.0822	0.0411	0.0598	0.0060	Organic fibre detected. No respirable fibres detected.
RAQ077-1-2	2015	2015.02.07	447132	10.00	16300.00	96.52	14.4780	0.0888	No FA observed	-	-	764	10.0447	1.5067	0.1972	1.1196	0.6718	1.4065	0.9846	1.6564	0.2167	Organic fibre detected. No respirable fibres detected.
RAQ077-2-3	2015	2015.05.02	456247	10.00	16300.00	No ACM observed	-	-	No FA observed	-	-	640	1.4576	0.2186	0.0341	0.3816	0.2290	0.1688	0.0506	0.2796	0.0437	Organic fibre detected.
RAQ078-0-1	2015	2015.02.07	447132	10.00	16300.00	42.59	6.3885	0.0392	No FA observed	-	-	759	0.0000	0.0000	<LOR	0.0400	0.0320	0.0000	0.0000	0.0320	0.0042	Organic fibre detected. No respirable fibres detected.
RAQ078-1-2	2015	2015.05.02	456247	10.00	16300.00	No ACM observed	-	-	No FA observed	-	-	709	0.0000	0.0000	<LOR	0.0023	0.0016	0.0000	0.0000	0.0016	0.0002	Organic fibre detected.
RAQ078-2-2.2	2015	2015.05.02	456247	10.00	16300.00	No ACM observed	-	-	No FA observed	-	-	613	0.0000	0.0000	<LOR	0.0000	0.0000	0.0000	0.0000	0.0000	<LOR	Organic fibre detected. No respirable fibres detected.
RAQ079-0-1	2015	2015.02.07	447132	10.00	16300.00	No ACM observed	-	-	No FA observed	-	-	980	0.0000	0.0000	<LOR	0.0000	0.0000	0.0043	0.0043	0.0043	<LOR	Organic fibre detected. No respirable fibres detected.
RAQ079-1-2	2015	2015.02.07	447132	10.00	16300.00	28.32	4.2480	0.0261	No FA observed	-	-	717	0.0000	0.0000	<LOR	0.1314	0.0526	0.0106	0.0106	0.0632	0.0088	Organic fibre detected. No respirable fibres detected.
RAQ079-2-2.4	2015	2015.05.02	456247	10.00	16300.00	No ACM observed	-	-	No FA observed	-	-	655	0.0000	0.0000	<LOR	0.0042	0.0038	0.0063	0.0063	0.0101	0.0015	Organic fibre detected.
RAQ080-0-1	2015	2015.02.07	447132	10.00	16300.00	No ACM observed	-	-	No FA observed	-	-	883	0.0000	0.0000	<LOR	0.0000	0.0000	0.0000	0.0000	0.0000	<LOR	Organic fibre detected. No respirable fibres detected.
RAQ080-1-2	2015	2015.02.07	447132	10.00	16300.00	11.92	1.7880	0.0110	No FA observed	-	-	964	0.0000	0.0000	<LOR	0.0000	0.0000	0.0000	0.0000	0.0000	<LOR	Organic fibre detected. No respirable fibres detected.
RAQ080-2-2.5	2015	2015.05.02	456247	10.00	16300.00	No ACM observed	-	-	No FA observed	-	-	791	0.0000	0.0000	<LOR	0.0000	0.0000	0.0000	0.0000	0.0000	<LOR	Organic fibre detected. No respirable fibres detected.
RAQ081-0-1	2015	2015.02.07	447132	10.00	16300.00	No ACM observed	-	-	No FA observed	-	-	626	0.0000	0.0000	<LOR	0.0872	0.0523	0.0000	0.0000	0.0523	0.0084	Organic fibre detected. No respirable fibres detected.
RAQ081-1-2	2015	2015.02.07	447132	10.00	16300.00	No ACM observed	-	-	No FA observed	-	-	819	0.0000	0.0000	<LOR	0.0000	0.0000	0.0022	0.0022	0.0022	<LOR	Organic fibre detected. No respirable fibres detected.
RAQ081-2-2.7	2015	2015.02.07	447132	10.00	16300.00	No ACM observed	-	-	No FA observed	-	-	681	0.7713	0.1157	0.0170	0.4738	0.2843	0.0048	0.0048	0.2891	0.0424	Organic fibre detected.
RAQ082-0-1	2015	2015.02.07	447132	10.00	16300.00	No ACM observed	-	-	No FA observed	-	-	805	0.6784	0.1018	0.0126	0.1647	0.0494	0.2268	0.0680	0.1174	0.0146	Organic fibre detected. No respirable fibres detected.
RAQ082-1-2	2015	2015.02.07	447132	10.00	16300.00	No ACM observed	-	-	No FA observed	-	-	846	0.0000	0.0000	<LOR	0.0000	0.0000	0.0000	0.0000	0.0000	<LOR	Organic fibre detected. No respirable fibres detected.
RAQ082-2-2.8	2015	2015.05.02	456247	10.00	16300.00	No ACM observed	-	-	No FA observed	-	-	688	15.2600	2.2890	0.3325	4.1200	2.4720	3.1414	1.2566	3.7286	0.5416	Organic fibre detected.
RAQ083-0-1	2015	2015.02.14	447713	10.00	16300.00	No ACM observed	-	-	No FA observed	-	-	706	0.0000	0.0000	<LOR	0.0000	0.0000	0.0000	0.0000	0.0000	<LOR	Organic fibre detected. No respirable fibres detected.
RAQ083-1-2	2015	2015.02.14	447713	10.00	16300.00	No ACM observed	-	-	No FA observed	-	-	770	0.0000	0.0000	<LOR	0.0018	0.0013	0.0008	0.0008	0.0021	<LOR	Organic fibre detected. No respirable fibres detected.
RAQ084-0-1	2015	2015.02.14	447713	10.00	16300.00	260.48	39.0720	0.2397	No FA observed	-	-	678	0.0000	0.0000	<LOR	0.0611	0.0428	0.0075	0.0075	0.0503	0.0074	Organic fibre detected. No respirable fibres detected.
RAQ084-1-2	2015	2015.02.14	447713	10.00	16300.00	No ACM observed	-	-	No FA observed	-	-	761	0.0000	0.0000	<LOR	0.0000	0.0000	0.0000	0.0000	0.0000	<LOR	Organic fibre detected. No respirable fibres detected.
RAQ085-0-1	2015	2015.02.14	447713	10.00	16300.00	431.15	64.6725	0.3968	2.36	2.36	0.0145	792	0.0000	0.0000	<LOR	0.7549	0.3020	0.0140	0.0098	0.3118	0.0393	Organic fibre detected. No respirable fibres detected.
RAQ085-1-2	2015	2015.02.14	447713	10.00	16300.00	23.73	3.5595	0.0218	0.52	0.52	0.0032	816	0.0000	0.0000	<LOR	0.2034	0.1220	0.1005	0.1005	0.2225	0.0273	Organic fibre detected. No respirable fibres detected.
RAQ086-0-1	2015	2015.02.14	447713	10.00	16300.00	No ACM observed	-	-	No FA observed	-	-	805	0.0000	0.0000	<LOR	0.0000	0.0000	0.0151	0.0151	0.0151	0.0019	Organic fibre detected. No respirable fibres detected.
RAQ087-0-1	2015	2015.02.14	447713	10.00	16300.00	No ACM observed	-	-	No FA observed	-	-	735	0.0000	0.0000	<LOR	12.7014	3.8104	0.0734	0.0734	3.8838	0.5287	Organic fibre detected.
RAQ088-0-1	2015	2015.02.14	447713	10.00	16300.00	No ACM observed	-	-	2.23	2.23	0.0137	649	0.0000	0.0000	<LOR	1.2746	0.8922	0.0502	0.0502	0.9424	0.1453	Organic fibre detected.
RAQ089-0-1	2015	2015.02.14	447713	10.00	16300.00	No ACM observed	-	-	No FA observed	-	-	612	0.0000	0.0000	<LOR	0.7501	0.5251	0.0313	0.0313	0.5564	0.0909	Organic fibre detected.
RAQ090-0-1	2>&																					



Asbestos Concentration in Soils (JBS&G 2015b)		
Category	Criteria	Exceedance
Visible Surface Asbestos	No Visible ACM	Number
Bonded ACM in soils	0.025% w/w	Number
FA and AF in soils	0.01% w/w	Number

Sample Information				Field Asbestos Quantification								Laboratory Analysis										
Sample ID	Data Source	Date	Lab Report Number	Approx. Volume of Soil (L)	Soil Mass (g)	Mass ACM (g)	Mass Asbestos in ACM (g)	[Asbestos from ACM in soil] (%w/w)	Mass FA (g)	Mass Asbestos in FA (g)	[Asbestos from FA in soil] (%w/w)	Sample Mass (g)	Mass ACM (g)	Mass Asbestos in ACM (g)	[Asbestos from ACM in soil] (%w/w)	Mass FA (g)	Mass Asbestos in FA (g)	AF Mass (g)	Mass Asbestos in AF (g)	Mass Asbestos in FA & AF (g)	[Asbestos from FA & AF in soil] (%w/w)	Trace Analysis
RAQ093-1-2	2015	2015.04.25	455496	10.00	16300.00	No ACM observed	-	-	No FA observed	-	-	662	0.9208	0.1381	0.0209	0.0000	0.0000	0.0000	0.0000	0.0000	<LOR	Organic fibre detected.
RAQ094-0-1	2015	2015.04.25	455496	10.00	16300.00	No ACM observed	-	-	No FA observed	-	-	790	0.0000	0.0000	<LOR	0.0000	0.0000	0.0047	0.0047	0.0047	<LOR	Organic fibre detected.
RAQ094-1-2	2015	2015.04.25	455496	10.00	16300.00	No ACM observed	-	-	No FA observed	-	-	567	0.0000	0.0000	<LOR	0.0000	0.0000	0.0004	0.0004	0.0004	<LOR	Organic fibre detected.
RAQ095-0-1	2015	2015.04.25	455496	10.00	16300.00	No ACM observed	-	-	No FA observed	-	-	603	0.0000	0.0000	<LOR	0.0972	0.0389	0.0000	0.0000	0.0389	0.0064	Organic fibre detected.
RAQ096-0-1	2015	2015.04.25	455496	10.00	16300.00	No ACM observed	-	-	No FA observed	-	-	873	0.0000	0.0000	<LOR	0.0265	0.0159	0.2203	0.0881	0.1040	0.0119	Organic fibre detected.
RAQ096-1-1.5	2015	2015.04.25	455496	10.00	16300.00	No ACM observed	-	-	No FA observed	-	-	497	0.0000	0.0000	<LOR	0.0000	0.0000	0.0000	0.0000	0.0000	<LOR	Organic fibre detected. No respirable fibres detected.
RAQ097-0-0.8	2015	2015.04.25	455496	10.00	16300.00	No ACM observed	-	-	No FA observed	-	-	636	0.0000	0.0000	<LOR	0.0096	0.0067	0.0028	0.0028	0.0095	0.0015	Organic fibre detected.
RAQ098-0-1	2015	2015.04.25	455496	10.00	16300.00	No ACM observed	-	-	No FA observed	-	-	753	0.0000	0.0000	<LOR	0.0000	0.0000	0.0061	0.0061	0.0061	<LOR	Organic fibre detected.
RAQ099-0-1	2015	2015.04.25	455496	10.00	16300.00	No ACM observed	-	-	No FA observed	-	-	674	0.0000	0.0000	<LOR	0.0000	0.0000	0.0018	0.0018	0.0018	<LOR	Organic fibre detected.
RAQ110-1-2	2015	2015.04.17	455074	10.00	16300.00	No ACM observed	-	-	No FA observed	-	-	601	0.0000	0.0000	<LOR	0.0000	0.0000	0.0000	0.0000	0.0000	<LOR	Organic fibre detected. No respirable fibres detected.
RAQ116-0-1	2015	2015.04.17	455074	10.00	16300.00	No ACM observed	-	-	No FA observed	-	-	504	7.7929	1.1689	0.2319	0.3151	0.1576	1.5150	1.5150	1.6726	0.3317	Unknown mineral fibres detected. Organic fibre detected.
RAQ116-1-2	2015	2015.04.17	455074	10.00	16300.00	No ACM observed	-	-	No FA observed	-	-	524	28.8045	4.3207	0.8240	0.0000	0.0000	1.4257	0.6416	0.6416	0.1224	Organic fibre detected.
RAQ116-2-3	2015	2015.04.17	455074	10.00	16300.00	No ACM observed	-	-	No FA observed	-	-	409	0.7718	0.1158	0.0283	0.0000	0.0000	0.0089	0.0089	0.0089	0.0022	Organic fibre detected.
RAQ117-0-1	2015	2015.04.17	455074	10.00	16300.00	No ACM observed	-	-	No FA observed	-	-	1102	0.0000	0.0000	<LOR	0.0030	0.0024	0.0000	0.0000	0.0024	0.0002	Organic fibre detected.
RAQ117-1-2	2015	2015.04.17	455074	10.00	16300.00	No ACM observed	-	-	No FA observed	-	-	969	0.0000	0.0000	<LOR	0.1264	0.0885	0.0000	0.0000	0.0885	0.0091	Organic fibre detected.
RAQ117-2-3	2015	2015.04.17	455074	10.00	16300.00	No ACM observed	-	-	No FA observed	-	-	941	0.0000	0.0000	<LOR	0.0000	0.0000	0.0005	0.0005	0.0005	0.0001	Organic fibre detected.
RAQ118-0-1	2015	2015.04.17	455074	10.00	16300.00	No ACM observed	-	-	No FA observed	-	-	1102	0.0000	0.0000	<LOR	0.0000	0.0000	0.0000	0.0000	0.0000	<LOR	Organic fibre detected. No respirable fibres detected.
RAQ118-1-2	2015	2015.04.17	455074	10.00	16300.00	No ACM observed	-	-	No FA observed	-	-	794	2.6493	0.3974	0.0500	0.0505	0.0354	0.0165	0.0165	0.0519	0.0065	Organic fibre detected.
RAQ118-2-2.7	2015	2015.04.17	455074	10.00	16300.00	No ACM observed	-	-	No FA observed	-	-	802	0.0000	0.0000	<LOR	0.0000	0.0000	0.0051	0.0051	0.0051	0.0006	Organic fibre detected.
RAQ119-0-1	2015	2015.04.17	455074	10.00	16300.00	No ACM observed	-	-	No FA observed	-	-	951	0.0000	0.0000	<LOR	0.0110	0.0077	0.5020	0.1004	0.1081	0.0114	Organic fibre detected.
RAQ119-1-2	2015	2015.04.17	455074	10.00	16300.00	No ACM observed	-	-	No FA observed	-	-	899	0.0000	0.0000	<LOR	0.0071	0.0057	0.0000	0.0000	0.0057	0.0006	Organic fibre detected.
RAQ119-2-3	2015	2015.04.18	455074	10.00	16300.00	No ACM observed	-	-	No FA observed	-	-	836	0.0000	0.0000	<LOR	0.0000	0.0000	0.0000	0.0000	0.0000	<LOR	Organic fibre detected. No respirable fibres detected.
RAQ120-0-1	2015	2015.04.18	455074	10.00	16300.00	No ACM observed	-	-	No FA observed	-	-	868	0.0000	0.0000	<LOR	0.0000	0.0000	0.1215	0.0365	0.0365	0.0042	Organic fibre detected.
RAQ120-1-2	2015	2015.04.18	455074	10.00	16300.00	No ACM observed	-	-	No FA observed	-	-	597	0.0000	0.0000	<LOR	0.0000	0.0000	0.0046	0.0046	0.0046	0.0008	Organic fibre detected.
RAQ120-2-3	2015	2015.04.18	455074	10.00	16300.00	No ACM observed	-	-	No FA observed	-	-	716	0.0000	0.0000	<LOR	0.0000	0.0000	0.0478	0.0478	0.0478	0.0067	Organic fibre detected.
RAQ121-0-1	2015	2015.04.18	455074	10.00	16300.00	No ACM observed	-	-	No FA observed	-	-	731	0.0000	0.0000	<LOR	0.1346	0.0942	0.0665	0.0665	0.1607	0.0220	Organic fibre detected.
RAQ121-1-2	2015	2015.04.18	455074	10.00	16300.00	No ACM observed	-	-	No FA observed	-	-	706	0.0000	0.0000	<LOR	0.1977	0.1384	0.0811	0.0811	0.2195	0.0311	Organic fibre detected.
RAQ121-2-3	2015	2015.04.18	455074	10.00	16300.00	No ACM observed	-	-	No FA observed	-	-	795	0.0000	0.0000	<LOR	0.1215	0.0851	0.0691	0.0691	0.1542	0.0194	Organic fibre detected.
RAQ122-0-1	2015	2015.04.18	455074	10.00	16300.00	No ACM observed	-	-	No FA observed	-	-	782	0.0000	0.0000	<LOR	0.7743	0.4646	0.0112	0.0112	0.4758	0.0608	Organic fibre detected.
RAQ122-1-2	2015	2015.04.18	455074	10.00	16300.00	No ACM observed	-	-	No FA observed	-	-	815	0.0000	0.0000	<LOR	0.0653	0.0522	0.0084	0.0084	0.0606	0.0074	Organic fibre detected.
RAQ122-2-2.5	2015	2015.04.18	455074	10.00	16300.00	No ACM observed	-	-	No FA observed	-	-	812	0.5216	0.0782	0.0096	0.2687	0.1881	0.1260	0.0252	0.2133	0.0263	Organic fibre detected.
RAQ123-0-0.8	2015	2015.04.18	455074	10.00	16300.00	No ACM observed	-	-	No FA observed	-	-	925	0.0000	0.0000	<LOR	0.0000	0.0000	0.0000	0.0000	0.0000	<LOR	Organic fibre detected. No respirable fibres detected.
RAQ124-0-0.5	2015	2015.04.18	455074	10.00	16300.00	No ACM observed	-	-	No FA observed	-	-	923	0.0000	0.0000	<LOR	0.2400	0.0960	0.0038	0.0038	0.0998	0.0108	Organic fibre detected.
RAQ125-0-0.9	2015	2015.04.18	455074	10.00	16300.00	No ACM observed	-	-	No FA observed	-	-	753	0.0000	0.0000	<LOR	0.1533	0.1150	0.0049	0.0049	0.1199	0.0159	Organic fibre detected.
RAQ126-0-0.8	2015	2015.04.18	455074	10.00	16300.00	No ACM observed	-	-	No FA observed	-	-	668	0.0000	0.0000	<LOR	0.0000	0.0000	0.0098	0.0098	0.0098	0.0015	Organic fibre detected.
RAQ127-0-1	2015	2015.04.18	455074	10.00																		



Asbestos Concentration in Soils (JBS&G 2015b)		
Category	Criteria	Exceedance
Visible Surface Asbestos	No Visible ACM	Number
Bonded ACM in soils	0.025% w/w	Number
FA and AF in soils	0.01% w/w	Number

Sample Information				Field Asbestos Quantification								Laboratory Analysis										
Sample ID	Data Source	Date	Lab Report Number	Approx. Volume of Soil (L)	Soil Mass (g)	Mass ACM (g)	Mass Asbestos in ACM (g)	[Asbestos from ACM in soil] (%w/w)	Mass FA (g)	Mass Asbestos in FA (g)	[Asbestos from FA in soil] (%w/w)	Sample Mass (g)	Mass ACM (g)	Mass Asbestos in ACM (g)	[Asbestos from ACM in soil] (%w/w)	Mass FA (g)	Mass Asbestos in FA (g)	AF Mass (g)	Mass Asbestos in AF (g)	Mass Asbestos in FA & AF (g)	[Asbestos from FA & AF in soil] (%w/w)	Trace Analysis
RAQ146-0-0.1	2015	2015.05.02	456258	10.00	16300.00	No ACM observed	-	-	mes)(Bundles observed t	-	-	726	0.0000	0.0000	<LOR	0.0806	0.0484	0.0015	0.0015	0.0499	0.0069	Organic fibre detected.
RAQ146-1-1.5	2015	2015.05.02	456258	10.00	16300.00	No ACM observed	-	-	No FA observed	-	-	744	0.0000	0.0000	<LOR	0.0000	0.0000	0.0000	0.0000	0.0000	<LOR	Organic fibre detected. No respirable fibres detected.
RAQ147-0-0.2	2015	2015.05.02	456258	10.00	16300.00	No ACM observed	-	-	No FA observed	-	-	701	0.0000	0.0000	<LOR	0.0000	0.0000	0.0000	0.0000	0.0000	<LOR	Organic fibre detected. No respirable fibres detected.
RAQ148-0-0.5	2015	2015.05.02	456258	10.00	16300.00	No ACM observed	-	-	No FA observed	-	-	594	0.0000	0.0000	<LOR	0.0000	0.0000	0.0016	0.0016	0.0016	0.0003	Organic fibre detected.
RAQ149-0-0.2	2015	2015.05.02	456258	10.00	16300.00	No ACM observed	-	-	No FA observed	-	-	1015	0.0000	0.0000	<LOR	0.0000	0.0000	0.0015	0.0015	0.0015	0.0001	Organic fibre detected.
RAQ150-0-0.5	2015	2015.05.02	456258	10.00	16300.00	No ACM observed	-	-	No FA observed	-	-	626	0.0000	0.0000	<LOR	0.0000	0.0000	0.0000	0.0000	0.0000	<LOR	Organic fibre detected. No respirable fibres detected.
RAQ151-0-0.5	2015	2015.05.02	456258	10.00	16300.00	No ACM observed	-	-	No FA observed	-	-	669	0.0000	0.0000	<LOR	0.0000	0.0000	0.0000	0.0000	0.0000	<LOR	Organic fibre detected. No respirable fibres detected.
RAQ152-1-1.5	2015	2015.05.02	456258	10.00	16300.00	No ACM observed	-	-	No FA observed	-	-	675	0.0000	0.0000	<LOR	0.0000	0.0000	0.0000	0.0000	0.0000	<LOR	Organic fibre detected. No respirable fibres detected.
RAQ153-0-0.6	2015	2015.05.02	456258	10.00	16300.00	No ACM observed	-	-	No FA observed	-	-	818	0.0000	0.0000	<LOR	0.0000	0.0000	0.0000	0.0000	0.0000	<LOR	Organic fibre detected. No respirable fibres detected.
RAQ154-0-0.5	2015	2015.05.02	456258	10.00	16300.00	No ACM observed	-	-	No FA observed	-	-	684	0.0000	0.0000	<LOR	0.0000	0.0000	0.0000	0.0000	0.0000	<LOR	Organic fibre detected. No respirable fibres detected.
RAQ155-0-0.4	2015	2015.05.02	456258	10.00	16300.00	No ACM observed	-	-	No FA observed	-	-	494	0.0000	0.0000	<LOR	0.0000	0.0000	0.0000	0.0000	0.0000	<LOR	Organic fibre detected. No respirable fibres detected.
RAQ156-0-0.1	2015	2015.05.02	456258	10.00	16300.00	No ACM observed	-	-	20.00	20.00	0.1227	558	27.1134	4.0670	0.7286	0.5655	0.4524	0.0580	0.0580	0.5104	0.0914	Organic fibre detected.
RAQ156-1-2	2015	2015.05.02	456258	10.00	16300.00	No ACM observed	-	-	2.00	2.00	0.0123	624	0.0000	0.0000	<LOR	0.0459	0.0367	0.0022	0.0022	0.0389	0.0062	Organic fibre detected.
RAQ156-2-3	2015	2015.05.02	456258	10.00	16300.00	No ACM observed	-	-	15.00	15.00	0.0920	705	0.3787	0.0757	0.0107	0.1062	0.0850	0.0071	0.0071	0.0921	0.0131	Organic fibre detected.
RAQ157-0-1	2015	2015.05.02	456258	10.00	16300.00	No ACM observed	-	-	No FA observed	-	-	724	0.0000	0.0000	<LOR	0.0000	0.0000	0.0006	0.0006	0.0006	0.0001	Organic fibre detected.
RAQ158-0-0.5	2015	2015.05.02	456258	10.00	16300.00	No ACM observed	-	-	No FA observed	-	-	1010	0.0000	0.0000	<LOR	0.0000	0.0000	0.0000	0.0000	0.0000	<LOR	Organic fibre detected. No respirable fibres detected.
RAQ159-0-1	2015	2015.05.02	456258	10.00	16300.00	No ACM observed	-	-	No FA observed	-	-	754	0.0000	0.0000	<LOR	0.2387	0.0955	0.0027	0.0027	0.0982	0.0130	Organic fibre detected.
RAQ159-1-2	2015	2015.05.02	456258	10.00	16300.00	No ACM observed	-	-	No FA observed	-	-	611	0.0000	0.0000	<LOR	0.0000	0.0000	0.0008	0.0008	0.0008	0.0001	Organic fibre detected.
RAQ159-2-3	2015	2015.05.02	456258	10.00	16300.00	No ACM observed	-	-	No FA observed	-	-	668	0.0000	0.0000	<LOR	0.0087	0.0070	0.0006	0.0006	0.0076	0.0011	Organic fibre detected.
RAQ160-0-1	2015	2015.05.02	456258	10.00	16300.00	No ACM observed	-	-	0-5g	0-5g	-	580	0.0000	0.0000	<LOR	0.0022	0.0018	0.0028	0.0028	0.0046	0.0008	Organic fibre detected.
RAQ160-1-2	2015	2015.05.02	456258	10.00	16300.00	No ACM observed	-	-	No FA observed	-	-	728	1.1918	0.1788	0.0246	0.0110	0.0066	0.0036	0.0036	0.0102	0.0014	Organic fibre detected.
RAQ160-2-3	2015	2015.05.02	456258	10.00	16300.00	No ACM observed	-	-	5-10g	5-10g	-	624	21.8000	3.2700	0.5243	1.7500	1.2250	3.8500	1.5400	2.7650	0.4433	Organic fibre detected.
RAQ161-0-0.5	2015	2015.05.02	456258	10.00	16300.00	No ACM observed	-	-	No FA observed	-	-	633	0.0000	0.0000	<LOR	0.0000	0.0000	0.0000	0.0000	0.0000	<LOR	Organic fibre detected. No respirable fibres detected.
RAQ162-0-1	2015	2015.05.02	456258	10.00	16300.00	No ACM observed	-	-	No FA observed	-	-	1365	0.0000	0.0000	<LOR	0.0000	0.0000	0.0000	0.0000	0.0000	<LOR	Organic fibre detected. No respirable fibres detected.
RAQ163-0-0.5	2015	2015.05.02	456258	10.00	16300.00	No ACM observed	-	-	No FA observed	-	-	1175	0.0000	0.0000	<LOR	0.0000	0.0000	0.0000	0.0000	0.0000	<LOR	Organic fibre detected. No respirable fibres detected.
RAQ164-0-0.5	2015	2015.05.02	456258	10.00	16300.00	No ACM observed	-	-	No FA observed	-	-	717	0.0000	0.0000	<LOR	0.0000	0.0000	0.0000	0.0000	0.0000	<LOR	Organic fibre detected. No respirable fibres detected.
RAQ165-0-0.4	2015	2015.05.02	456258	10.00	16300.00	No ACM observed	-	-	No FA observed	-	-	748	0.0000	0.0000	<LOR	0.0000	0.0000	0.0000	0.0000	0.0000	<LOR	Organic fibre detected. No respirable fibres detected.
RAQ166-0-0.9	2015	2015.05.02	456258	10.00	16300.00	No ACM observed	-	-	No FA observed	-	-	797	0.0000	0.0000	<LOR	0.0000	0.0000	0.0000	0.0000	0.0000	<LOR	Organic fibre detected. No respirable fibres detected.
RAQ167-0-1	2015	2015.05.02	456258	10.00	16300.00	No ACM observed	-	-	No FA observed	-	-	1012	0.0000	0.0000	<LOR	0.0000	0.0000	0.0000	0.0000	0.0000	<LOR	Organic fibre detected. No respirable fibres detected.
RAQ168-0-1	2015	2015.05.02	456258	10.00	16300.00	No ACM observed	-	-	No FA observed	-	-	1106	0.0000	0.0000	<LOR	0.0000	0.0000	0.0000	0.0000	0.0000	<LOR	Organic fibre detected. No respirable fibres detected.
RAQ169-0-1	2015	2015.05.02	456258	10.00	16300.00	No ACM observed	-	-	No FA observed	-	-	1073	0.0000	0.0000	<LOR	0.0000	0.0000	0.0000	0.0000	0.0000	<LOR	Organic fibre detected. No respirable fibres detected.
RAQ170-0-1	2015	2015.05.02	456258	10.00	16300.00	No ACM observed	-	-	No FA observed	-	-	612	0.0000	0.0000	<LOR	0.0000	0.0000	0.0000	0.0000	0.0000	<LOR	Organic fibre detected. No respirable fibres detected.
RAQ170-1-2	2015	2015.05.02	456258	10.00	16300.00	No ACM observed	-	-	No FA observed	-	-	681	0.0000	0.0000	<LOR	0.0000	0.0000	0.0000	0.0000	0.0000	<LOR	Organic fibre detected. No respirable fibres detected.
RAQ171-0-1	2015	2015.05.02	456258	10.00	16300.00	No ACM observed	-	-	No FA observed	-	-	396	0.0000	0.0000	<LOR	0.0000	0.0000	0.0000	0.0000	0.0000	<LOR	Organic fibre detected. No respirable fibres detected.
RAQ171-1-2	2015	2015.05.02	456258	10.00	16300.00	No ACM observed	-	-	No FA observed	-	-	634	0.0000	0.0000	<LOR	0.0000	0.0000	0.0000	0.0000	0.0000	<LOR	Organic fibre detected. No respirable fibres detected.
RAQ172-0-1	2015	2015.05.02	456258	10.00	16300.00	No ACM observed	-	-	No FA observed	-	-	509	0.0000	0.0000	<LOR	0.0000	0.0000	0.0000	0.0000	0.0000	<LOR	Organic fibre detected. No respirable fibres detected.
RAQ173-0-1	2015	2015.05.02	456258	10.00	16300.00	No ACM observed	-	-	No FA observed	-	-	671	0.0000	0.0000	<LOR	0.0000	0.0000	0.0000	0.0000	0.0000	<LOR	Organic fibre detected. No respirable fibres detected.
RAQ176-0-1	2015	2015.05.02	456258	10.00	16300.00	No ACM observed	-	-	No FA observed	-	-	1243	0.0000	0.0000	<LOR	0.0000	0.0000	0.0000	0.0000	0.0000	<LOR	Organic fibre detected. No respirable fibres detected.
RAQ176-1-2	2015	2015.05.02	456258	10.00	16300.00	No ACM observed	-	-	No FA observed	-	-	624	0.0000	0.0000	<LOR	0.0000	0.0000	0.0000	0.0000	0.0000	<LOR	Organic fibre detected. No respirable fibres detected.
RAQ176-2-3	2015	2015.05.02	456258	10.00	16300.00	No ACM observed	-	-	No FA observed	-	-	462	0.0000	0.0000	<LOR	0.0000	0.0000	0.0000	0.0000	0.0000	<LOR	Organic fibre detected. No respirable fibres detected.
RAQ177-0-0.4	2015	2015.05.05	45680	10.00	16300.00	No ACM observed	-	-	No FA observed	-	-	574	0.0000	0.0								



Asbestos Concentration in Soils (JBS&G 2015b)		
Category	Criteria	Exceedance
Visible Surface Asbestos	No Visible ACM	Number
Bonded ACM in soils	0.025% w/w	Number
FA and AF in soils	0.01% w/w	Number

Sample Information				Field Asbestos Quantification								Laboratory Analysis										Trace Analysis
Sample ID	Data Source	Date	Lab Report Number	Approx. Volume of Soil (L)	Soil Mass (g)	Mass ACM (g)	Mass Asbestos in ACM (g)	[Asbestos from ACM in soil] (%w/w)	Mass FA (g)	Mass Asbestos in FA (g)	[Asbestos from FA in soil] (%w/w)	Sample Mass (g)	Mass ACM (g)	Mass Asbestos in ACM (g)	[Asbestos from ACM in soil] (%w/w)	Mass FA (g)	Mass Asbestos in FA (g)	AF Mass (g)	Mass Asbestos in AF (g)	Mass Asbestos in FA & AF (g)	[Asbestos from FA & AF in soil] (%w/w)	
RAQ186-0-0.2	2015	2015.05.05	45680	10.00	16300.00	No ACM observed	-	-	No FA observed	-	-	485	0.0000	0.0000	<LOR	0.0000	0.0000	0.0000	0.0000	0.0000	<LOR	Organic fibre detected. No respirable fibres detected.
RAQ187-0-0.2	2015	2015.05.05	45680	10.00	16300.00	No ACM observed	-	-	No FA observed	-	-	593	0.0000	0.0000	<LOR	0.0000	0.0000	0.0000	0.0000	0.0000	<LOR	Organic fibre detected. No respirable fibres detected.
RAQ188-0-0.2	2015	2015.05.05	45680	10.00	16300.00	No ACM observed	-	-	No FA observed	-	-	468	0.0000	0.0000	<LOR	0.0000	0.0000	0.0000	0.0000	0.0000	<LOR	Organic fibre detected. No respirable fibres detected.
QA01	2015	2015.02.04	123019	10.00	16300.00	No ACM observed	-	-	No FA observed	-	-	695	0.0000	0.0000	<LOR	0.0000	0.0000	0.0000	0.0000	0.0000	<LOR	Organic fibres detected.
QA02	2015	2015.02.04	123019	10.00	16300.00	No ACM observed	-	-	No FA observed	-	-	574	0.0000	0.0000	<LOR	0.0000	0.0000	0.0000	0.0000	0.0000	<LOR	Organic fibres detected.
QA03	2015	2015.02.05	447132	10.00	16300.00	No ACM observed	-	-	No FA observed	-	-	669	0.0000	0.0000	<LOR	0.0000	0.0000	0.0000	0.0000	0.0000	<LOR	Organic fibre detected. No respirable fibres detected.
QA04	2015	2015.02.07	447132	10.00	16300.00	No ACM observed	-	-	No FA observed	-	-	756	0.0000	0.0000	<LOR	0.0084	0.0067	0.0000	0.0000	0.0067	<LOR	Organic fibre detected. No respirable fibres detected.
QA05	2015	2015.02.14	123624	10.00	16300.00	No ACM observed	-	-	No FA observed	-	-	792	0.0000	0.0000	<LOR	0.0000	0.0000	0.0079	0.0079	0.0079	0.0010	Organic fibres detected.
QA06	2015	2015.02.14	123624	10.00	16300.00	No ACM observed	-	-	No FA observed	-	-	548	0.0000	0.0000	<LOR	0.0000	0.0000	0.0094	0.0094	0.0094	0.0020	Organic fibres detected.
QA19	2015	2015.05.02	127439	11.00	17930.00	No ACM observed	-	-	-	-	-	523	4.2075	0.6311	0.8040	-	-	1.3488	-	-	0.2570	Organic fibres detected.
QA21	2015	2015.04.29	127439	12.00	19560.00	No ACM observed	-	-	-	-	-	855	0.0000	0.0000	<LOR	-	-	0.0176	-	-	0.0020	Organic fibres detected.
QA22	2015	2015.04.30	127439	13.00	21190.00	No ACM observed	-	-	-	-	-	833	0.0000	0.0000	<LOR	-	-	0.0048	-	-	0.0010	Organic fibres detected.
QA23	2015	2015.04.30	127439	14.00	22820.00	No ACM observed	-	-	-	-	-	539	0.0000	0.0000	<LOR	-	-	0.0788	-	-	0.0150	Organic fibres detected.
QC01	2015	2015.02.04	446405	10.00	16300.00	No ACM observed	-	-	No FA observed	-	-	712	0.0000	0.0000	<LOR	0.0000	0.0000	0.0000	0.0000	0.0000	<LOR	Organic fibre detected. No respirable fibres detected.
QC02	2015	2015.02.04	446405	10.00	16300.00	No ACM observed	-	-	No FA observed	-	-	486	0.0000	0.0000	<LOR	0.0000	0.0000	0.0000	0.0000	0.0000	<LOR	Organic fibre detected. No respirable fibres detected.
QC03	2015	2015.02.05	123370	10.00	16300.00	No ACM observed	-	-	No FA observed	-	-	607	0.0000	0.0000	<LOR	0.0000	0.0000	0.0000	0.0000	0.0000	<LOR	Organic fibre detected. No respirable fibres detected.
QC04	2015	2015.02.07	123370	10.00	16300.00	No ACM observed	-	-	No FA observed	-	-	734	0.0000	0.0000	<LOR	0.0000	0.0000	0.0000	0.0000	0.0000	<LOR	Organic fibre detected. No respirable fibres detected.
QC05	2015	2015.02.14	447713	10.00	16300.00	No ACM observed	-	-	No FA observed	-	-	945	0.0000	0.0000	<LOR	0.0000	0.0000	0.0000	0.0000	0.0000	<LOR	Organic fibre detected. No respirable fibres detected.
QC06	2015	2015.02.14	447713	10.00	16300.00	No ACM observed	-	-	No FA observed	-	-	691	0.0000	0.0000	<LOR	0.1830	0.1281	0.6910	0.6910	0.8191	0.1185	Organic fibre detected.
QC19	2015	2015.05.02	456247	10.00	16300.00	No ACM observed	-	-	No FA observed	-	-	679	0.9648	0.1447	0.0213	1.9246	1.1548	0.3895	0.0779	1.2327	0.1816	Organic fibre detected.
QC21	2015	2015.04.29	456563	10.00	16300.00	-	-	-	-	-	-	870	1.7940	0.2691	0.0309	0.0032	0.0029	0.0052	0.0052	0.0081	0.0009	Organic fibre detected.
QC22	2015	2015.04.30	456563	10.00	16300.00	-	-	-	-	-	-	900	0.0000	0.0000	<LOR	0.0015	0.0013	0.0012	0.0012	0.0025	0.0003	Organic fibre detected.
QC23	2015	2015.04.30	456563	10.00	16300.00	-	-	-	-	-	-	617	0.0000	0.0000	<LOR	0.0105	0.0063	0.0159	0.0159	0.0222	0.0036	Organic fibre detected.
AQ001-0-0-0.1	2014a	2014-11-20	439588	-	-	No ACM observed	-	-	No FA AQ conducted.	-	-	690	0.0000	0.0000	<LOR	0.0000	0.0000	0.0000	0.0000	0.0000	<LOR	Organic fibre detected. No respirable fibres detected.
AQ001-0-1-0.5	2014a	2014-11-20	439588	20.00	32600.00	No ACM observed	-	-	No FA AQ conducted.	-	-	789	0.0000	0.0000	<LOR	0.0000	0.0000	0.0008	0.0008	0.0008	<LOR	Organic fibre detected. No respirable fibres detected.
AQ001-1-0-2.0	2015	28-April-2015	456254	10.00	16300.00	No ACM observed	-	-	No FA AQ conducted.	-	-	747	0.0000	0.0000	<LOR	0.0305	0.0122	0.0062	0.0062	0.0184	0.0025	Organic fibre detected.
AQ001-2-0-3.0	2015	28-April-2015	456254	10.00	16300.00	No ACM observed	-	-	No FA AQ conducted.	-	-	740	9.7600	1.9520	0.2637	0.0000	0.0000	0.0012	0.0012	0.0012	0.0002	Organic fibre detected.
AQ002-0-0-0.1	2014a	2014-11-20	439588	-	-	No ACM observed	-	-	No FA AQ conducted.	-	-	737	0.0000	0.0000	<LOR	0.0000	0.0000	0.0000	0.0000	0.0000	<LOR	Organic fibre detected. No respirable fibres detected.
AQ002-0-1-0.5	2014a	2014-11-20	439588	20.00	32600.00	No ACM observed	-	-	No FA AQ conducted.	-	-	775	0.0000	0.0000	<LOR	0.0101	0.0081	0.0029	0.0029	0.0110	0.0014	Organic fibre detected. No respirable fibres detected.
AQ002-1-0-2.0	2015	28-April-2015	456254	10.00	16300.00	No ACM observed	-	-	No FA AQ conducted.	-	-	704	0.0000	0.0000	<LOR	0.0000	0.0000	0.0010	0.0010	0.0010	0.0001	Organic fibres detected.
AQ002-2-0-3.0	2015	28-April-2015	456254	10.00	16300.00	No ACM observed	-	-	No FA AQ conducted.	-	-	772	0.0000	0.0000	<LOR	0.0000	0.0000	0.0016	0.0016	0.0016	0.0002	Organic fibres detected.
AQ003-0-0-0.1	2014a	2014-11-20	439588	-	-	No ACM observed	-	-	No FA AQ conducted.	-	-	1012	0.0000	0.0000	<LOR	0.0000	0.0000	0.0000	0.0000	0.0000	<LOR	Organic fibre detected. No respirable fibres detected.
AQ003-0-1-0.5	2014a	2014-11-20	439588	20.00	32600.00	2.0000	0.3000	0.0009	No FA AQ conducted.	-	-	1133	0.0000	0.0000	<LOR	0.0886	0.0620	0.0045	0.0045	0.0665	0.0059	Organic fibre detected. No respirable fibres detected.
AQ003-1-0-2.0	2015	28-April-2015	456254	10.00	16300.00	No ACM observed	-	-	No FA AQ conducted.	-	-	773	0.0000	0.0000	<LOR	0.0000	0.0000	0.0000	0.0000	0.0000	<LOR	Organic fibre detected. No respirable fibres detected.
AQ004-0-0-0.1	2014a	2014-11-19	439413	-	-	No ACM observed	-	-	No FA AQ conducted.	-	-	1021	0.0000	0.0000	<LOR	0.0000	0.0000	0.0000	0.0000	0.0000	<LOR	Organic fibre detected. No respirable fibres detected.
AQ004-0-1-0.5	2014a	2014-11-19	439413	20.00	32600.00	33.0000	4.9500	0.0152	No FA AQ conducted.	-	-	1080	0.0000	0.0000	<LOR	0.0000	0.0000	0.0123	0.0123	0.0123	0.0011	Organic fibre detected. No respirable fibres detected.
AQ004-2-0-3.0	2015	28-April-2015	456254	10.00	16300.00	No ACM observed	-	-	No FA AQ conducted.	-	-	751				0.0026	0.0021	0.0004	0.0004	0.0025	0.0003	Organic fibres detected.
AQ005-0-0-0.1	2014a	2014-11-19	439413	-	-	ACM observed	-	-	No FA AQ conducted.	-	-	880	0.0000	0.0000	<LOR	0.0000	0.0000	0.0000	0.0000	0.0000	<LOR	Organic fibre detected. No respirable fibres detected.
AQ005-0-1-0.5	2014a	2014-11-19	439413	20.00	32600.00	2.0000	0.3000	0.0009	No FA AQ conducted.	-	-	872	0.0000	0.0000	<LOR	0.0000	0.0000	0.0008	0.0008	0.0008	<LOR	Organic fibres detected. No respirable fibres detected.
AQ005-1-1-5	2015	28-April-2015	456254	10.00	16300.00	No ACM observed	-	-	No FA AQ conducted.	-	-	836	0.0000	0.0000	<LOR	0.0058	0.0035	0.0006	0.0006	0.0041	0.0005	Organic fibres detected.
AQ005-2-0-3.0	2015	28-April-2015	456254	10.00	16300.00	No ACM observed	-	-	No FA AQ conducted.	-	-	680	0.0000	0.0000	<LOR	0.0000	0.0000	0.0028	0.0028	0.0028	0.0004	Organic fibres detected.
AQ006-0-0-0.1	2014a	2014-11-19	439413	-	-	No ACM observed	-	-	No FA AQ conducted.	-	-	1074	0.0000	0.0000	<LOR	0.0000	0.0000	0.0000	0.0000	0.0000	<LOR	Organic fibre detected. No respirable fibres detected.
AQ006-0-1-0.5	2014a	2014-11-19	439413	20.00	32600.00	No ACM observed	-	-	No FA AQ conducted.	-	-	995	0.0000	0.0000	<LOR	0.0000	0.0000	0.0000	0.0000	0.0000	<LOR	Organic fibre detected. No respirable fibres detected.
AQ007-0-0-0.1	2014a	2014-11-20	439588	-	-	No ACM observed	-	-	No FA AQ conducted.	-	-	946	0.0000	0.0000	<LOR	0.0000	0.0000	0.0068	0.0068	0.0068	<LOR	Organic fibre detected. No respirable fibres detected.
AQ007-0-1-0.5	2015	2014-11-20	439588	20.00	32600.00	No ACM observed	-	-	No FA AQ conducted.	-	-	983	0.0000	0.0000	<LOR	0.0000	0.0000	0.0000	0.0000	0.0000	<LOR	Organic fibre detected. No respirable fibres detected.
AQ007-1-0-2.0	2015	28-April-2015	456254	10.00	16300.00	No ACM observed	-	-	No FA AQ conducted.	-	-	757	0.0000	0.0000	<LOR	0.0000	0.0000	0.0000	0.0000	0.0000	<LOR	Organic fibre detected. No respirable fibres detected.
AQ007-2-0-3.0	2014a	28-April-2015	456254	10.00	16300.00	No ACM observed	-	-	No FA AQ conducted.	-	-	984	0.0000	0.0000	<LOR	0.0379	0.0303	0.0122	0.0122	0.0425	0.0043	Organic fibres detected.



Asbestos Concentration in Soils (JBS&G 2015b)		
Category	Criteria	Exceedance
Visible Surface Asbestos	No Visible ACM	Number
Bonded ACM in soils	0.025% w/w	Number
FA and AF in soils	0.01% w/w	Number

Sample Information				Field Asbestos Quantification								Laboratory Analysis										
Sample ID	Data Source	Date	Lab Report Number	Approx. Volume of Soil (L)	Soil Mass (g)	Mass ACM (g)	Mass Asbestos in ACM (g)	[Asbestos from ACM in soil] (%w/w)	Mass FA (g)	Mass Asbestos in FA (g)	[Asbestos from FA in soil] (%w/w)	Sample Mass (g)	Mass ACM (g)	Mass Asbestos in ACM (g)	[Asbestos from ACM in soil] (%w/w)	Mass FA (g)	Mass Asbestos in FA (g)	AF Mass (g)	Mass Asbestos in AF (g)	Mass Asbestos in FA & AF (g)	[Asbestos from FA & AF in soil] (%w/w)	Trace Analysis
AQ008-0.0-0.1	2014a	2014-11-20	439588	-	-	No ACM observed	-	-	No FA AQ conducted.	-	-	833	0.0000	0.0000	<LOR	0.0000	0.0000	0.0000	0.0000	0.0000	<LOR	Organic fibre detected. No respirable fibres detected.
AQ008-0.1-0.5	2015	2014-11-20	439588	20.00	32600.00	No ACM observed	-	-	No FA AQ conducted.	-	-	958	0.0000	0.0000	<LOR	0.0000	0.0000	0.0000	0.0000	0.0000	<LOR	Organic fibre detected. No respirable fibres detected.
AQ008-1.0-2.0	2015	28-April-2015	456254	10.00	16300.00	No ACM observed	-	-	No FA AQ conducted.	-	-	1029	0.0000	0.0000	<LOR	0.0000	0.0000	0.0069	0.0069	0.0069	0.0007	Organic fibres detected.
AQ008-2.0-2.9	2014a	28-April-2015	456254	10.00	16300.00	No ACM observed	-	-	No FA AQ conducted.	-	-	829	2.6600	0.3990	0.0481	0.0000	0.0000	0.0000	0.0000	0.0000	<LOR	Organic fibres detected.
AQ009-0.0-0.1	2014a	2014-11-20	439588	-	-	No ACM observed	-	-	No FA AQ conducted.	-	-	899	0.0000	0.0000	<LOR	0.0000	0.0000	0.0000	0.0000	0.0000	<LOR	Organic fibre detected. No respirable fibres detected.
AQ009-0.1-0.5	2014a	2014-11-20	439588	20.00	32600.00	334.7799	50.2170	0.1540	No FA AQ conducted.	-	-	1114	0.7799	0.1170	0.0105	0.0668	0.0534	0.0338	0.0338	0.0872	0.0078	Organic fibre detected. No respirable fibres detected.
AQ010-0.0-0.1	2014a	2014-11-20	439588	-	-	No ACM observed	-	-	No FA AQ conducted.	-	-	1015	0.0000	0.0000	<LOR	0.0000	0.0000	0.0048	0.0048	0.0048	<LOR	Organic fibre detected. No respirable fibres detected.
AQ010-0.1-0.5	2014a	2014-11-20	439588	20.00	32600.00	No ACM observed	-	-	No FA AQ conducted.	-	-	1251	0.0000	0.0000	<LOR	0.0000	0.0000	0.0000	0.0000	0.0000	<LOR	Organic fibre detected. No respirable fibres detected.
AQ011-0.0-0.1	2014a	2014-11-20	439588	-	-	No ACM observed	-	-	No FA AQ conducted.	-	-	769	0.0000	0.0000	<LOR	0.0171	0.0103	0.0000	0.0000	0.0103	0.0013	Organic fibre detected. No respirable fibres detected.
AQ011-0.1-0.5	2014a	2014-11-20	439588	20.00	32600.00	No ACM observed	-	-	No FA AQ conducted.	-	-	1035	0.0000	0.0000	<LOR	0.0653	0.0457	0.0039	0.0039	0.0496	0.0048	Organic fibre detected. No respirable fibres detected.
AQ012-0.0-0.1	2014a	2014-11-20	439588	-	-	No ACM observed	-	-	No FA AQ conducted.	-	-	993	0.0000	0.0000	<LOR	0.0000	0.0000	0.0000	0.0000	0.0000	<LOR	Organic fibre detected. No respirable fibres detected.
AQ012-0.1-0.5	2014a	2014-11-20	439588	20.00	32600.00	12.0000	1.8000	0.0055	No FA AQ conducted.	-	-	857	0.0000	0.0000	<LOR	0.0000	0.0000	0.0000	0.0000	0.0000	<LOR	Organic fibre detected. No respirable fibres detected.
AQ013-0.0-0.1	2014a	2014-11-20	439588	-	-	No ACM observed	-	-	No FA AQ conducted.	-	-	900	0.0000	0.0000	<LOR	0.0000	0.0000	0.0000	0.0000	0.0000	<LOR	Organic fibre detected. No respirable fibres detected.
AQ013-0.1-0.5	2014a	2014-11-20	439588	20.00	32600.00	No ACM observed	-	-	No FA AQ conducted.	-	-	1047	0.0000	0.0000	<LOR	0.0579	0.0463	2.5519	0.1276	0.1739	0.0166	Organic fibre detected.
AQ014-0.0-0.1	2014a	2014-11-21	439705	-	-	No ACM observed	-	-	No FA AQ conducted.	-	-	1016	0.0000	0.0000	<LOR	0.0000	0.0000	0.0030	0.0030	0.0030	<LOR	Organic fibre detected. No respirable fibres detected.
AQ014-0.1-0.5	2014a	2014-11-21	439705	20.00	32600.00	No ACM observed	-	-	No FA AQ conducted.	-	-	998	0.0000	0.0000	<LOR	0.0000	0.0000	0.0000	0.0000	0.0000	<LOR	Organic fibre detected. No respirable fibres detected.
AQ014-1.0-2.0	2015	28-April-2015	456254	10.00	16300.00	No ACM observed	-	-	No FA AQ conducted.	-	-	909	0.0000	0.0000	<LOR	0.0000	0.0000	0.0011	0.0011	0.0011	0.0001	Organic fibre detected.
AQ014-2.0-3.0	2015	28-April-2015	456254	10.00	16300.00	No ACM observed	-	-	No FA AQ conducted.	-	-	731	0.0000	0.0000	<LOR	0.0000	0.0000	0.0048	0.0048	0.0048	0.0007	Organic fibre detected.
AQ015-0.0-0.1	2014a	2014-11-21	439705	-	-	No ACM observed	-	-	No FA AQ conducted.	-	-	1014	0.0000	0.0000	<LOR	0.0000	0.0000	0.0000	0.0000	0.0000	<LOR	Organic fibre detected. No respirable fibres detected.
AQ015-0.1-0.5	2014a	2014-11-21	439705	20.00	32600.00	No ACM observed	-	-	No FA AQ conducted.	-	-	902	0.0000	0.0000	<LOR	0.0000	0.0000	0.0084	0.0084	0.0084	<LOR	Organic fibre detected. No respirable fibres detected.
AQ015-1.0-2.0	2015	28-April-2015	456254	10.00	16300.00	No ACM observed	-	-	No FA AQ conducted.	-	-	629	0.0000	0.0000	<LOR	0.0000	0.0000	0.0364	0.0055	0.0055	0.0009	Organic fibre detected.
AQ015-2.0-3.0	2015	28-April-2015	456254	10.00	16300.00	No ACM observed	-	-	No FA AQ conducted.	-	-	643	0.0000	0.0000	<LOR	0.0000	0.0000	0.0084	0.0084	0.0084	<LOR	Organic fibre detected. No respirable fibres detected.
AQ016-0.0-0.1	2014a	2014-11-19	439413	-	-	No ACM observed	-	-	No FA AQ conducted.	-	-	1002	0.0000	0.0000	<LOR	0.0000	0.0000	0.0000	0.0000	0.0000	<LOR	Organic fibre detected. No respirable fibres detected.
AQ016-0.1-0.5	2014a	2014-11-19	439413	20.00	32600.00	No ACM observed	-	-	No FA AQ conducted.	-	-	1079	0.0000	0.0000	<LOR	0.0000	0.0000	0.0000	0.0000	0.0000	<LOR	Organic fibre detected. No respirable fibres detected.
AQ016-1.0-1.7	2015	28-April-2015	456254	10.00	16300.00	No ACM observed	-	-	No FA AQ conducted.	-	-	610	0.0000	0.0000	<LOR	0.0000	0.0000	0.0031	0.0031	0.0031	0.0005	Organic fibre detected.
AQ016-2.0-3.0	2015	28-April-2015	456254	10.00	16300.00	No ACM observed	-	-	No FA AQ conducted.	-	-	643	0.0000	0.0000	<LOR	0.0000	0.0000	0.0002	0.0002	0.0002	0.0000	Organic fibre detected.
AQ017-0.0-0.1	2014a	2014-11-19	439413	-	-	No ACM observed	-	-	No FA AQ conducted.	-	-	896	0.0000	0.0000	<LOR	0.0000	0.0000	0.0000	0.0000	0.0000	<LOR	Organic fibre detected. No respirable fibres detected.
AQ017-0.1-0.5	2014a	2014-11-19	439413	20.00	32600.00	No ACM observed	-	-	No FA AQ conducted.	-	-	754	0.0000	0.0000	<LOR	0.0000	0.0000	0.0000	0.0000	0.0000	<LOR	Organic fibre detected. No respirable fibres detected.
AQ017-1.0-2.0	2015	28-April-2015	456254	10.00	16300.00	No ACM observed	-	-	No FA AQ conducted.	-	-	670	0.0000	0.0000	<LOR	0.0000	0.0000	0.0003	0.0003	0.0003	0.0000	Organic fibre detected.
AQ017-2.0-3.0	2015	28-April-2015	456254	10.00	16300.00	No ACM observed	-	-	No FA AQ conducted.	-	-	693	0.0000	0.0000	<LOR	0.0000	0.0000	0.0000	0.0000	0.0000	<LOR	Organic fibre detected. No respirable fibres detected.
AQ018-0.0-0.1	2014a	2014-11-19	439413	-	-	No ACM observed	-	-	No FA AQ conducted.	-	-	869	0.0000	0.0000	<LOR	0.0000	0.0000	0.0000	0.0000	0.0000	<LOR	Organic fibre detected. No respirable fibres detected.
AQ018-0.1-0.5	2014a	2014-11-19	439413	20.00	32600.00	9.0000	1.3500	0.0041	No FA AQ conducted.	-	-	870	0.0000	0.0000	<LOR	0.0385	0.0270	0.0000	0.0000	0.0270	0.0031	Organic fibre detected. No respirable fibres detected.
AQ018-1.0-2.0	2015	28-April-2015	456254	10.00	16300.00	No ACM observed	-	-	No FA AQ conducted.	-	-	689	0.0000	0.0000	<LOR	0.0000	0.0000	0.0037	0.0037	0.0037	0.0005	Organic fibre detected.
AQ018-2.0-3.0	2015	28-April-2015	456254	10.00	16300.00	No ACM observed	-	-	No FA AQ conducted.	-	-	779	0.0000	0.0000	<LOR	0.0000	0.0000	0.0030	0.0030	0.0030	0.0004	Organic fibre detected.
AQ019-0.0-0.1	2014a	2014-11-19	439413	-	-	No ACM observed	-	-	No FA AQ conducted.	-	-	735	0.0000	0.0000	<LOR	0.0000	0.0000	0.0000	0.0000	0.0000	<LOR	Organic fibre detected. No respirable fibres detected.
AQ019-0.1-0.5	2014a	2014-11-19	439413	20.00	32600.00	No ACM observed	-	-	No FA AQ conducted.	-	-	710	0.0000	0.0000	<LOR	0.0000	0.0000	0.0493	0.0296	0.0296	0.0042	Organic fibre detected. No respirable fibres detected.
AQ019-1.0-2.0	2015	28-April-2015	456254	10.00	16300.00	No ACM observed	-	-	No FA AQ conducted.	-	-	739	0.0000	0.0000	<LOR	0.0120	0.0084	0.0000	0.0000	0.0084	0.0011	Organic fibre detected.
AQ019-2.0-3.0	2015	28-April-2015	456254	10.00	16300.00	No ACM observed	-	-	No FA AQ conducted.	-	-	847	0.0000	0.0000	<LOR	0.0000	0.0000	0.0000	0.0000	0.0000	<LOR	Organic fibre detected. No respirable fibres detected.
AQ020-0.0-0.1	2014a	2014-11-21	439705	-	-	No ACM observed	-	-	No FA AQ conducted.	-	-	784	0.0000	0.0000	<LOR	0.0000	0.0000	0.0000	0.0000	0.0000	<LOR	Organic fibre detected. No respirable fibres detected.
AQ020-0.1-0.5	2014a	2014-11-21	439705	20.00	32600.00	4.9165	0.7375	0.0023	No FA AQ conducted.	-	-	896	0.9165	0.1375	0.0153	0.0000	0.0000	0.0000	0.0000	0.0000	<LOR	Organic fibre detected. No respirable fibres detected.
AQ021-0.0-0.1	2014a	2014-11-21	439705	-	-	No ACM observed	-	-	No FA AQ conducted.	-	-	858	0.0000	0.0000	<LOR	0.0000	0.0000	0.0000	0.0000	0.0000	<LOR	Organic fibre detected. No respirable fibres detected.
AQ021-0.1-0.5	2014a	2014-11-21	439705	20.00	32600.00	13.0000	1.9500	0.0060	No FA AQ conducted.	-	-	910	0.0000	0.0000								



Asbestos Concentration in Soils (JBS&G 2015b)		
Category	Criteria	Exceedance
Visible Surface Asbestos	No Visible ACM	Number
Bonded ACM in soils	0.025% w/w	Number
FA and AF in soils	0.01% w/w	Number

Sample Information				Field Asbestos Quantification								Laboratory Analysis										Trace Analysis
Sample ID	Data Source	Date	Lab Report Number	Approx. Volume of Soil (L)	Soil Mass (g)	Mass ACM (g)	Mass Asbestos in ACM (g)	[Asbestos from ACM in soil] (%w/w)	Mass FA (g)	Mass Asbestos in FA (g)	[Asbestos from FA in soil] (%w/w)	Sample Mass (g)	Mass ACM (g)	Mass Asbestos in ACM (g)	[Asbestos from ACM in soil] (%w/w)	Mass FA (g)	Mass Asbestos in FA (g)	AF Mass (g)	Mass Asbestos in AF (g)	Mass Asbestos in FA & AF (g)	[Asbestos from FA & AF in soil] (%w/w)	
AQ022-0.1-0.5	2014a	2014-11-21	439705	20.00	32600.00	5.0000	0.7500	0.0023	No FA AQ conducted.	-	-	944	0.0000	0.0000	<LOR	0.0000	0.0000	0.0088	0.0088	0.0088	<LOR	Organic fibre detected. No respirable fibres detected.
AQ023-0.0-0.1	2014a	2014-11-19	439413	-	-	No ACM observed	-	-	No FA AQ conducted.	-	-	715	0.0000	0.0000	<LOR	0.0000	0.0000	0.0016	0.0016	0.0016	<LOR	Organic fibre detected. No respirable fibres detected.
AQ023-0.1-0.5	2014a	2014-11-19	439413	20.00	32600.00	3.0000	0.4500	0.0014	No FA AQ conducted.	-	-	986	0.0000	0.0000	<LOR	0.0000	0.0000	0.0016	0.0016	0.0016	<LOR	Organic fibre detected. No respirable fibres detected.
AQ024-0.0-0.1	2014a	2014-11-19	439413	-	-	No ACM observed	-	-	No FA AQ conducted.	-	-	961	0.0000	0.0000	<LOR	0.0000	0.0000	0.1780	0.1780	0.1780	0.0185	Organic fibre detected. No respirable fibres detected.
AQ024-0.1-0.5	2014a	2014-11-19	439413	20.00	32600.00	39.0000	5.8500	0.0179	No FA AQ conducted.	-	-	901	0.0000	0.0000	<LOR	0.0000	0.0000	0.0040	0.0040	0.0040	<LOR	Organic fibre detected. No respirable fibres detected.
AQ024-1.0-1.6	2015	28-April-2015	456254	10.00	16300.00	No ACM observed	-	-	No FA AQ conducted.	-	-	530	0.0000	0.0000	<LOR	0.0102	0.0082	0.0000	0.0000	0.0082	0.0015	Organic fibre detected.
AQ024-2.0-3.0	2015	28-April-2015	456254	10.00	16300.00	No ACM observed	-	-	No FA AQ conducted.	-	-	715	1.7030	0.2555	0.0357	0.0000	0.0000	0.0000	0.0000	0.0000	<LOR	Organic fibre detected.
AQ025-0.0-0.1	2014a	2014-11-19	439413	-	-	No ACM observed	-	-	No FA AQ conducted.	-	-	882	0.0000	0.0000	<LOR	0.0000	0.0000	0.0000	0.0000	0.0000	<LOR	Organic fibre detected. No respirable fibres detected.
AQ025-0.1-0.5	2014a	2014-11-19	439413	20.00	32600.00	16.4221	2.4633	0.0076	No FA AQ conducted.	-	-	848	3.4221	0.5133	0.0605	0.0000	0.0000	0.0000	0.0000	0.0000	<LOR	Organic fibre detected. No respirable fibres detected.
AQ025-1.0-2.0	2015	28-April-2015	456254	10.00	16300.00	No ACM observed	-	-	No FA AQ conducted.	-	-	843	0.0000	0.0000	<LOR	0.0107	0.0086	0.0000	0.0000	0.0086	0.0010	Organic fibre detected.
AQ025-2.0-2.7	2015	28-April-2015	456254	10.00	16300.00	No ACM observed	-	-	No FA AQ conducted.	-	-	818	0.0000	0.0000	<LOR	0.0056	0.0045	0.0016	0.0016	0.0061	0.0007	Organic fibre detected.
AQ026-0.0-0.1	2014a	2014-11-19	439413	-	-	No ACM observed	-	-	No FA AQ conducted.	-	-	960	0.0000	0.0000	<LOR	0.0000	0.0000	0.0000	0.0000	0.0000	<LOR	Organic fibre detected. No respirable fibres detected.
AQ026-0.1-0.5	2014a	2014-11-19	439413	20.00	32600.00	12.0000	1.8000	0.0055	No FA AQ conducted.	-	-	960	0.0000	0.0000	<LOR	0.0000	0.0000	0.2241	0.0896	0.0896	0.0093	Organic fibre detected. No respirable fibres detected.
AQ026-1.0-1.6	2015	28-April-2015	456254	10.00	16300.00	No ACM observed	-	-	No FA AQ conducted.	-	-	709	0.0000	0.0000	<LOR	1.9513	0.9757	0.0008	0.0008	0.9765	0.1377	
AQ026-2.0-2.9	2015	28-April-2015	456254	10.00	16300.00	No ACM observed	-	-	No FA AQ conducted.	-	-	610	0.0000	0.0000	<LOR	0.0000	0.0000	0.0000	0.0000	0.0000	<LOR	
AQ030-0.0-0.1	2014a	2014-11-19	439413	-	-	No ACM observed	-	-	No FA AQ conducted.	-	-	1056	0.0000	0.0000	<LOR	0.0000	0.0000	0.0000	0.0000	0.0000	<LOR	Organic fibre detected. No respirable fibres detected.
AQ030-0.1-0.5	2014a	2014-11-19	439413	20.00	32600.00	33.0000	4.9500	0.0152	No FA AQ conducted.	-	-	1053	0.0000	0.0000	<LOR	0.0000	0.0000	0.2241	0.1345	0.1345	0.0128	Organic fibre detected. No respirable fibres detected.
AQ031-0.0-0.1	2014a	2014-11-19	439413	-	-	ACM observed	-	-	No FA AQ conducted.	-	-	884	0.0000	0.0000	<LOR	0.0000	0.0000	0.0000	0.0000	0.0000	<LOR	Organic fibre detected. No respirable fibres detected.
AQ031-0.1-0.5	2014a	2014-11-19	439413	20.00	32600.00	669.5900	100.4385	0.3081	No FA AQ conducted.	-	-	868	3.5900	0.5385	0.0620	0.1052	0.0631	0.3138	0.2510	0.3141	0.0362	Organic fibre detected.
AQ031-1.0-1.5	2015	28-April-2015	456254	10.00	16300.00	No ACM observed	-	-	No FA AQ conducted.	-	-	562	0.0000	0.0000	<LOR	0.0000	0.0000	0.0036	0.0036	0.0036	0.0006	Organic fibre detected.
AQ032-0.0-0.1	2014a	2014-11-20	439588	-	-	No ACM observed	-	-	No FA AQ conducted.	-	-	1038	0.0000	0.0000	<LOR	0.0000	0.0000	0.0636	0.0064	0.0064	<LOR	Organic fibre detected. No respirable fibres detected.
AQ032-0.1-0.5	2014a	2014-11-20	439588	20.00	32600.00	No ACM observed	-	-	No FA AQ conducted.	-	-	1020	0.0000	0.0000	<LOR	0.0000	0.0000	0.0175	0.0053	0.0053	<LOR	Organic fibre detected. No respirable fibres detected.
AQ033-0.0-0.1	2014a	2014-11-20	439588	-	-	ACM observed	-	-	No FA AQ conducted.	-	-	905	0.0000	0.0000	<LOR	0.0000	0.0000	0.0000	0.0000	0.0000	<LOR	Organic fibre detected. No respirable fibres detected.
AQ033-0.1-0.5	2014a	2014-11-20	439588	20.00	32600.00	21.0000	3.1500	0.0097	No FA AQ conducted.	-	-	1065	0.0000	0.0000	<LOR	0.0000	0.0000	0.6433	0.0322	0.0322	0.0030	Organic fibre detected. No respirable fibres detected.
AQ033-1.0-2.0	2015	28-April-2015	456254	10.00	16300.00	18.00	2.7000	0.0166	No FA AQ conducted.	-	-	779	0.0000	0.0000	<LOR	0.0000	0.0000	0.0064	0.0064	0.0064	0.0008	Organic fibre detected.
AQ034-0.0-0.1	2014a	2014-11-20	439588	-	-	No ACM observed	-	-	No FA AQ conducted.	-	-	956	0.3407	0.0511	0.0053	0.0000	0.0000	0.0458	0.0092	0.0092	0.0010	Organic fibre detected. No respirable fibres detected.
AQ034-0.1-0.5	2014a	2014-11-20	439588	20.00	32600.00	No ACM observed	-	-	No FA AQ conducted.	-	-	870	0.0000	0.0000	<LOR	0.0000	0.0000	0.1226	0.0981	0.0981	0.0113	Organic fibre detected.
AQ035-0.0-0.1	2014a	2014-11-20	439588	-	-	No ACM observed	-	-	No FA AQ conducted.	-	-	962	0.0000	0.0000	<LOR	0.0074	0.0059	0.0925	0.0833	0.0892	0.0093	Organic fibre detected. No respirable fibres detected.
AQ035-0.1-0.5	2014a	2014-11-20	439588	20.00	32600.00	4.0000	0.6000	0.0018	No FA AQ conducted.	-	-	975	0.0000	0.0000	<LOR	0.0000	0.0000	0.3101	0.0310	0.0310	0.0032	Organic fibre detected. No respirable fibres detected.
AQ036-0.0-0.1	2014a	2014-11-20	439588	-	-	No ACM observed	-	-	No FA AQ conducted.	-	-	916	0.0000	0.0000	<LOR	0.0000	0.0000	0.0007	0.0007	0.0007	<LOR	Organic fibre detected. No respirable fibres detected.
AQ036-0.1-0.5	2014a	2014-11-20	439588	20.00	32600.00	59.0000	8.8500	0.0271	No FA AQ conducted.	-	-	1027	0.0000	0.0000	<LOR	0.0000	0.0000	0.0094	0.0094	0.0094	<LOR	Organic fibre detected. No respirable fibres detected.
AQ036-1.0-2.0	2015	28-April-2015	456254	10.00	16300.00	No ACM observed	-	-	No FA AQ conducted.	-	-	909	0.0000	0.0000	<LOR	0.0000	0.0000	0.0000	0.0000	0.0000	<LOR	Organic fibre detected. No respirable fibres detected.
AQ036-2.0-3.0	2015	28-April-2015	456254	10.00	16300.00	No ACM observed	-	-	No FA AQ conducted.	-	-	837	0.0000	0.0000	<LOR	0.0000	0.0000	0.0000	0.0000	0.0000	<LOR	Organic fibre detected. No respirable fibres detected.
AQ037-0.0-0.1	2014a	2014-11-20	439588	-	-	No ACM observed	-	-	No FA AQ conducted.	-	-	1011	0.0000	0.0000	<LOR	0.0000	0.0000	0.0040	0.0040	0.0040	<LOR	Organic fibre detected. No respirable fibres detected.
AQ037-0.1-0.5	2014a	2014-11-20	439588	20.00	32600.00	66.0000	9.9000	0.0304	No FA AQ conducted.	-	-	895	0.0000	0.0000	<LOR	0.1699	0.1359	0.0080	0.0080	0.1439	0.0161	Organic fibre detected.
AQ037-1.0-2.0	2015	28-April-2015	456254	10.00	16300.00	No ACM observed	-	-	No FA AQ conducted.	-	-	734	0.0000	0.0000	<LOR	0.0000	0.0000	0.0071	0.0071	0.0071	0.0010	Organic fibre detected.
AQ037-2.0-3.0	2015	28-April-2015	456254	10.00	16300.00	No ACM observed	-	-	No FA AQ conducted.	-	-	859	0.0000	0.0000	<LOR	0.0000	0.0000	0.0000	0.0000	0.0000	<LOR	Organic fibre detected. No respirable fibres detected.
AQ038-0.0-0.1	2014a	2014-11-20	439588	-	-	ACM observed	-	-	No FA AQ conducted.	-	-	1120	0.0000	0.0000	<LOR	0.0000	0.0000	0.0000	0.0000	0.0000	<LOR	Organic fibre detected. No respirable fibres detected.
AQ038-0.3-0.5	2014a	2014-11-20	439588	20.00	32600.00	60.0012	9.0002	0.0276	No FA AQ conducted.	-	-	955	3.0012	0.4502	0.0471	0.0000	0.0000	0.0043	0.0043	0.0043	<LOR	Organic fibre detected. No respirable fibres detected.
AQ039-0.0-0.1	2014a	2014-11-20	439588	-	-	ACM observed	-	-	No FA AQ conducted.	-	-	699	0.0000	0.0000	<LOR	0.0787	0.0315	0.0000	0.0000	0.0315	0.0045	Organic fibre detected. No respirable fibres detected.
AQ039-0.1-0.5	2014a	2014-11-20	439588	20.00	32600.00	171.9601	25.7940	0.0791	No FA AQ conducted.	-	-	884	1.9601	0.2940	0.0333	0.0978	0.0782	0.0342	0.0342	0.1124	0.0127	Organic fibre detected.
AQ040-0.0-0.1	2014a	2014-11-20	439588	-	-	ACM observed	-	-	No FA AQ conducted.	-	-	929	0.0000	0.0000	<LOR	0.0000	0.0000	0.0000	0.0000	0.0000	<LOR	Organic fibre detected. No respirable fibres detected.
AQ040-0.1-0.5	2014a	2014-11-20	439588	20.00	32600.00	9.0000	1.3500	0.0041	No FA AQ conducted.	-	-	871	0.0000	0.0000	<LOR	0.0138	0.0097	0.5824	0.1165	0.1262	0.0145	Organic fibre detected.
AQ041-0.0-0.1	2014a	2014-11-20	439588	-	-	ACM observed	-	-	No FA AQ conducted.	-	-	790	0.0000	0.0000	<LOR	0.0000	0.0000	0.0360	0.0360	0.0360	0.0046	Organic fibre detected. No respirable fibres detected.
AQ041-0.1-0.5	2014a	2014-11-20	439588	20.00	32600.00	269.1721	40.3758	0.1239	No FA AQ conducted.	-	-	939	4.1721	0.6258	0.0666	0.3768	0.3014	0.2682	0.2682	0.5696	0.0606	Organic fibre detected.



Asbestos Concentration in Soils (JBS&G 2015b)		
Category	Criteria	Exceedance
Visible Surface Asbestos	No Visible ACM	Number
Bonded ACM in soils	0.025% w/w	Number
FA and AF in soils	0.01% w/w	Number

Sample Information				Field Asbestos Quantification								Laboratory Analysis										
Sample ID	Data Source	Date	Lab Report Number	Approx. Volume of Soil (L)	Soil Mass (g)	Mass ACM (g)	Mass Asbestos in ACM (g)	[Asbestos from ACM in soil] (%w/w)	Mass FA (g)	Mass Asbestos in FA (g)	[Asbestos from FA in soil] (%w/w)	Sample Mass (g)	Mass ACM (g)	Mass Asbestos in ACM (g)	[Asbestos from ACM in soil] (%w/w)	Mass FA (g)	Mass Asbestos in FA (g)	AF Mass (g)	Mass Asbestos in AF (g)	Mass Asbestos in FA & AF (g)	[Asbestos from FA & AF in soil] (%w/w)	Trace Analysis
AQ042-0.0-0.1	2014a	2014-11-20	439588	-	-	5.2611	0.7892	-	No FA AQ conducted.	-	-	723	5.2611	0.7892	0.1092	0.0903	0.0722	0.0388	0.0388	0.1110	0.0154	Organic fibre detected.
AQ042-0.1-0.5	2014a	2014-11-20	439588	20.00	32600.00	610.0339	91.5051	0.2807	No FA AQ conducted.	-	-	1011	9.0339	1.3551	0.1341	0.0823	0.0658	0.0766	0.0306	0.0964	0.0095	Organic fibre detected.
AQ043-0.0-0.1	2014a	2014-11-20	439588	-	-	0.0000	0.0000	-	No FA AQ conducted.	-	-	959	0.0000	0.0000	<LOR	0.0000	0.0000	0.0000	0.0000	0.0000	<LOR	Organic fibre detected. No respirable fibres detected.
AQ043-0.1-0.5	2014a	2014-11-20	439588	20.00	32600.00	2.0000	0.3000	0.0009	No FA AQ conducted.	-	-	914	0.0000	0.0000	<LOR	0.0000	0.0000	0.0009	0.0009	0.0009	<LOR	Organic fibre detected. No respirable fibres detected.
AQ044-0.0-0.1	2014a	2014-11-20	439588	-	-	0.0000	0.0000	-	No FA AQ conducted.	-	-	1141	0.0000	0.0000	<LOR	0.0338	0.0270	0.8316	0.8316	0.8586	0.0753	Organic fibre detected.
AQ044-0.1-0.5	2014a	2014-11-20	439588	20.00	32600.00	53.0000	7.9500	0.0244	No FA AQ conducted.	-	-	854	0.0000	0.0000	<LOR	0.2813	0.1125	0.0000	0.0000	0.1125	0.0132	Organic fibre detected. No respirable fibres detected.
AQ045-0.0-0.1	2014a	2014-11-20	439588	-	-	ACM observed	-	-	No FA AQ conducted.	-	-	699	0.0000	0.0000	<LOR	0.0000	0.0000	0.0012	0.0012	0.0012	<LOR	Organic fibre detected. No respirable fibres detected.
AQ045-0.1-0.5	2014a	2014-11-20	439588	20.00	32600.00	142.0000	21.3000	0.0653	No FA AQ conducted.	-	-	981	0.0000	0.0000	<LOR	0.3028	0.1817	0.0075	0.0075	0.1892	0.0193	Organic fibre detected.
AQ046-0.0-0.1	2014a	2014-11-20	439588	-	-	ACM observed	-	-	No FA AQ conducted.	-	-	756	0.0000	0.0000	<LOR	0.0000	0.0000	0.0100	0.0100	0.0100	0.0013	Organic fibre detected. No respirable fibres detected.
AQ046-0.1-0.5	2014a	2014-11-20	439588	20.00	32600.00	15.0000	2.2500	0.0069	No FA AQ conducted.	-	-	898	0.0000	0.0000	<LOR	0.0593	0.0415	0.4658	0.3726	0.4141	0.0461	Organic fibre detected.
AQ047-0.0-0.1	2014a	2014-11-20	439588	-	-	ACM observed	-	-	No FA AQ conducted.	-	-	738	0.0000	0.0000	<LOR	0.0827	0.0248	0.0298	0.0030	0.0278	0.0038	Organic fibre detected. No respirable fibres detected.
AQ047-0.1-0.5	2014a	2014-11-20	439588	20.00	32600.00	19.3116	2.8967	0.0089	No FA AQ conducted.	-	-	907	0.3116	0.0467	0.0052	0.0301	0.0211	0.8518	0.6814	0.7025	0.0775	Organic fibre detected.
AQ048-0.0-0.1	2014a	2014-11-20	439588	-	-	ACM observed	-	-	No FA AQ conducted.	-	-	847	0.0000	0.0000	<LOR	0.0000	0.0000	0.0000	0.0000	0.0000	<LOR	Organic fibre detected. No respirable fibres detected.
AQ048-0.1-0.5	2014a	2014-11-20	439588	20.00	32600.00	52.0000	7.8000	0.0239	No FA AQ conducted.	-	-	1010	0.0000	0.0000	<LOR	0.0000	0.0000	0.4158	0.3326	0.3326	0.0329	Organic fibre detected.
AQ048-1-1-8	2015	28-April-2015	456254	10.00	16300.00	No ACM observed	-	-	No FA AQ conducted.	-	-	574	0.0000	0.0000	<LOR	0.0000	0.0000	0.0005	0.0005	0.0005	0.0001	Organic fibre detected.
AQ049-0.0-0.1	2014a	2014-11-20	439588	-	-	ACM observed	-	-	No FA AQ conducted.	-	-	961	0.0000	0.0000	<LOR	0.6639	0.4979	1.2417	0.9934	1.4913	0.1552	Organic fibre detected.
AQ049-0.1-0.5	2014a	2014-11-20	439588	20.00	32600.00	7.0883	1.0632	0.0033	No FA AQ conducted.	-	-	1001	0.0883	0.0132	0.0013	0.0074	0.0059	0.1121	0.1121	0.1180	0.0118	Organic fibre detected.
AQ050-0.0-0.1	2014a	2014-11-20	439588	-	-	ACM observed	-	-	No FA AQ conducted.	-	-	925	0.0000	0.0000	<LOR	0.0000	0.0000	0.0000	0.0000	0.0000	<LOR	Organic fibre detected. No respirable fibres detected.
AQ050-0.1-0.5	2014a	2014-11-20	439588	20.00	32600.00	4.9462	0.7419	0.0023	No FA AQ conducted.	-	-	953	4.9462	0.7419	0.0779	0.0000	0.0000	3.7720	0.3772	0.3772	0.0396	Organic fibre detected.
AQ050-1.0-2.0	2015	28-April-2015	456254	10.00	16300.00	7.70	1.1550	0.0071	No FA AQ conducted.	-	-	536	2.2313	0.3347	0.0625	0.3912	0.1565	0.0078	0.0078	0.1643	0.0307	Organic fibre detected.
AQ50-2.0-3.0	2015	28-April-2015	456254	10.00	16300.00	ACM observed	-	-	No FA AQ conducted.	-	-	429	0.0000	0.0000	<LOR	0.0000	0.0000	0.0000	0.0000	0.0000	<LOR	Organic fibre detected. No respirable fibres detected.
AQ051-0.0-0.1	2014a	2014-11-20	439588	-	-	ACM observed	-	-	No FA AQ conducted.	-	-	877	0.0000	0.0000	<LOR	0.0000	0.0000	0.2037	0.0407	0.0407	0.0046	Organic fibre detected. No respirable fibres detected.
AQ051-0.1-0.5	2014a	2014-11-20	439588	20.00	32600.00	330.4082	49.5612	0.1520	No FA AQ conducted.	-	-	985	1.4082	0.2112	0.0214	5.7350	4.3013	0.3837	0.3070	4.6083	0.4678	Organic fibre detected.
AQ052-0.0-0.1	2014a	2014-11-20	439588	-	-	ACM observed	-	-	No FA AQ conducted.	-	-	997	0.0000	0.0000	<LOR	0.0972	0.0583	0.0130	0.0130	0.0713	0.0072	Organic fibre detected. No respirable fibres detected.
AQ052-0.1-0.5	2014a	2014-11-20	439588	20.00	32600.00	164.0000	24.6000	0.0755	No FA AQ conducted.	-	-	1158	0.0000	0.0000	<LOR	6.8421	5.4737	0.0068	0.0068	5.4805	0.4733	Organic fibre detected.
AQ053-0.0-0.1	2014a	2014-11-20	439588	-	-	No ACM observed	-	-	No FA AQ conducted.	-	-	974	0.0000	0.0000	<LOR	0.0000	0.0000	0.0061	0.0061	0.0061	<LOR	Organic fibre detected. No respirable fibres detected.
AQ053-0.1-0.5	2014a	2014-11-20	439588	20.00	32600.00	2.0203	0.3030	0.0009	No FA AQ conducted.	-	-	932	2.0203	0.3030	0.0325	0.0000	0.0000	1.4838	0.1484	0.1484	0.0159	Organic fibre detected.
AQ054-0.0-0.1	2014a	2014-11-20	-	-	-	ACM observed	-	-	No FA AQ conducted.	-	-	-	NO RESULTS- Large amounts of FA observed in test pit. Test pit ceased.									
AQ054-0.1-0.5	2014a	2014-11-20	-	-	-	-	-	-	No FA AQ conducted.	-	-	-	NO RESULTS- Large amounts of FA observed in test pit. Test pit ceased.									
AQ055-0.0-0.1	2014a	2014-11-21	439705	-	-	ACM observed	-	-	No FA AQ conducted.	-	-	976	0.0000	0.0000	<LOR	0.0000	0.0000	0.0150	0.0150	0.0150	0.0015	Organic fibre detected. No respirable fibres detected.
AQ055-0.1-0.5	2014a	2014-11-21	439705	20.00	32600.00	360.0000	54.0000	0.1656	No FA AQ conducted.	-	-	998	0.0000	0.0000	<LOR	0.1036	0.0725	0.0094	0.0094	0.0819	0.0082	Organic fibre detected. No respirable fibres detected.
AQ056-0.0-0.1	2014a	2014-11-20	439588	-	-	ACM observed	-	-	No FA AQ conducted.	-	-	873	0.0000	0.0000	<LOR	0.0000	0.0000	0.0000	0.0000	0.0000	<LOR	Organic fibre detected. No respirable fibres detected.
AQ056-0.1-0.5	2014a	2014-11-20	439588	20.00	32600.00	312.0000	46.8000	0.1436	No FA AQ conducted.	-	-	871	0.0000	0.0000	<LOR	5.4479	0.8172	0.2305	0.1614	0.9786	0.1123	Organic fibre detected.
AQ057-0.0-0.1	2014a	2014-11-24	439810	-	-	ACM observed	-	-	No FA AQ conducted.	-	-	712	0.0000	0.0000	<LOR	0.0212	0.0064	0.0034	0.0034	0.0098	0.0014	Organic fibre detected. No respirable fibres detected.
AQ057-0.1-0.5	2014a	2014-11-24	439810	20.00	32600.00	332.0000	49.8000	0.1528	No FA AQ conducted.	-	-	941	0.0000	0.0000	<LOR	0.0000	0.0000	0.0158	0.0158	0.0158	0.0017	Organic fibre detected. No respirable fibres detected.
AQ058-0.0-0.1	2014a	2014-11-24	439810	-	-	ACM observed	-	-	No FA AQ conducted.	-	-	612	1.8796	0.2819	0.0461	0.0000	0.0000	0.0000	0.0000	0.0000	<LOR	Organic fibre detected. No respirable fibres detected.
AQ058-0.1-0.5	2014a	2014-11-24	439810	20.00	32600.00	20.0000	3.0000	0.0092	No FA AQ conducted.	-	-	949	0.0000	0.0000	<LOR	0.0273	0.0218	0.0085	0.0085	0.0303	0.0032	Organic fibre detected. No respirable fibres detected.
AQ059-0.0-0.1	2014a	2014-11-21	439705	-	-	ACM																



Asbestos Concentration in Soils (JBS&G 2015b)		
Category	Criteria	Exceedance
Visible Surface Asbestos	No Visible ACM	Number
Bonded ACM in soils	0.025% w/w	Number
FA and AF in soils	0.01% w/w	Number

Sample Information				Field Asbestos Quantification								Laboratory Analysis										
Sample ID	Data Source	Date	Lab Report Number	Approx. Volume of Soil (L)	Soil Mass (g)	Mass ACM (g)	Mass Asbestos in ACM (g)	[Asbestos from ACM in soil] (%w/w)	Mass FA (g)	Mass Asbestos in FA (g)	[Asbestos from FA in soil] (%w/w)	Sample Mass (g)	Mass ACM (g)	Mass Asbestos in ACM (g)	[Asbestos from ACM in soil] (%w/w)	Mass FA (g)	Mass Asbestos in FA (g)	AF Mass (g)	Mass Asbestos in AF (g)	Mass Asbestos in FA & AF (g)	[Asbestos from FA & AF in soil] (%w/w)	Trace Analysis
AQ063-0.0-0.1	2014a	2014-11-24	-	-	-	ACM observed	-	-	No FA AQ conducted.	-	-	-	NO RESULTS- Large amounts of FA observed in test pit. Test pit ceased.									-
AQ063-0.1-0.5	2014a	2014-11-24	-	-	-	-	-	-	No FA AQ conducted.	-	-	-	NO RESULTS- Large amounts of FA observed in test pit. Test pit ceased.									-
AQ064-0.0-0.1	2014a	2014-11-21	439705	-	-	ACM observed	-	-	No FA AQ conducted.	-	-	849	8.0357	1.2054	0.1420	0.0140	0.0112	0.0316	0.0316	0.0428	0.0050	Organic fibre detected. No respirable fibres detected.
AQ064-0.1-0.5	2014a	2014-11-21	439705	20.00	32600.00	317.0000	47.5500	0.1459	No FA AQ conducted.	-	-	849	0.0000	0.0000	<LOR	0.1417	0.0850	0.0000	0.0000	0.0850	0.0100	Organic fibre detected. No respirable fibres detected.
AQ064-1.0-2.0	2015	28-April-2015	456254	10.00	16300.00	No ACM observed	-	-	No FA AQ conducted.	-	-	804	0.0000	0.0000	<LOR	1.4737	0.5895	0.0103	0.0103	0.5998	0.0746	Organic fibre detected.
AQ065-0.0-0.1	2014a	2014-11-21	439705	-	-	ACM observed	-	-	No FA AQ conducted.	-	-	847	0.0000	0.0000	<LOR	0.0000	0.0000	0.0051	0.0051	0.0051	<LOR	Organic fibre detected. No respirable fibres detected.
AQ065-0.1-0.5	2014a	2014-11-21	439705	20.00	32600.00	317.0000	47.5500	0.1459	No FA AQ conducted.	-	-	847	0.0000	0.0000	<LOR	0.0080	0.0048	0.0013	0.0013	0.0061	<LOR	Organic fibre detected. No respirable fibres detected.
AQ065-1.0-2.0	2015	28-April-2015	456254	10.00	16300.00	No ACM observed	-	-	No FA AQ conducted.	-	-	938	0.0000	0.0000	<LOR	0.0000	0.0000	0.0005	0.0005	0.0005	0.0001	Organic fibre detected.
AQ065-2.0-2.7	2015	28-April-2015	456254	10.00	16300.00	ACM observed	-	-	No FA AQ conducted.	-	-	878	0.0000	0.0000	<LOR	0.0815	0.0489	0.0024	0.0024	0.0513	0.0058	Organic fibre detected.
AQ066-0.0-0.1	2014a	2014-11-21	439705	-	-	ACM observed	-	-	No FA AQ conducted.	-	-	632	0.0000	0.0000	<LOR	0.0000	0.0000	0.0075	0.0075	0.0075	0.0012	Organic fibre detected. No respirable fibres detected.
AQ066-0.1-0.5	2014a	2014-11-21	439705	20.00	32600.00	90.7965	13.6195	0.0418	No FA AQ conducted.	-	-	1009	2.7965	0.5593	0.0555	0.6180	0.1236	0.0371	0.0371	0.1607	0.0159	Organic fibre detected.
AQ066-1.0-2.0	2015	28-April-2015	456254	10.00	16300.00	No ACM observed	-	-	No FA AQ conducted.	-	-	878	0.0000	0.0000	<LOR	0.0068	0.0054	0.0008	0.0008	0.0062	0.0007	Organic fibre detected.
AQ066-2.0-3.0	2015	28-April-2015	456254	10.00	16300.00	No ACM observed	-	-	No FA AQ conducted.	-	-	858	0.0000	0.0000	<LOR	0.0000	0.0000	0.0018	0.0018	0.0018	0.0002	Organic fibre detected.
AQ067-0.0-0.1	2014a	2014-11-21	439705	-	-	No ACM observed	-	-	No FA AQ conducted.	-	-	862	0.0000	0.0000	<LOR	0.0000	0.0000	0.0000	0.0000	0.0000	<LOR	Organic fibre detected. No respirable fibres detected.
AQ067-0.1-0.5	2014a	2014-11-21	439705	20.00	32600.00	97.0000	14.5500	0.0446	No FA AQ conducted.	-	-	866	0.0000	0.0000	<LOR	0.0000	0.0000	0.0000	0.0000	0.0000	<LOR	Organic fibre detected. No respirable fibres detected.
AQ067-1.0-1.3	2015	28-April-2015	456254	10.00	16300.00	No ACM observed	-	-	No FA AQ conducted.	-	-	800	0.0000	0.0000	<LOR	0.0000	0.0000	0.0000	0.0000	0.0000	<LOR	Organic fibre detected. No respirable fibres detected.
AQ068-0.0-0.1	2014a	2014-11-21	439705	-	-	No ACM observed	-	-	No FA AQ conducted.	-	-	871	0.0000	0.0000	<LOR	0.0000	0.0000	0.0000	0.0000	0.0000	<LOR	Organic fibre detected. No respirable fibres detected.
AQ068-0.1-0.5	2014a	2014-11-21	439705	20.00	32600.00	87.0000	13.0500	0.0400	No FA AQ conducted.	-	-	804	0.0000	0.0000	<LOR	0.0000	0.0000	0.0000	0.0000	0.0000	<LOR	Organic fibre detected. No respirable fibres detected.
AQ068-1.0-1.5	2015	28-April-2015	456254	10.00	16300.00	27.00	4.0500	0.0248	No FA AQ conducted.	-	-	742	3.9300	0.5895	0.0795			0.0006	0.0006	0.0006	0.0001	Organic fibre detected.
AQ069-0.0-0.1	2014a	2014-11-21	439705	-	-	ACM observed	-	-	No FA AQ conducted.	-	-	798	0.0000	0.0000	<LOR	0.0981	0.0785	0.0177	0.0177	0.0962	0.0121	Organic fibre detected.
AQ069-0.1-0.5	2014a	2014-11-21	439705	20.00	32600.00	3.2381	0.4857	0.0015	No FA AQ conducted.	-	-	988	1.2381	0.0186	0.0188	0.0284	0.0256	0.0071	0.0071	0.0327	0.0033	Organic fibre detected. No respirable fibres detected.
AQ069-1.0-1.6	2015	28-April-2015	456254	10.00	16300.00	No ACM observed	-	-	No FA AQ conducted.	-	-	753	0.0000	0.0000	<LOR	0.0000	0.0000	0.0000	0.0000	0.0000	<LOR	Organic fibre detected. No respirable fibres detected.
AQ070-0.0-0.1	2014a	2014-11-21	439705	-	-	ACM observed	-	-	No FA AQ conducted.	-	-	850	2.3240	0.3486	0.0410	0.0000	0.0000	0.1156	0.0173	0.0173	0.0020	Organic fibre detected. No respirable fibres detected.
AQ070-0.1-0.5	2014a	2014-11-21	439705	20.00	32600.00	6.0000	0.9000	0.0028	No FA AQ conducted.	-	-	990	0.0000	0.0000	<LOR	0.0000	0.0000	0.0353	0.0353	0.0353	0.0036	Organic fibre detected. No respirable fibres detected.
AQ071-0.0-0.1	2014a	2014-11-24	439810	-	-	ACM observed	-	-	No FA AQ conducted.	-	-	712	0.0000	0.0000	<LOR	0.0000	0.0000	0.0006	0.0006	0.0006	<LOR	Organic fibre detected. No respirable fibres detected.
AQ071-0.3-0.5	2014a	2014-11-24	439810	20.00	32600.00	4.0000	0.6000	0.0018	No FA AQ conducted.	-	-	901	0.0000	0.0000	<LOR	0.0000	0.0000	0.0000	0.0000	0.0000	<LOR	Organic fibre detected. No respirable fibres detected.
AQ072-0.0-0.1	2014a	2014-11-24	439810	-	-	No ACM observed	-	-	No FA AQ conducted.	-	-	892	0.0000	0.0000	<LOR	0.0000	0.0000	0.0000	0.0000	0.0000	<LOR	Organic fibre detected. No respirable fibres detected.
AQ072-0.1-0.5	2014a	2014-11-24	439810	20.00	32600.00	10.6102	1.5915	0.0049	No FA AQ conducted.	-	-	969	1.6102	0.2415	0.0249	0.0000	0.0000	0.0000	0.0000	0.0000	<LOR	Organic fibre detected. No respirable fibres detected.
AQ072-1.0-2.0	2015	28-April-2015	456254	10.00	16300.00	No ACM observed	-	-	No FA AQ conducted.	-	-	765	0.0000	0.0000	<LOR	0.0000	0.0000	0.0002	0.0002	0.0002	0.0000	Organic fibre detected.
AQ072-2.0-3.0	2015	28-April-2015	456254	10.00	16300.00	No ACM observed	-	-	No FA AQ conducted.	-	-	868	0.0000	0.0000	<LOR	0.0000	0.0000	0.0046	0.0046	0.0046	0.0005	Organic fibre detected.
QA01	2014a	2014-11-20	439588	-	-	-	-	-	-	-	-	964	0.0000	0.0000	<LOR	0.0000	0.0000	0.0458	0.0321	0.0321	0.0033	Organic fibre detected. No respirable fibres detected.
QA02	2014a	2014-11-20	439588	-	-	-	-	-	-	-	-	931	0.0000	0.0000	<LOR	0.0300	0.0210	4.5572	0.1367	0.1577	0.0169	Organic fibre detected.
QA03	2014a	2014-11-20	439705	-	-	-	-	-	-	-	-	1168	0.0000	0.0000	<LOR	0.0000	0.0000	0.0133	0.0133	0.0133	0.0011	Organic fibre detected. No respirable fibres detected.
QA04	2014a	2014-11-21	439705	-	-	-	-	-	-	-	-	911	4.3002	0.6450	0.0708	0.0257	0.0206	0.0153	0.0153	0.0359	0.0039	Organic fibre detected. No respirable fibres detected.
QA05	2014a	2014-11-21	439705	-	-	-	-	-	-	-	-	963	0.9970	0.1496	0.0155	1.1333	0.2267	0.0450	0.0450	0.2717	0.0282	Organic fibre detected.
QA06	2014a	2014-11-24	439810	-	-	-	-	-	-	-	-	976	0.0000	0.0000	<LOR	0.0000	0.0000	0.0080	0.0080	0.0080	<LOR	Organic fibre detected. No respirable fibres detected.
QA07	2014a	2014-11-24	439810	-	-	-	-	-	-	-	-	828	0.0000	0.0000	<LOR	0.0000	0.0000	0.0035	0.0035	0.0035	<LOR	Organic fibre detected. No respirable fibres detected.
QC01	2014a	2014-11-20	119744	-	-	-	-	-	-	-	-	950	0.0000	0.0000	<LOR	0.0000	0.0000	0.0050	0.0030	0.0030	<LOR	-
QC02	2014a	2014-11-20	119744	-	-	-	-	-	-	-	-	847	0.0000	0.0000	<LOR	0.0000	0.0000	0.0000	0.0000	0.0217	0.0030	-
QC03	2014a	2014-11-20	119783	-	-	-	-	-	-	-	-	999	0.0000	0.0000	<LOR	0.0000	0.0000	0.0000	0.0000	0.0000	<LOR	-
QC04	2014a	2014-11-21	119783	-	-	-	-	-	-	-	-	933	0.0346	0.0000	<LOR	0.0000	0.0000	0.0000	0.0000	0.0000	<LOR	-
QC05	2014a	2014-11-21	119783	-	-	-	-	-	-	-	-	806	0.2190	0								



Asbestos Concentration in Soils (JBS&G 2015b)		
Category	Criteria	Exceedance
Visible Surface Asbestos	No Visible ACM	Number
Bonded ACM in soils	0.025% w/w	Number
FA and AF in soils	0.01% w/w	Number

Sample Information				Field Asbestos Quantification								Laboratory Analysis										
Sample ID	Data Source	Date	Lab Report Number	Approx. Volume of Soil (L)	Soil Mass (g)	Mass ACM (g)	Mass Asbestos in ACM (g)	[Asbestos from ACM in soil] (%w/w)	Mass FA (g)	Mass Asbestos in FA (g)	[Asbestos from FA in soil] (%w/w)	Sample Mass (g)	Mass ACM (g)	Mass Asbestos in ACM (g)	[Asbestos from ACM in soil] (%w/w)	Mass FA (g)	Mass Asbestos in FA (g)	AF Mass (g)	Mass Asbestos in AF (g)	Mass Asbestos in FA & AF (g)	[Asbestos from FA & AF in soil] (%w/w)	Trace Analysis
TP02-0.1-0.5	2014b	2014-11-29	440610	20.00	32600.00	189.0000	28.3500	0.0870	No FA AQ conducted.	-	-	650	0.0000	0.0000	<LOR	0.0101	0.0081	0.0029	0.0029	0.0110	0.0014	Organic fibre detected. No respirable fibres detected.
TP03-0.0-0.1	2014b	2014-11-29	440610	-	-	ACM Observed	-	-	No FA AQ conducted.	-	-	738	0.0000	0.0000	<LOR	0.0136	0.0109	0.0110	0.0110	0.0219	0.0031	Organic fibre detected. No respirable fibres detected.
TP03-0.1-0.5	2014b	2014-11-29	440610	20.00	32600.00	49.0000	7.3500	0.0225	No FA AQ conducted.	-	-	868	3.5070	0.5261	0.0606	0.0000	0.0000	0.0000	0.0000	0.0000	<LOR	Organic fibre detected. No respirable fibres detected.
TP04-0.0-0.1	2014b	2014-11-29	440610	-	-	ACM Observed	-	-	No FA AQ conducted.	-	-	863	12.0268	1.8040	0.2091	0.0000	0.0000	0.0036	0.0036	0.0036	<LOR	Organic fibre detected. No respirable fibres detected.
TP04-0.1-0.5	2014b	2014-11-29	440610	20.00	32600.00	540.0000	81.0000	0.2485	No FA AQ conducted.	-	-	1051	16.0562	2.4084	0.2291	1.3756	0.4127	0.4574	0.0915	0.5042	0.0480	Organic fibre detected. No respirable fibres detected.
TP05-0.0-0.1	2014b	2014-11-29	440610	-	-	ACM Observed	-	-	No FA AQ conducted.	-	-	846	2.7338	0.4101	0.0485	0.0000	0.0000	0.0084	0.0084	0.0084	0.0010	Organic fibre detected. No respirable fibres detected.
TP05-0.1-0.5	2014b	2014-11-29	440610	20.00	32600.00	30.0000	4.5000	0.0138	No FA AQ conducted.	-	-	748	0.0000	0.0000	<LOR	0.0703	0.0562	0.0186	0.0186	0.0748	0.0100	Organic fibre detected. No respirable fibres detected.
TP06-0.0-0.1	2014b	2014-11-29	440610	-	-	ACM Observed	-	-	No FA AQ conducted.	-	-	750	0.0000	0.0000	<LOR	0.0000	0.0000	0.0000	0.0000	0.0000	<LOR	Organic fibre detected. No respirable fibres detected.
TP06-0.1-0.5	2014b	2014-11-29	440610	20.00	32600.00	9.0000	1.3500	0.0041	No FA AQ conducted.	-	-	702	0.0000	0.0000	<LOR	0.0000	0.0000	0.0000	0.0000	0.0000	<LOR	Organic fibre detected. No respirable fibres detected.
TP07-0.0-0.1	2014b	2014-11-29	440610	-	-	ACM Observed	-	-	No FA AQ conducted.	-	-	626	0.5433	0.0815	0.0130	0.0000	0.0000	0.0050	0.0050	0.0050	<LOR	Organic fibre detected. No respirable fibres detected.
TP07-0.1-0.5	2014b	2014-11-29	440610	20.00	32600.00	2.0000	0.3000	0.0009	No FA AQ conducted.	-	-	1024	0.0000	0.0000	<LOR	0.0000	0.0000	0.0000	0.0000	0.0000	<LOR	Organic fibre detected. No respirable fibres detected.
TP08-0.0-0.1	2014b	2014-11-29	440610	-	-	No ACM observed	-	-	No FA AQ conducted.	-	-	827	12.8240	1.9230	0.2326	0.0000	0.0000	0.0006	0.0006	0.0006	<LOR	Organic fibre detected. No respirable fibres detected.
TP08-0.1-0.5	2014b	2014-11-29	440610	20.00	32600.00	94.0000	14.1000	0.0433	No FA AQ conducted.	-	-	1027	0.0000	0.0000	<LOR	1.2131	0.3639	0.0014	0.0014	0.3653	0.0356	Organic fibre detected. No respirable fibres detected.
TP09-0.0-0.1	2014b	2014-11-29	440610	-	-	No ACM observed	-	-	No FA AQ conducted.	-	-	850	0.0000	0.0000	<LOR	0.0221	0.0177	0.0024	0.0024	0.0201	0.0024	Organic fibre detected. No respirable fibres detected.
TP09-0.1-0.5	2014b	2014-11-29	440610	20.00	32600.00	49.0000	7.3500	0.0225	No FA AQ conducted.	-	-	822	1.9778	0.2967	0.0361	0.0111	0.0089	0.0690	0.0138	0.0227	0.0028	Organic fibre detected. No respirable fibres detected.
TP10-0.0-0.1	2014b	2014-11-29	440610	-	-	ACM Observed	-	-	No FA AQ conducted.	-	-	767	0.0000	0.0000	<LOR	0.0042	0.0034	0.2101	0.0420	0.0454	0.0059	Organic fibre detected. No respirable fibres detected.
TP10-0.1-0.5	2014b	2014-11-29	440610	20.00	32600.00	14.0000	2.1000	0.0064	No FA AQ conducted.	-	-	834	0.0000	0.0000	<LOR	0.1958	0.1175	0.0012	0.0012	0.1187	0.0142	Organic fibre detected. No respirable fibres detected.
TP11-0.0-0.1	2014b	2014-11-29	440610	-	-	No ACM observed	-	-	No FA AQ conducted.	-	-	635	0.0000	0.0000	<LOR	0.0000	0.0000	0.0010	0.0010	0.0010	<LOR	Organic fibre detected. No respirable fibres detected.
TP11-0.1-0.5	2014b	2014-11-29	440610	20.00	32600.00	8.0000	1.2000	0.0037	No FA AQ conducted.	-	-	853	0.0000	0.0000	<LOR	0.0067	0.0040	0.0008	0.0008	0.0048	<LOR	Organic fibre detected. No respirable fibres detected.
TP12-0.0-0.1	2014b	2014-11-29	440610	-	-	ACM Observed	-	-	No FA AQ conducted.	-	-	879	2.1634	0.3245	0.0369	0.0074	0.0059	0.0216	0.0059	0.0118	0.0012	Organic fibre detected. No respirable fibres detected.
TP12-0.0-0.1	2014b	2014-11-29	440610	20.00	32600.00	75.0000	11.2500	0.0345	No FA AQ conducted.	-	-	1033	4.4086	0.6613	0.0640	0.0309	0.0216	0.0066	0.0066	0.0282	0.0027	Organic fibre detected. No respirable fibres detected.
TP13-0.0-0.1	2014b	2014-11-29	440610	-	-	ACM Observed	-	-	No FA AQ conducted.	-	-	584	3.7152	0.5573	0.0955	0.0174	0.0157	0.0000	0.0000	0.0157	0.0027	Organic fibre detected. No respirable fibres detected.
TP13-0.1-0.5	2014b	2014-11-29	440610	20.00	32600.00	35.0000	5.2500	0.0161	No FA AQ conducted.	-	-	779	0.0000	0.0000	<LOR	0.0318	0.0095	0.0042	0.0042	0.0137	0.0018	Organic fibre detected. No respirable fibres detected.
TP14-0.0-0.1	2014b	2014-11-29	440610	-	-	ACM Observed	-	-	No FA AQ conducted.	-	-	654	0.0000	0.0000	<LOR	0.0000	0.0000	0.0034	0.0034	0.0034	<LOR	Organic fibre detected. No respirable fibres detected.
TP14-0.1-0.5	2014b	2014-11-29	440610	20.00	32600.00	109.0000	16.3500	0.0502	No FA AQ conducted.	-	-	898	0.0000	0.0000	<LOR	0.0000	0.0000	0.0052	0.0052	0.0052	<LOR	Organic fibre detected. No respirable fibres detected.
TP15-0.0-0.1	2014b	2014-11-29	440610	-	-	No ACM observed	-	-	No FA AQ conducted.	-	-	466	0.0000	0.0000	<LOR	0.0000	0.0000	0.0045	0.0045	0.0045	0.0010	Organic fibre detected. No respirable fibres detected.
TP15-0.1-0.5	2014b	2014-11-29	440610	20.00	32600.00	59.0000	8.8500	0.0271	No FA AQ conducted.	-	-	722	2.2458	0.3369	0.0466	0.0000	0.0000	0.0808	0.0727	0.0727	0.0101	Organic fibre detected. No respirable fibres detected.
TP16-0.0-0.1	2014b	2014-11-29	440610	-	-	ACM Observed	-	-	No FA AQ conducted.	-	-	NO RESULTS- Large amounts of FA observed in test pit. Test pit ceased.										Organic fibre detected. No respirable fibres detected.
TP16-0.1-0.5	2014b	2014-11-29	440610	20.00	32600.00	ACM Observed	-	-	No FA AQ conducted.	-	-	NO RESULTS- Large amounts of FA observed in test pit. Test pit ceased.										Organic fibre detected. No respirable fibres detected.
TP17-0.0-0.1	2014b	2014-11-29	440610	-	-	No ACM observed	-	-	No FA AQ conducted.	-	-	843	0.0000	0.0000	<LOR	0.4493	0.2696	0.0047	0.0047	0.2743	0.0325	Organic fibre detected. No respirable fibres detected.
TP17-0.1-0.5	2014b	2014-11-29	440610	20.00	32600.00	17.0000	2.5500	0.0078	No FA AQ conducted.	-	-	765	5.5970	0.8396	0.1097	0.0000	0.0000	0.0000	0.0000	0.0000	<LOR	Organic fibre detected. No respirable fibres detected.
TP18-0.0-0.1	2014b	2014-11-29	440610	-	-	No ACM observed	-	-	No FA AQ conducted.	-	-	721	0.0000	0.0000	<LOR	0.0000	0.0000	0.0106	0.0106	0.0106	0.0015	Organic fibre detected. No respirable fibres detected.
TP18-0.1-0.5	2014b	2014-11-29	440610	20.00	32600.00	187.0000	28.0500	0.0860	No FA AQ conducted.	-	-	807	0.0000	0.0000	<LOR	0.0168	0.0101	0.0000	0.0000	0.0101	0.0012	Organic fibre detected. No respirable fibres detected.
TP19-0.0-0.1	2014b	2014-11-29	440610	-	-	ACM Observed	-	-	No FA AQ conducted.	-	-	773	0.0000	0.0000	<LOR	0.0000	0.0000	0.0008	0.0008	0.0008	<LOR	Organic fibre detected. No respirable fibres detected.
TP19-0.1-0.5	2014b	2014-11-29	440610	20.00	32600.00	294.0000	44.1000	0.1353	No FA AQ conducted.	-	-	777	0.0000	0.0000	<LOR	0.0538	0.0430	0.0000	0.0000	0.0430	0.0055	Organic fibre detected. No respirable fibres detected.
TP20-0.0-0.1	2014b	2014-11-29	440610	-	-	ACM Observed	-	-	No FA AQ conducted.	-	-	962	1.3634	0.2045	0.0213	0.0133	0.0106	0.0000	0.0000	0.0106	0.0011	Organic fibre detected. No respirable fibres detected.
TP20-0.1-0.5	2014b	2014-11-29	440610	20.00	32600.00	14.0000	2.1000	0.0064	No FA AQ conducted.	-	-	816	0.0000	0.0000	<LOR	0.0000	0.0000	0.0008	0.0008	0.0008	<LOR	Organic fibre detected. No respirable fibres detected.
TP210.0-0.1	2014b	2014-11-29	440610	-	-	ACM Observed	-	-	No FA AQ conducted.	-	-	823	0.0000	0.0000	<LOR	0.0000	0.0000	0.0014	0.0014	0.0014	<LOR	Organic fibre detected. No respirable fibres detected.
TP21-0.1-0.5	2014b	2014-11-29	440610	20.00	32600.00	266.0000	39.9000	0.1224	No FA AQ conducted.	-	-	897	0.0000	0.0000	<LOR	0.3266	0.2286	0.0010	0.0010	0.2296	0.0256	Organic fibre detected.



Asbestos Concentration in Soils (JBS&G 2015b)		
Category	Criteria	Exceedance
Visible Surface Asbestos	No Visible ACM	Number
Bonded ACM in soils	0.025% w/w	Number
FA and AF in soils	0.01% w/w	Number

Sample Information				Field Asbestos Quantification								Laboratory Analysis											
Sample ID	Data Source	Date	Lab Report Number	Approx. Volume of Soil (L)	Soil Mass (g)	Mass ACM (g)	Mass Asbestos in ACM (g)	[Asbestos from ACM in soil] (%w/w)	Mass FA (g)	Mass Asbestos in FA (g)	[Asbestos from FA in soil] (%w/w)	Sample Mass (g)	Mass ACM (g)	Mass Asbestos in ACM (g)	[Asbestos from ACM in soil] (%w/w)	Mass FA (g)	Mass Asbestos in FA (g)	AF Mass (g)	Mass Asbestos in AF (g)	Mass Asbestos in FA & AF (g)	[Asbestos from FA & AF in soil] (%w/w)	Trace Analysis	
TP22-0.0-0.1	2014b	2014-11-29	-	-	-	ACM Observed	-	-	No FA AQ conducted.	-	-	-	NO RESULTS- Large amounts of FA observed in test pit. Test pit ceased.									-	
TP22-0.1-0.5	2014b	2014-11-29	-	-	-	ACM Observed	-	-	No FA AQ conducted.	-	-	-	NO RESULTS- Large amounts of FA observed in test pit. Test pit ceased.									-	
TP23-0.0-0.1	2014b	2014-11-29	-	-	-	ACM Observed	-	-	No FA AQ conducted.	-	-	-	NO RESULTS- Large amounts of FA observed in test pit. Test pit ceased.									-	
TP23-0.1-0.5	2014b	2014-11-29	-	-	-	ACM Observed	-	-	No FA AQ conducted.	-	-	-	NO RESULTS- Large amounts of FA observed in test pit. Test pit ceased.									-	
TP240.00.1	2014b	20141129	440610	-	-	No ACM observed	-	-	No FA AQ conducted.	-	-	690	0.0000	0.0000	<LOR	0.0194	0.0136	0.0000	0.0000	0.0136	0.0020	Organic fibre detected. No respirable fibres detected.	
TP240.10.5	2014b	20141129	440610	20.00	32600.00	15.0000	2.2500	0.0069	No FA AQ conducted.	-	-	811	13.5679	2.0352	0.2511	0.0539	0.0323	0.0500	0.0500	0.0823	0.0102	Organic fibre detected. No respirable fibres detected.	
TP250.00.1	2014b	20141129	440610	-	-	No ACM observed	-	-	No FA AQ conducted.	-	-	-	0.0000	0.0000	<LOR	0.0000	0.0000	0.0000	0.0000	0.0000	<LOR	Organic fibre detected. No respirable fibres detected.	
TP250.10.5	2014b	20141129	440610	20.00	32600.00	ACM Observed	-	-	No FA AQ conducted.	-	-	600	12.7955	1.9193	0.3197	0.0056	0.0045	0.0034	0.0034	0.0079	0.0013	Organic fibre detected. No respirable fibres detected.	
QC01	2014b	20141129	440610	-	-	-	-	-	-	-	-	860	2.2186	0.3328	0.0387	0.0000	0.0000	0.0063	0.0063	0.0063	<LOR	Organic fibre detected. No respirable fibres detected.	
QC02	2014b	20141129	440610	-	-	-	-	-	-	-	-	695	0.0000	0.0000	<LOR	0.0000	0.0000	0.0096	0.0086	0.0086	0.0012	Organic fibre detected. No respirable fibres detected.	
QA01	2014b	20141129	120174	-	-	-	-	-	-	-	-	823	4.2278	-	0.5140	FA + AF=0.3450g				0.3450	0.0420	-	
QA02	2014b	20141129	120174	-	-	-	-	-	-	-	-	790	0.0000	0.0000	<LOR	0.0000	0.0000	0.0000	0.0000	0.0003	<LOR	-	

Table B: Duplicate and Triplicate Comparison

Job No. 50369

Westmead Hospital Redevelopment, Westmead, NSW

Asbestos Quantification Assessment

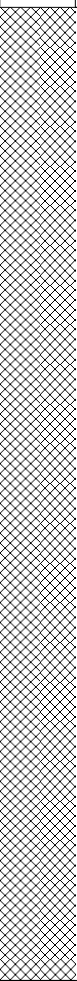
Table B - Duplicate and Triplicate Comparison Table



Primary Sample ID	ACM Detected	Duplicate ID	ACM Detected	Detections in Agreement	Triplicate ID	ACM Detected	Detections in Agreement
RAQ056-0-1	No	QC01	No	Yes	QA01	No	Yes
RAQ058-0-1	No	QC02	No	Yes	QA02	No	Yes
RAQ062-0-1	No	QA03	No	Yes	QC03	No	Yes
RAQ075-0-1	No	QA04	No	Yes	QC04	No	Yes
RAQ084-1-2	No	QA05	No	Yes	QC05	No	Yes
RAQ092-0-1	No	QA06	No	Yes	QC06	No	Yes
RAQ076-2-3	Yes	QA19	Yes	Yes	QC19	Yes	Yes
AQ008-1-2	No	QA21	No	Yes	QC21	Yes	No
AQ072-2-3	No	QA22	No	Yes	QC22	No	Yes
AQ048-1-1.8	No	QA23	No	Yes	QC23	No	Yes
Primary Sample ID	FA/AF Detected	Duplicate ID	FA/AF Detected	Detections in Agreement	Triplicate ID	FA/AF Detected	Detections in Agreement
RAQ056-0-1	No	QC01	No	Yes	QA01	No	Yes
RAQ058-0-1	No	QC02	No	Yes	QA02	No	Yes
RAQ062-0-1	No	QA03	No	Yes	QC03	No	Yes
RAQ075-0-1	Yes	QA04	No	No	QC04	No	No
RAQ084-1-2	No	QA05	Yes	No	QC05	No	Yes
RAQ092-0-1	Yes	QA06	Yes	Yes	QC06	Yes	Yes
RAQ076-2-3	Yes	QA19	Yes	Yes	QC19	Yes	Yes
AQ008-1-2	Yes	QA21	Yes	Yes	QC21	Yes	Yes
AQ072-2-3	Yes	QA22	Yes	Yes	QC22	No	No
AQ048-1-1.8	Yes	QA23	Yes	Yes	QC23	No	No

Appendix A: Borehole Logs

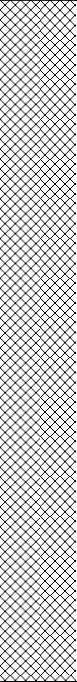
	Test Pit No: RAQ-001	Project No: 50369 Client: Health Infrastructure New South Wales Project Name: WHR - AQ in Accessible Soils Site Address: Westmead Hospital, Westmead, NSW
	Date: 2015.01.17 Contractor: Ken Coles Pty Ltd Excavation Plant: Excavator Method: TP Total Hole Depth (mbgs): 3.0	
Eastings (MGA): 313753.22 Northings (MGA): 6257944.31 Reference Level: GS Elevation - Surface (m): - Pit Dimension (m³): 4.2		

SUBSURFACE PROFILE			SAMPLE			
Depth	Graphic Log	Lithologic Description	Sample ID	PID (ppm)	Sample Type	Comments
0.0		FL Gravelly CLAY, medium dense, stiff, brown, heterogeneous, wet, low plasticity, inclusions of shale fragments and ACM.	RAQ001 (0-1)	-	D	10L AQ completed. ACM and FA observed. No odours or staining observed.
1.0			RAQ001 (1-2)	-	D	10L AQ completed. ACM and FA observed. No odours or staining observed.
2.0			RAQ001 (2-3)	-	D	10L AQ completed. ACM and FA observed. No odours or staining observed.
3.0						
		End of Hole @ 3.0 mbgs Program depth				
4.0						

Method	Sample Type	Reference Level	Log Details
TP - Test Pit HA - Hand Auger SFA - Solid Flight Auger HFA - Hollow Flight Auger PT - Push Tube	U - Undisturbed D - Disturbed sample CS - Core Sample	AHD - Australian Height Datum BGS - Below Ground Surface	Logged By: Matthew Murray Project Manager: Mitchell Hodgins

NOTE: This bore log is for environmental assessment purposes only and is not intended to provide geotechnical information

	Borehole No: RAQ-002	Project No: 50369
		Client: Health Infrastructure New South Wales Project Name: WHR - AQ in Accessible Soils Site Address: Westmead Hospital, Westmead, NSW
Date: 2015.01.27 Eastings (MGA): 313751.48 Contractor: Ken Coles Pty Ltd Northings (MGA): 62579460.05 Drill Rig: Backhoe Reference Level: GS Method: SFA Elevation - Surface (m): - Total Hole Depth (mbgs): 2.1 Bore Diameter (mm): 450		

SUBSURFACE PROFILE			SAMPLE			
Depth	Graphic Log	Lithologic Description	Sample ID	PID (ppm)	Sample Type	Comments
0.0		Ground Surface				
		FL Gravelly CLAY, stiff, brown, heterogeneous, wet, low plasticity, inclusions of shale fragments and ACM.	RAQ002 (0-1)	-	D	10L AQ completed. ACM observed. No odours or staining observed.
1.0			RAQ002 (1-2)	-	D	10L AQ completed. ACM and FA observed. No odours or staining observed.
2.0			RAQ002 (2-3)	-	D	10L AQ completed. ACM observed. No odours or staining observed.
		End of Hole @ 2.1 mbgs Refusal on sandstone and concrete within fill layer				
3.0						
4.0						

Drilling Method	Sample Type	Reference Level	Log Details
HA - Hand Auger	U - Undisturbed tube sample	AHD - Australian Height Datum	Logged By: Matthew Murray
SFA - Solid Flight Auger	D - Disturbed sample	BGS - Below Ground Surface	Project Manager: Mitchell Hodgins
HFA - Hollow Flight Auger	CS - Core sample		
PT - Push Tube			
AH - Air Hammer			

NOTE: This bore log is for environmental assessment purposes only and is not intended to provide geotechnical information

	Borehole No: RAQ-003	Project No: 50369
		Client: Health Infrastructure New South Wales Project Name: WHR - AQ in Accessible Soils Site Address: Westmead Hospital, Westmead, NSW
Date: 2015.01.27 Eastings (MGA): 313736.58 Contractor: Ken Coles Pty Ltd Northings (MGA): 6257958.24 Drill Rig: Backhoe Reference Level: GS Method: SFA Elevation - Surface (m): - Total Hole Depth (mbgs): 1.5 Bore Diameter (mm): 450		

SUBSURFACE PROFILE			SAMPLE			
Depth	Graphic Log	Lithologic Description	Sample ID	PID (ppm)	Sample Type	Comments
0.0		Ground Surface				
		FL Gravelly CLAY, stiff, brown, heterogeneous, wet, low plasticity, inclusions of shale fragments and ACM.	RAQ003 (0-1)	-	D	10L AQ completed. ACM observed. No odours or staining observed.
1.0			RAQ003 (1-2)	-	D	10L AQ completed. ACM and FA observed. No odours or staining observed.
		End of Hole @ 1.5 mbgs Refusal on shale within fill				
2.0						
3.0						
4.0						

Drilling Method	Sample Type	Reference Level	Log Details
HA - Hand Auger	U - Undisturbed tube sample	AHD - Australian Height Datum	Logged By: Matthew Murray
SFA - Solid Flight Auger	D - Disturbed sample	BGS - Below Ground Surface	Project Manager: Mitchell Hodgins
HFA - Hollow Flight Auger	CS - Core sample		
PT - Push Tube			
AH - Air Hammer			

NOTE: This bore log is for environmental assessment purposes only and is not intended to provide geotechnical information



Borehole No: RAQ-004

Project No: 50369

Client: Health Infrastructure New South Wales

Project Name: WHR - AQ in Accessible Soils

Site Address: Westmead Hospital, Westmead, NSW

Date: 2015.01.27

Contractor: Ken Coles Pty Ltd

Drill Rig: Backhoe

Method: SFA

Total Hole Depth (mbgs): 1.1

Eastings (MGA): 313721.39

Northings (MGA): 6257963.44

Reference Level: GS

Elevation - Surface (m): -

Bore Diameter (mm): 450

SUBSURFACE PROFILE			SAMPLE			
Depth	Graphic Log	Lithologic Description	Sample ID	PID (ppm)	Sample Type	Comments
0.0		Ground Surface				
		FL Gravelly CLAY, stiff, brown, heterogeneous, wet, low plasticity, inclusions of shale fragments and ACM.	RAQ004 (0-1)	-	D	10L AQ completed. ACM observed. No odours or staining observed.
1.0		End of Hole @ 1.1 mbgs Service encountered	RAQ004 (1-2)	-	D	10L AQ completed. ACM and FA observed. No odours or staining observed.
2.0						
3.0						
4.0						

Drilling Method	Sample Type	Reference Level	Log Details
HA - Hand Auger SFA - Solid Flight Auger HFA - Hollow Flight Auger PT - Push Tube AH - Air Hammer	U - Undisturbed tube sample D - Disturbed sample CS - Core sample	AHD - Australian Height Datum BGS - Below Ground Surface	Logged By: Matthew Murray Project Manager: Mitchell Hodgins

NOTE: This bore log is for environmental assessment purposes only and is not intended to provide geotechnical information
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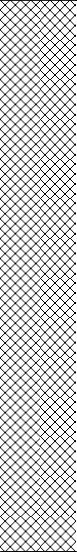
	Borehole No: RAQ-005	Project No: 50369
		Client: Health Infrastructure New South Wales Project Name: WHR - AQ in Accessible Soils Site Address: Westmead Hospital, Westmead, NSW
Date: 2015.01.27 Eastings (MGA): 313704.97 Contractor: Ken Coles Pty Ltd Northings (MGA): 6257971.86 Drill Rig: Backhoe Reference Level: GS Method: SFA Elevation - Surface (m): - Total Hole Depth (mbgs): 1.0 Bore Diameter (mm): 450		

SUBSURFACE PROFILE			SAMPLE			
Depth	Graphic Log	Lithologic Description	Sample ID	PID (ppm)	Sample Type	Comments
0.0		Ground Surface				
		FL Gravelly CLAY, stiff, brown, heterogeneous, wet, low plasticity, inclusions of shale fragments and ACM.	RAQ005 (0-1)	-	D	10L AQ completed. ACM observed. No odours or staining observed.
1.0		End of Hole @ 1.0 mbgs Refusal on shale and concrete within fill				
2.0						
3.0						
4.0						

Drilling Method	Sample Type	Reference Level	Log Details
HA - Hand Auger	U - Undisturbed tube sample	AHD - Australian Height Datum	Logged By: Matthew Murray
SFA - Solid Flight Auger	D - Disturbed sample	BGS - Below Ground Surface	Project Manager: Mitchell Hodgins
HFA - Hollow Flight Auger	CS - Core sample		
PT - Push Tube			
AH - Air Hammer			

NOTE: This bore log is for environmental assessment purposes only and is not intended to provide geotechnical information

	Borehole No: RAQ-006	Project No: 50369
		Client: Health Infrastructure New South Wales Project Name: WHR - AQ in Accessible Soils Site Address: Westmead Hospital, Westmead, NSW
Date: 2015.01.27 Eastings (MGA): 313732.73 Contractor: Ken Coles Pty Ltd Northings (MGA): 6257977.87 Drill Rig: Backhoe Reference Level: GS Method: SFA Elevation - Surface (m): - Total Hole Depth (mbgs): 1.7 Bore Diameter (mm): 450		

SUBSURFACE PROFILE			SAMPLE			
Depth	Graphic Log	Lithologic Description	Sample ID	PID (ppm)	Sample Type	Comments
0.0		Ground Surface				
		FL Gravelly CLAY, stiff, brown, heterogeneous, wet, low plasticity, inclusions of shale fragments and ACM.	RAQ006 (0-1)	-	D	10L AQ completed. ACM observed. No odours or staining observed.
1.0			RAQ006 (1-2)	-	D	10L AQ completed. ACM and FA observed. No odours or staining observed.
2.0		End of Hole @ 1.7 mbgs Refusal on shale bedrock				
3.0						
4.0						

Drilling Method	Sample Type	Reference Level	Log Details
HA - Hand Auger	U - Undisturbed tube sample	AHD - Australian Height Datum	Logged By: Matthew Murray
SFA - Solid Flight Auger	D - Disturbed sample	BGS - Below Ground Surface	Project Manager: Mitchell Hodgins
HFA - Hollow Flight Auger	CS - Core sample		
PT - Push Tube			
AH - Air Hammer			

NOTE: This bore log is for environmental assessment purposes only and is not intended to provide geotechnical information

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	Borehole No: RAQ-007	Project No: 50369
		Client: Health Infrastructure New South Wales Project Name: WHR - AQ in Accessible Soils Site Address: Westmead Hospital, Westmead, NSW
Date: 2015.01.28 Eastings (MGA): 313732.73 Contractor: Ken Coles Pty Ltd Northings (MGA): 6257977.87 Drill Rig: Backhoe Reference Level: GS Method: SFA Elevation - Surface (m): - Total Hole Depth (mbgs): 0.9 Bore Diameter (mm): 450		

SUBSURFACE PROFILE			SAMPLE			
Depth	Graphic Log	Lithologic Description	Sample ID	PID (ppm)	Sample Type	Comments
0.0		Ground Surface				
		FL Gravelly CLAY, stiff, brown, heterogeneous, wet, low plasticity, inclusions of shale fragments and ACM.	RAQ007 (0-1)	-	D	10L AQ completed. ACM observed. No odours or staining observed.
1.0		End of Hole @ 0.9 mbgs Refusal on shale bedrock				
2.0						
3.0						
4.0						

Drilling Method	Sample Type	Reference Level	Log Details
HA - Hand Auger	U - Undisturbed tube sample	AHD - Australian Height Datum	Logged By: Matthew Murray
SFA - Solid Flight Auger	D - Disturbed sample	BGS - Below Ground Surface	Project Manager: Mitchell Hodgins
HFA - Hollow Flight Auger	CS - Core sample		
PT - Push Tube			
AH - Air Hammer			

NOTE: This bore log is for environmental assessment purposes only and is not intended to provide geotechnical information

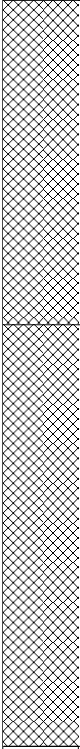
	Borehole No: RAQ-008	Project No: 50369
		Client: Health Infrastructure New South Wales Project Name: WHR - AQ in Accessible Soils Site Address: Westmead Hospital, Westmead, NSW
Date: 2015.01.28 Eastings (MGA): 313773.15 Contractor: Ken Coles Pty Ltd Northings (MGA): 6257971.59 Drill Rig: Backhoe Reference Level: GS Method: SFA Elevation - Surface (m): - Total Hole Depth (mbgs): 1.0 Bore Diameter (mm): 450		

SUBSURFACE PROFILE			SAMPLE			
Depth	Graphic Log	Lithologic Description	Sample ID	PID (ppm)	Sample Type	Comments
0.0		Ground Surface				
		FL Gravelly CLAY, stiff, brown, heterogeneous, wet, low plasticity, inclusions of shale fragments and ACM.	RAQ008 (0-1)	-	D	10L AQ completed. ACM observed. No odours or staining observed.
1.0		End of Hole @ 1.0 mbgs Refusal on road-base				
2.0						
3.0						
4.0						

Drilling Method	Sample Type	Reference Level	Log Details
HA - Hand Auger	U - Undisturbed tube sample	AHD - Australian Height Datum	Logged By: Matthew Murray
SFA - Solid Flight Auger	D - Disturbed sample	BGS - Below Ground Surface	Project Manager: Mitchell Hodgins
HFA - Hollow Flight Auger	CS - Core sample		
PT - Push Tube			
AH - Air Hammer			

NOTE: This bore log is for environmental assessment purposes only and is not intended to provide geotechnical information

	Borehole No: RAQ-009	Project No: 50369 Client: Health Infrastructure New South Wales Project Name: WHR - AQ in Accessible Soils Site Address: Westmead Hospital, Westmead, NSW
Date: 2015.01.28 Contractor: Ken Coles Pty Ltd Drill Rig: Backhoe Method: SFA Total Hole Depth (mbgs): 2.3	Eastings (MGA): 313773.15 Northings (MGA): 6257971.59 Reference Level: GS Elevation - Surface (m): - Bore Diameter (mm): 450	

SUBSURFACE PROFILE			SAMPLE			
Depth	Graphic Log	Lithologic Description	Sample ID	PID (ppm)	Sample Type	Comments
0.0		Ground Surface				
		FL Gravelly CLAY, soft, yellow, heterogeneous, wet, low plasticity, inclusions of shale fragments.	RAQ009 (0-1)	-	D	10L AQ completed. No odours, staining or ACM observed.
1.0		FL Gravelly CLAY, firm, brown, heterogeneous, wet, low plasticity, inclusions of concrete.	RAQ009 (1-2)	-	D	10L AQ completed. No odours, staining or ACM observed.
2.0			RAQ009 (2-3)	-	D	10L AQ completed. ACM and FA observed. No odours or staining observed.
		End of Hole @ 2.3 mbgs Refusal on reworked shale within fill				
3.0						
4.0						

Drilling Method	Sample Type	Reference Level	Log Details
HA - Hand Auger SFA - Solid Flight Auger HFA - Hollow Flight Auger PT - Push Tube AH - Air Hammer	U - Undisturbed tube sample D - Disturbed sample CS - Core sample	AHD - Australian Height Datum BGS - Below Ground Surface	Logged By: Matthew Murray Project Manager: Mitchell Hodgins

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	Borehole No: RAQ-010	Project No: 50369
		Client: Health Infrastructure New South Wales Project Name: WHR - AQ in Accessible Soils Site Address: Westmead Hospital, Westmead, NSW

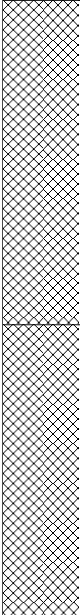
Date: 2015.01.28 Contractor: Ken Coles Pty Ltd Drill Rig: Backhoe Method: SFA Total Hole Depth (mbgs): 2.5	Eastings (MGA): 313737.73 Northings (MGA): 6257925.22 Reference Level: GS Elevation - Surface (m): - Bore Diameter (mm): 450
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SUBSURFACE PROFILE			SAMPLE			
Depth	Graphic Log	Lithologic Description	Sample ID	PID (ppm)	Sample Type	Comments
0.0		Ground Surface				
		FL Gravelly CLAY, soft, yellow, heterogeneous, wet, inclusions of shale fragments.	RAQ010 (0-1)	-	D	10L AQ completed. No odours, staining or ACM observed.
1.0		FL CLAY, firm, brown, heterogeneous, wet, inclusions of cement and ACM.	RAQ010 (1-2)	-	D	10L AQ completed. ACM and FA observed. No odours or staining observed.
2.0		FL Gravelly CLAY, firm, brown, heterogeneous, wet, inclusions of concrete fragments.	RAQ010 (2-3)	-	D	10L AQ completed. No odours, staining or ACM observed.
		NT Gravelly CLAY, firm, brown, moist, inclusions of shale fragments.				
		End of Hole @ 2.5 mbgs Natural				
3.0						
4.0						

Drilling Method	Sample Type	Reference Level	Log Details
HA - Hand Auger	U - Undisturbed tube sample	AHD - Australian Height Datum	Logged By: Matthew Murray
SFA - Solid Flight Auger	D - Disturbed sample	BGS - Below Ground Surface	Project Manager: Mitchell Hodgins
HFA - Hollow Flight Auger	CS - Core sample		
PT - Push Tube			
AH - Air Hammer			

NOTE: This bore log is for environmental assessment purposes only and is not intended to provide geotechnical information

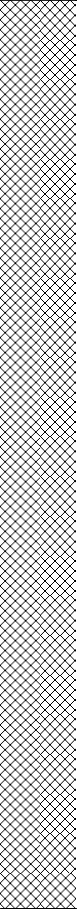
	Borehole No: RAQ-011	Project No: 50369 Client: Health Infrastructure New South Wales Project Name: WHR - AQ in Accessible Soils Site Address: Westmead Hospital, Westmead, NSW
Date: 2015.01.28 Contractor: Ken Coles Pty Ltd Drill Rig: Backhoe Method: SFA Total Hole Depth (mbgs): 1.9	Eastings (MGA): 313719.74 Northings (MGA): 6257922.99 Reference Level: GS Elevation - Surface (m): - Bore Diameter (mm): 450	

SUBSURFACE PROFILE			SAMPLE			
Depth	Graphic Log	Lithologic Description	Sample ID	PID (ppm)	Sample Type	Comments
0.0		Ground Surface				
		FL Gravelly CLAY, soft, brown, heterogeneous, wet, inclusions of shale fragments.	RAQ011 (0-1)	-	D	10L AQ completed. No odours, staining or ACM observed.
1.0		FL Gravelly CLAY, soft, brown, heterogeneous, wet, inclusions of shale fragments and ACM.	RAQ011 (1-2)	-	D	10L AQ completed. ACM observed. No odours or staining observed.
2.0		End of Hole @ 1.9 mbgs Refusal on shale and rubble within fill				
3.0						
4.0						

Drilling Method	Sample Type	Reference Level	Log Details
HA - Hand Auger SFA - Solid Flight Auger HFA - Hollow Flight Auger PT - Push Tube AH - Air Hammer	U - Undisturbed tube sample D - Disturbed sample CS - Core sample	AHD - Australian Height Datum BGS - Below Ground Surface	Logged By: Matthew Murray Project Manager: Mitchell Hodgins

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	Borehole No: RAQ-012	Project No: 50369 Client: Health Infrastructure New South Wales Project Name: WHR - AQ in Accessible Soils Site Address: Westmead Hospital, Westmead, NSW
Date: 2015.01.29 Contractor: Ken Coles Pty Ltd Drill Rig: Backhoe Method: SFA Total Hole Depth (mbgs): 2.8	Eastings (MGA): 313762.06 Northings (MGA): 6257971.75 Reference Level: GS Elevation - Surface (m): - Bore Diameter (mm): 450	

SUBSURFACE PROFILE			SAMPLE			
Depth	Graphic Log	Lithologic Description	Sample ID	PID (ppm)	Sample Type	Comments
0.0		Ground Surface		-	D	10L AQ completed. ACM observed. No odours or staining observed.
		FL Gravelly CLAY, firm, brown, heterogeneous, damp, inclusions of shale fragments and ACM.	RAQ012 (0-1)			
1.0			RAQ012 (1-2)			
2.0			RAQ012 (2-3)			
3.0		End of Hole @ 2.8 mbgs Refusal on shale within fill				
4.0						
Drilling Method		Sample Type	Reference Level	Log Details		
HA - Hand Auger		U - Undisturbed tube sample	AHD - Australian Height Datum	Logged By: Matthew Murray Project Manager: Mitchell Hodgins		
SFA - Solid Flight Auger		D - Disturbed sample	BGS - Below Ground Surface			
HFA - Hollow Flight Auger		CS - Core sample				
PT - Push Tube						
AH - Air Hammer						

NOTE: This bore log is for environmental assessment purposes only and is not intended to provide geotechnical information

	Borehole No: RAQ-013	Project No: 50369
		Client: Health Infrastructure New South Wales Project Name: WHR - AQ in Accessible Soils Site Address: Westmead Hospital, Westmead, NSW
Date: 2015.01.29 Eastings (MGA): 313728.61 Contractor: Ken Coles Pty Ltd Northings (MGA): 6257965.87 Drill Rig: Backhoe Reference Level: GS Method: SFA Elevation - Surface (m): - Total Hole Depth (mbgs): 1.0 Bore Diameter (mm): 450		

SUBSURFACE PROFILE			SAMPLE			
Depth	Graphic Log	Lithologic Description	Sample ID	PID (ppm)	Sample Type	Comments
0.0		Ground Surface				
		FL Gravelly CLAY, firm, brown, heterogeneous, damp, inclusions of organic matter, shale fragments and ACM fragment.	RAQ013 (0-1)	-	D	10L AQ completed. ACM observed. No odours or staining observed.
1.0		End of Hole @ 1.0 mbgs Refusal on tree roots				
2.0						
3.0						
4.0						
Drilling Method HA - Hand Auger SFA - Solid Flight Auger HFA - Hollow Flight Auger PT - Push Tube AH - Air Hammer		Sample Type U - Undisturbed tube sample D - Disturbed sample CS - Core sample	Reference Level AHD - Australian Height Datum BGS - Below Ground Surface	Log Details Logged By: Matthew Murray Project Manager: Mitchell Hodgins		

NOTE: This bore log is for environmental assessment purposes only and is not intended to provide geotechnical information

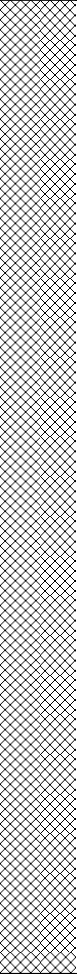
	Borehole No: RAQ-014	Project No: 50369
		Client: Health Infrastructure New South Wales Project Name: WHR - AQ in Accessible Soils Site Address: Westmead Hospital, Westmead, NSW
Date: 2015.01.29 Eastings (MGA): 313728.26 Contractor: Ken Coles Pty Ltd Northings (MGA): 6257938.31 Drill Rig: Backhoe Reference Level: GS Method: SFA Elevation - Surface (m): - Total Hole Depth (mbgs): 3.0 Bore Diameter (mm): 450		

SUBSURFACE PROFILE			SAMPLE			
Depth	Graphic Log	Lithologic Description	Sample ID	PID (ppm)	Sample Type	Comments
0.0		Ground Surface				
		FL Gravelly CLAY, firm, brown, heterogeneous, moist, inclusions of shale fragments.	RAQ014 (0-1)	-	D	10L AQ completed. No odours staining, or ACM observed.
1.0		FL Gravelly CLAY, firm, brown, heterogeneous, moist, inclusions of shale fragments and ACM.	RAQ014 (1-2)	-	D	10L AQ completed. ACM observed. No odours or staining observed.
2.0			RAQ014 (2-3)	-	D	10L AQ completed. ACM. No odours or staining observed.
3.0		End of Hole @ 3.0 mbgs Program depth				
4.0						

Drilling Method	Sample Type	Reference Level	Log Details
HA - Hand Auger	U - Undisturbed tube sample	AHD - Australian Height Datum	Logged By: Matthew Murray
SFA - Solid Flight Auger	D - Disturbed sample	BGS - Below Ground Surface	Project Manager: Mitchell Hodgins
HFA - Hollow Flight Auger	CS - Core sample		
PT - Push Tube			
AH - Air Hammer			

NOTE: This bore log is for environmental assessment purposes only and is not intended to provide geotechnical information

	Borehole No: RAQ-015	Project No: 50369 Client: Health Infrastructure New South Wales Project Name: WHR - AQ in Accessible Soils Site Address: Westmead Hospital, Westmead, NSW
Date: 2015.01.29 Contractor: Ken Coles Pty Ltd Drill Rig: Backhoe Method: SFA Total Hole Depth (mbgs): 3.0	Eastings (MGA): 313707.88 Northings (MGA): 6257906.87 Reference Level: GS Elevation - Surface (m): - Bore Diameter (mm): 450	

SUBSURFACE PROFILE			SAMPLE			
Depth	Graphic Log	Lithologic Description	Sample ID	PID (ppm)	Sample Type	Comments
0.0		Ground Surface				
		FL Gravelly CLAY, stiff, grey, heterogeneous, damp, inclusions of shale fragments.	RAQ015 (0-1)	-	D	10L AQ completed. No odours, staining or ACM observed.
1.0			RAQ015 (1-2)	-	D	10L AQ completed. No odours, staining or ACM observed,
2.0			RAQ015 (2-3)	-	D	10L AQ completed. No odours, staining or ACM observed.
3.0		End of Hole @ 3.0 mbgs Program depth				
4.0						

Drilling Method	Sample Type	Reference Level	Log Details
HA - Hand Auger SFA - Solid Flight Auger HFA - Hollow Flight Auger PT - Push Tube AH - Air Hammer	U - Undisturbed tube sample D - Disturbed sample CS - Core sample	AHD - Australian Height Datum BGS - Below Ground Surface	Logged By: Matthew Murray Project Manager: Mitchell Hodgins

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	Borehole No: RAQ-016	Project No: 50369
		Client: Health Infrastructure New South Wales Project Name: WHR - AQ in Accessible Soils Site Address: Westmead Hospital, Westmead, NSW
Date: 2015.01.29 Eastings (MGA): 313698.57 Contractor: Ken Coles Pty Ltd Northings (MGA): 6257912.93 Drill Rig: Backhoe Reference Level: GS Method: SFA Elevation - Surface (m): - Total Hole Depth (mbgs): 1.0 Bore Diameter (mm): 450		

SUBSURFACE PROFILE			SAMPLE			
Depth	Graphic Log	Lithologic Description	Sample ID	PID (ppm)	Sample Type	Comments
0.0		Ground Surface				
		FL Gravelly CLAY, firm, grey, heterogeneous, moist, inclusions of shale fragments and ACM.	RAQ016 (0-1)	-	D	10L AQ completed. ACM observed. No odours or staining observed.
1.0		End of Hole @ 1.0 mbgs Service encountered				
2.0						
3.0						
4.0						

Drilling Method	Sample Type	Reference Level	Log Details
HA - Hand Auger	U - Undisturbed tube sample	AHD - Australian Height Datum	Logged By: Matthew Murray
SFA - Solid Flight Auger	D - Disturbed sample	BGS - Below Ground Surface	Project Manager: Mitchell Hodgins
HFA - Hollow Flight Auger	CS - Core sample		
PT - Push Tube			
AH - Air Hammer			

NOTE: This bore log is for environmental assessment purposes only and is not intended to provide geotechnical information

	Borehole No: RAQ-017	Project No: 50369
		Client: Health Infrastructure New South Wales Project Name: WHR - AQ in Accessible Soils Site Address: Westmead Hospital, Westmead, NSW
Date: 2015.01.29 Eastings (MGA): 313698.92 Contractor: Ken Coles Pty Ltd Northings (MGA): 6257955.75 Drill Rig: Backhoe Reference Level: GS Method: SFA Elevation - Surface (m): - Total Hole Depth (mbgs): 1.1 Bore Diameter (mm): 450		

SUBSURFACE PROFILE			SAMPLE			
Depth	Graphic Log	Lithologic Description	Sample ID	PID (ppm)	Sample Type	Comments
0.0		Ground Surface				
		FL Gravelly CLAY, firm, brown, heterogeneous, damp, inclusions of shale fragments and ACM.	RAQ017 (0-1)	-	D	10L AQ completed. ACM observed. No odours or staining observed.
1.0		NT CLAY, yellow with red mottles.				No odours, staining or ACM observed.
		End of Hole @ 1.1 mbgs Natural				
2.0						
3.0						
4.0						

Drilling Method	Sample Type	Reference Level	Log Details
HA - Hand Auger	U - Undisturbed tube sample	AHD - Australian Height Datum	Logged By: Matthew Murray
SFA - Solid Flight Auger	D - Disturbed sample	BGS - Below Ground Surface	Project Manager: Mitchell Hodgins
HFA - Hollow Flight Auger	CS - Core sample		
PT - Push Tube			
AH - Air Hammer			

NOTE: This bore log is for environmental assessment purposes only and is not intended to provide geotechnical information

	Borehole No: RAQ-018	Project No: 50369
		Client: Health Infrastructure New South Wales Project Name: WHR - AQ in Accessible Soils Site Address: Westmead Hospital, Westmead, NSW
Date: 2015.02.03 Eastings (MGA): 313440.33 Contractor: Ken Coles Pty Ltd Northings (MGA): 6257954.41 Drill Rig: Backhoe Reference Level: GS Method: SFA Elevation - Surface (m): - Total Hole Depth (mbgs): 1.2 Bore Diameter (mm): 450		

SUBSURFACE PROFILE			SAMPLE			
Depth	Graphic Log	Lithologic Description	Sample ID	PID (ppm)	Sample Type	Comments
0.0		Ground Surface				
		FL CLAY, medium dense, firm, brown, heterogeneous, moist, inclusions of organic matter.	RAQ018 (0-1)	-	D	10L AQ completed. No odours, staining or ACM observed.
1.0		NT CLAY, yellow/brown.				No odours, staining or ACM observed.
		End of Hole @ 1.2 mbgs Natural				
2.0						
3.0						
4.0						

Drilling Method	Sample Type	Reference Level	Log Details
HA - Hand Auger SFA - Solid Flight Auger HFA - Hollow Flight Auger PT - Push Tube AH - Air Hammer	U - Undisturbed tube sample D - Disturbed sample CS - Core sample	AHD - Australian Height Datum BGS - Below Ground Surface	Logged By: Matthew Murray Project Manager: Mitchell Hodgins

	Borehole No: RAQ-019	Project No: 50369
		Client: Health Infrastructure New South Wales Project Name: WHR - AQ in Accessible Soils Site Address: Westmead Hospital, Westmead, NSW
Date: 2015.02.03 Eastings (MGA): 313436.47 Contractor: Ken Coles Pty Ltd Northings (MGA): 6257964.30 Drill Rig: Backhoe Reference Level: GS Method: SFA Elevation - Surface (m): - Total Hole Depth (mbgs): 1.2 Bore Diameter (mm): 450		

SUBSURFACE PROFILE			SAMPLE			
Depth	Graphic Log	Lithologic Description	Sample ID	PID (ppm)	Sample Type	Comments
0.0		Ground Surface				
		FL CLAY, medium dense, firm, brown, heterogeneous, moist, inclusions of organic matter.	RAQ019 (0-1)	-	D	10L AQ completed. No odours, staining or ACM observed.
1.0		NT CLAY, yellow/brown.				No odours, staining or ACM observed.
		End of Hole @ 1.2 mbgs Natural				
2.0						
3.0						
4.0						

Drilling Method	Sample Type	Reference Level	Log Details
HA - Hand Auger	U - Undisturbed tube sample	AHD - Australian Height Datum	Logged By: Matthew Murray
SFA - Solid Flight Auger	D - Disturbed sample	BGS - Below Ground Surface	Project Manager: Mitchell Hodgins
HFA - Hollow Flight Auger	CS - Core sample		
PT - Push Tube			
AH - Air Hammer			

NOTE: This bore log is for environmental assessment purposes only and is not intended to provide geotechnical information

	Borehole No: RAQ-020	Project No: 50369
		Client: Health Infrastructure New South Wales Project Name: WHR - AQ in Accessible Soils Site Address: Westmead Hospital, Westmead, NSW
Date: 2015.02.03 Eastings (MGA): 313440.33 Contractor: Ken Coles Pty Ltd Northings (MGA): 6257982.00 Drill Rig: Backhoe Reference Level: GS Method: SFA Elevation - Surface (m): - Total Hole Depth (mbgs): 1.1 Bore Diameter (mm): 450		

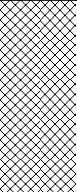
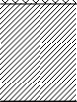
SUBSURFACE PROFILE			SAMPLE			
Depth	Graphic Log	Lithologic Description	Sample ID	PID (ppm)	Sample Type	Comments
0.0		Ground Surface				
		FL CLAY, soft, brown, heterogeneous, damp.	RAQ020 (0-1)	-	D	10L AQ completed. No odours, staining or ACM observed.
1.0		NT CLAY, yellow/brown.				No odours, staining or ACM observed.
		End of Hole @ 1.1 mbgs Natural				
2.0						
3.0						
4.0						

Drilling Method	Sample Type	Reference Level	Log Details
HA - Hand Auger	U - Undisturbed tube sample	AHD - Australian Height Datum	Logged By: Matthew Murray
SFA - Solid Flight Auger	D - Disturbed sample	BGS - Below Ground Surface	Project Manager: Mitchell Hodgins
HFA - Hollow Flight Auger	CS - Core sample		
PT - Push Tube			
AH - Air Hammer			

NOTE: This bore log is for environmental assessment purposes only and is not intended to provide geotechnical information

	Borehole No: RAQ-021	Project No: 50369
		Client: Health Infrastructure New South Wales Project Name: WHR - AQ in Accessible Soils Site Address: Westmead Hospital, Westmead, NSW

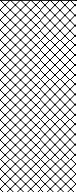
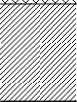
Date: 2015.02.03 Contractor: Ken Coles Pty Ltd Drill Rig: Backhoe Method: SFA Total Hole Depth (mbgs): 0.9	Eastings (MGA): 313470.06 Northings (MGA): 6257985.39 Reference Level: GS Elevation - Surface (m): - Bore Diameter (mm): 450
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SUBSURFACE PROFILE			SAMPLE			
Depth	Graphic Log	Lithologic Description	Sample ID	PID (ppm)	Sample Type	Comments
0.0		Ground Surface				
		FL CLAY, poorly graded, soft, brown, heterogeneous, damp, inclusions of organic matter.	RAQ021 (0-1)	-	D	10L AQ completed. No odours, staining or ACM observed.
		NT CLAY, yellow/brown.				No odours, staining or ACM observed.
1.0		End of Hole @ 0.9 mbgs Natural				
2.0						
3.0						
4.0						

Drilling Method	Sample Type	Reference Level	Log Details
HA - Hand Auger	U - Undisturbed tube sample	AHD - Australian Height Datum	Logged By: Matthew Murray
SFA - Solid Flight Auger	D - Disturbed sample	BGS - Below Ground Surface	Project Manager: Mitchell Hodgins
HFA - Hollow Flight Auger	CS - Core sample		
PT - Push Tube			
AH - Air Hammer			

NOTE: This bore log is for environmental assessment purposes only and is not intended to provide geotechnical information

	Borehole No: RAQ-022	Project No: 50369
		Client: Health Infrastructure New South Wales Project Name: WHR - AQ in Accessible Soils Site Address: Westmead Hospital, Westmead, NSW
Date: 2015.02.03 Eastings (MGA): 313466.16 Contractor: Ken Coles Pty Ltd Northings (MGA): 6257971.15 Drill Rig: Backhoe Reference Level: GS Method: SFA Elevation - Surface (m): - Total Hole Depth (mbgs): 0.9 Bore Diameter (mm): 450		

SUBSURFACE PROFILE			SAMPLE			
Depth	Graphic Log	Lithologic Description	Sample ID	PID (ppm)	Sample Type	Comments
0.0		Ground Surface				
		FL CLAY, poorly graded, medium dense, firm, brown, heterogeneous, moist.	RAQ022 (0-1)	-	D	10L AQ completed. No odours, staining or ACM observed.
		NT CLAY, yellow/brown.				No odours, staining or ACM observed.
1.0		End of Hole @ 0.9 mbgs Natural				
2.0						
3.0						
4.0						

Drilling Method	Sample Type	Reference Level	Log Details
HA - Hand Auger	U - Undisturbed tube sample	AHD - Australian Height Datum	Logged By: Matthew Murray
SFA - Solid Flight Auger	D - Disturbed sample	BGS - Below Ground Surface	Project Manager: Mitchell Hodgins
HFA - Hollow Flight Auger	CS - Core sample		
PT - Push Tube			
AH - Air Hammer			

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	Borehole No: RAQ-024	Project No: 50369
		Client: Health Infrastructure New South Wales Project Name: WHR - AQ in Accessible Soils Site Address: Westmead Hospital, Westmead, NSW
Date: 2015.02.03 Eastings (MGA): 313498.30 Contractor: Ken Coles Pty Ltd Northings (MGA): 6257962.70 Drill Rig: Backhoe Reference Level: GS Method: SFA Elevation - Surface (m): - Total Hole Depth (mbgs): 0.9 Bore Diameter (mm): 450		

SUBSURFACE PROFILE			SAMPLE			
Depth	Graphic Log	Lithologic Description	Sample ID	PID (ppm)	Sample Type	Comments
0.0		Ground Surface				
		FL Topsoil	RAQ024 (0-1)	-	D	10L AQ completed. No odours, staining or ACM observed.
		FL CLAY, soft, brown, heterogeneous, damp.				
		NT CLAY, yellow/brown.				No odours, staining or ACM observed.
1.0		End of Hole @ 0.9 mbgs Natural				
2.0						
3.0						
4.0						
Drilling Method HA - Hand Auger SFA - Solid Flight Auger HFA - Hollow Flight Auger PT - Push Tube AH - Air Hammer		Sample Type U - Undisturbed tube sample D - Disturbed sample CS - Core sample	Reference Level AHD - Australian Height Datum BGS - Below Ground Surface	Log Details Logged By: Matthew Murray Project Manager: Mitchell Hodgins		

NOTE: This bore log is for environmental assessment purposes only and is not intended to provide geotechnical information

	Borehole No: RAQ-025	Project No: 50369
		Client: Health Infrastructure New South Wales Project Name: WHR - AQ in Accessible Soils Site Address: Westmead Hospital, Westmead, NSW
Date: 2015.02.03 Eastings (MGA): 313500.73 Contractor: Ken Coles Pty Ltd Northings (MGA): 6257994.34 Drill Rig: Backhoe Reference Level: GS Method: SFA Elevation - Surface (m): - Total Hole Depth (mbgs): 1.0 Bore Diameter (mm): 450		

SUBSURFACE PROFILE			SAMPLE			
Depth	Graphic Log	Lithologic Description	Sample ID	PID (ppm)	Sample Type	Comments
0.0		Ground Surface				
		FL Topsoil				No odours, staining or ACM observed.
		FL CLAY, soft, brown, heterogeneous, damp, inclusions of organic matter.	RAQ025 (0-1)	-	D	10L AQ completed. No odours, staining or ACM observed.
		FL CLAY, soft, reddish brown, heterogenous, damp, inclusions of organic matter.				No odours, staining or ACM observed.
		NT CLAY, yellow/brown.				No odours, staining or ACM observed.
1.0		End of Hole @ 1.0 mbgs Natural				
2.0						
3.0						
4.0						

Drilling Method	Sample Type	Reference Level	Log Details
HA - Hand Auger	U - Undisturbed tube sample	AHD - Australian Height Datum	Logged By: Matthew Murray
SFA - Solid Flight Auger	D - Disturbed sample	BGS - Below Ground Surface	Project Manager: Mitchell Hodgins
HFA - Hollow Flight Auger	CS - Core sample		
PT - Push Tube			
AH - Air Hammer			

NOTE: This bore log is for environmental assessment purposes only and is not intended to provide geotechnical information

	Borehole No: RAQ-026	Project No: 50369
		Client: Health Infrastructure New South Wales Project Name: WHR - AQ in Accessible Soils Site Address: Westmead Hospital, Westmead, NSW
Date: 2015.02.03 Eastings (MGA): 313515.23 Contractor: Ken Coles Pty Ltd Northings (MGA): 6257957.76 Drill Rig: Backhoe Reference Level: GS Method: SFA Elevation - Surface (m): - Total Hole Depth (mbgs): 0.8 Bore Diameter (mm): 450		

SUBSURFACE PROFILE			SAMPLE			
Depth	Graphic Log	Lithologic Description	Sample ID	PID (ppm)	Sample Type	Comments
0.0		Ground Surface				
		FL Topsoil				No odours, staining or ACM observed.
		FL CLAY, soft, brown, heterogeneous, damp, inclusions of detritus.	RAQ026 (0-1)	-	D	10L AQ completed. No odours, staining or ACM observed.
		NT CLAY, yellow/brown.				No odours, staining or ACM observed.
1.0		End of Hole @ 0.8 mbgs Natural				
2.0						
3.0						
4.0						

Drilling Method	Sample Type	Reference Level	Log Details
HA - Hand Auger	U - Undisturbed tube sample	AHD - Australian Height Datum	Logged By: Matthew Murray
SFA - Solid Flight Auger	D - Disturbed sample	BGS - Below Ground Surface	Project Manager: Mitchell Hodgins
HFA - Hollow Flight Auger	CS - Core sample		
PT - Push Tube			
AH - Air Hammer			

NOTE: This bore log is for environmental assessment purposes only and is not intended to provide geotechnical information

	Borehole No: RAQ-027	Project No: 50369
		Client: Health Infrastructure New South Wales Project Name: WHR - AQ in Accessible Soils Site Address: Westmead Hospital, Westmead, NSW
Date: 2015.02.03 Eastings (MGA): 313522.32 Contractor: Ken Coles Pty Ltd Northings (MGA): 6257971.30 Drill Rig: Backhoe Reference Level: GS Method: SFA Elevation - Surface (m): - Total Hole Depth (mbgs): 0.8 Bore Diameter (mm): 450		

SUBSURFACE PROFILE			SAMPLE			
Depth	Graphic Log	Lithologic Description	Sample ID	PID (ppm)	Sample Type	Comments
0.0		Ground Surface				
		FL Topsoil				No odours, staining or ACM observed.
		FL CLAY, firm, brown, heterogeneous, damp.	RAQ027 (0-1)	-	D	10L AQ completed. No odours, staining or ACM observed.
		NT CLAY, yellow.				No odours, staining or ACM observed.
1.0		End of Hole @ 0.8 mbgs Natural				
2.0						
3.0						
4.0						

Drilling Method	Sample Type	Reference Level	Log Details
HA - Hand Auger	U - Undisturbed tube sample	AHD - Australian Height Datum	Logged By: Matthew Murray
SFA - Solid Flight Auger	D - Disturbed sample	BGS - Below Ground Surface	Project Manager: Mitchell Hodgins
HFA - Hollow Flight Auger	CS - Core sample		
PT - Push Tube			
AH - Air Hammer			

NOTE: This bore log is for environmental assessment purposes only and is not intended to provide geotechnical information

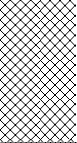
	Borehole No: RAQ-028	Project No: 50369
		Client: Health Infrastructure New South Wales Project Name: WHR - AQ in Accessible Soils Site Address: Westmead Hospital, Westmead, NSW
Date: 2015.02.03 Eastings (MGA): 313541.38 Contractor: Ken Coles Pty Ltd Northings (MGA): 6257995.15 Drill Rig: Backhoe Reference Level: GS Method: SFA Elevation - Surface (m): - Total Hole Depth (mbgs): 0.55 Bore Diameter (mm): 450		

SUBSURFACE PROFILE			SAMPLE			
Depth	Graphic Log	Lithologic Description	Sample ID	PID (ppm)	Sample Type	Comments
0.0		Ground Surface				
		FL Topsoil				No odours, staining or ACM observed.
		FL CLAY, firm, brown, heterogeneous, damp.	RAQ028 (0-1)	-	D	10L AQ completed. No odours, staining or ACM observed.
		End of Hole @ 0.55 mbgs Service encountered.				
1.0						
2.0						
3.0						
4.0						

Drilling Method	Sample Type	Reference Level	Log Details
HA - Hand Auger	U - Undisturbed tube sample	AHD - Australian Height Datum	Logged By: Matthew Murray
SFA - Solid Flight Auger	D - Disturbed sample	BGS - Below Ground Surface	Project Manager: Mitchell Hodgins
HFA - Hollow Flight Auger	CS - Core sample		
PT - Push Tube			
AH - Air Hammer			

NOTE: This bore log is for environmental assessment purposes only and is not intended to provide geotechnical information

	Borehole No: RAQ-029	Project No: 50369 Client: Health Infrastructure New South Wales Project Name: WHR - AQ in Accessible Soils Site Address: Westmead Hospital, Westmead, NSW
Date: 2015.02.03 Contractor: Ken Coles Pty Ltd Drill Rig: Backhoe Method: SFA Total Hole Depth (mbgs): 0.9 Eastings (MGA): - Northings (MGA): - Reference Level: GS Elevation - Surface (m): - Bore Diameter (mm): 450		

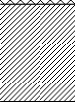
SUBSURFACE PROFILE			SAMPLE			
Depth	Graphic Log	Lithologic Description	Sample ID	PID (ppm)	Sample Type	Comments
0.0		Ground Surface				
		FL Mulch				No odours, staining or ACM observed.
		FL CLAY, firm, brown, heterogeneous, damp.	RAQ029 (0-1)	-	D	10L AQ completed. No odours, staining or ACM observed.
		NT Clay, yellow.				No odours, staining or ACM observed.
1.0		End of Hole @ 0.9 mbgs Natural				
2.0						
3.0						
4.0						

Drilling Method	Sample Type	Reference Level	Log Details
HA - Hand Auger SFA - Solid Flight Auger HFA - Hollow Flight Auger PT - Push Tube AH - Air Hammer	U - Undisturbed tube sample D - Disturbed sample CS - Core sample	AHD - Australian Height Datum BGS - Below Ground Surface	Logged By: Matthew Murray Project Manager: Mitchell Hodgins

NOTE: This bore log is for environmental assessment purposes only and is not intended to provide geotechnical information
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Borehole No: RAQ-030	Project No: 50369 Client: Health Infrastructure New South Wales Project Name: WHR - AQ in Accessible Soils Site Address: Westmead Hospital, Westmead, NSW
Eastings (MGA): - Northings (MGA): - Reference Level: GS Elevation - Surface (m): - Bore Diameter (mm): 450	

	Borehole No: RAQ-031	Project No: 50369
		Client: Health Infrastructure New South Wales Project Name: WHR - AQ in Accessible Soils Site Address: Westmead Hospital, Westmead, NSW
Date: 2015.02.03 Eastings (MGA): - Contractor: Ken Coles Pty Ltd Northings (MGA): - Drill Rig: Backhoe Reference Level: GS Method: SFA Elevation - Surface (m): - Total Hole Depth (mbgs): 0.75 Bore Diameter (mm): 450		

SUBSURFACE PROFILE			SAMPLE			
Depth	Graphic Log	Lithologic Description	Sample ID	PID (ppm)	Sample Type	Comments
0.0		Ground Surface				
		FL Topsoil.				No odours, staining or ACM observed.
		FL Gravelly SAND, loose, soft, heterogeneous, grey/black, damp, inclusions of ash and slag.	RAQ031 (0-1)	-	D	10L AQ completed. No odours, staining or ACM observed.
		NT Clay, yellow/brown.				No odours, staining or ACM observed.
1.0		End of Hole @ 0.75 mbgs Natural				
2.0						
3.0						
4.0						

Drilling Method	Sample Type	Reference Level	Log Details
HA - Hand Auger	U - Undisturbed tube sample	AHD - Australian Height Datum	Logged By: Matthew Murray
SFA - Solid Flight Auger	D - Disturbed sample	BGS - Below Ground Surface	Project Manager: Mitchell Hodgins
HFA - Hollow Flight Auger	CS - Core sample		
PT - Push Tube			
AH - Air Hammer			

NOTE: This bore log is for environmental assessment purposes only and is not intended to provide geotechnical information

	Borehole No: RAQ-032	Project No: 50369
		Client: Health Infrastructure New South Wales Project Name: WHR - AQ in Accessible Soils Site Address: Westmead Hospital, Westmead, NSW
Date: 2015.01.31 Contractor: Ken Coles Pty Ltd Drill Rig: Backhoe Method: SFA Total Hole Depth (mbgs): 2.0		
Eastings (MGA): - Northings (MGA): - Reference Level: GS Elevation - Surface (m): - Bore Diameter (mm): 450		

SUBSURFACE PROFILE			SAMPLE			
Depth	Graphic Log	Lithologic Description	Sample ID	PID (ppm)	Sample Type	Comments
0.0		Ground Surface				
		FL Topsoil		-	D	No odours, staining or ACM observed.
		FL CLAY, soft, brown, heterogeneous, damp, inclusions of gravel (sub angular).	RAQ032 (0-1)	-	D	10L AQ completed. No odours, staining or ACM observed.
1.0						
			RAQ032 (1-2)	-	D	10L AQ completed. No odours, staining or ACM observed.
		NT CLAY, red.		-		No odours, staining or ACM observed.
2.0		End of Hole @ 2.0 mbgs Natural				
3.0						
4.0						

Drilling Method	Sample Type	Reference Level	Log Details
HA - Hand Auger	U - Undisturbed tube sample	AHD - Australian Height Datum	Logged By: Matthew Murray
SFA - Solid Flight Auger	D - Disturbed sample	BGS - Below Ground Surface	Project Manager: Mitchell Hodgins
HFA - Hollow Flight Auger	CS - Core sample		
PT - Push Tube			
AH - Air Hammer			

NOTE: This bore log is for environmental assessment purposes only and is not intended to provide geotechnical information

	Borehole No: RAQ-033	Project No: 50369
		Client: Health Infrastructure New South Wales Project Name: WHR - AQ in Accessible Soils Site Address: Westmead Hospital, Westmead, NSW
Date: 2015.01.31 Eastings (MGA): 313681.92 Contractor: Ken Coles Pty Ltd Northings (MGA): 6258011.64 Drill Rig: Backhoe Reference Level: GS Method: SFA Elevation - Surface (m): - Total Hole Depth (mbgs): 2.3 Bore Diameter (mm): 450		

SUBSURFACE PROFILE			SAMPLE			
Depth	Graphic Log	Lithologic Description	Sample ID	PID (ppm)	Sample Type	Comments
0.0		Ground Surface				
		FL Topsoil		-	D	No odours, staining or ACM observed.
		FL CLAY, soft, brown, heterogeneous, damp, inclusions of gravel (sub angular).	RAQ033 (0-1)	-	D	10L AQ completed. No odours, staining or ACM observed.
1.0						
			RAQ033 (1-2)	-	D	10L AQ completed. No odours, staining or ACM observed.
2.0		NT CLAY, red.		-		No odours, staining or ACM observed.
		End of Hole @ 2.3 mbgs Natural				
3.0						
4.0						

Drilling Method	Sample Type	Reference Level	Log Details
HA - Hand Auger	U - Undisturbed tube sample	AHD - Australian Height Datum	Logged By: Matthew Murray
SFA - Solid Flight Auger	D - Disturbed sample	BGS - Below Ground Surface	Project Manager: Mitchell Hodgins
HFA - Hollow Flight Auger	CS - Core sample		
PT - Push Tube			
AH - Air Hammer			

NOTE: This bore log is for environmental assessment purposes only and is not intended to provide geotechnical information

	Borehole No: RAQ-034	Project No: 50369
		Client: Health Infrastructure New South Wales Project Name: WHR - AQ in Accessible Soils Site Address: Westmead Hospital, Westmead, NSW
Date: 2015.01.31 Eastings (MGA): 313740.53 Contractor: Ken Coles Pty Ltd Northings (MGA): 6257993.00 Drill Rig: Backhoe Reference Level: GS Method: SFA Elevation - Surface (m): - Total Hole Depth (mbgs): 1.5 Bore Diameter (mm): 450		

SUBSURFACE PROFILE			SAMPLE			
Depth	Graphic Log	Lithologic Description	Sample ID	PID (ppm)	Sample Type	Comments
0.0		Ground Surface				
		FL Topsoil		-		No odours, staining or ACM observed.
		FL Gravelly CLAY, soft, brown, heterogeneous, damp, inclusions of concrete and brick fragments.	RAQ034 (0-1)	-	D	10L AQ completed. No odours, staining or ACM observed.
1.0			RAQ034 (1-2)	-	D	10L AQ completed. ACM observed. No odours or staining observed.
		End of Hole @ 1.5 mbgs Refusal on shale bedrock				
2.0						
3.0						
4.0						

Drilling Method	Sample Type	Reference Level	Log Details
HA - Hand Auger	U - Undisturbed tube sample	AHD - Australian Height Datum	Logged By: Matthew Murray
SFA - Solid Flight Auger	D - Disturbed sample	BGS - Below Ground Surface	Project Manager: Mitchell Hodgins
HFA - Hollow Flight Auger	CS - Core sample		
PT - Push Tube			
AH - Air Hammer			

NOTE: This bore log is for environmental assessment purposes only and is not intended to provide geotechnical information

	Borehole No: RAQ-035	Project No: 50369
		Client: Health Infrastructure New South Wales Project Name: WHR - AQ in Accessible Soils Site Address: Westmead Hospital, Westmead, NSW
Date: 2015.01.31 Eastings (MGA): 313737.50 Contractor: Ken Coles Pty Ltd Northings (MGA): 6258004.69 Drill Rig: Backhoe Reference Level: GS Method: SFA Elevation - Surface (m): - Total Hole Depth (mbgs): 0.9 Bore Diameter (mm): 450		

SUBSURFACE PROFILE			SAMPLE			
Depth	Graphic Log	Lithologic Description	Sample ID	PID (ppm)	Sample Type	Comments
0.0		Ground Surface				
		FL Topsoil				No odours, staining or ACM observed.
		FL Gravelly CLAY, soft, brown, heterogeneous, damp, inclusions of shale fragments, concrete fragments and brick fragments.	RAQ035 (0-1)	-	D	No odours, staining or ACM observed.
1.0		End of Hole @ 0.9 mbgs Service observed				
2.0						
3.0						
4.0						

Drilling Method	Sample Type	Reference Level	Log Details
HA - Hand Auger	U - Undisturbed tube sample	AHD - Australian Height Datum	Logged By: Matthew Murray
SFA - Solid Flight Auger	D - Disturbed sample	BGS - Below Ground Surface	Project Manager: Mitchell Hodgins
HFA - Hollow Flight Auger	CS - Core sample		
PT - Push Tube			
AH - Air Hammer			

NOTE: This bore log is for environmental assessment purposes only and is not intended to provide geotechnical information

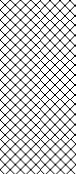
	Borehole No: RAQ-036	Project No: 50369 Client: Health Infrastructure New South Wales Project Name: WHR - AQ in Accessible Soils Site Address: Westmead Hospital, Westmead, NSW
Date: 2015.01.31 Contractor: Ken Coles Pty Ltd Drill Rig: Backhoe Method: SFA Total Hole Depth (mbgs): 0.9 Eastings (MGA): 313733.50 Northings (MGA): 6258016.25 Reference Level: GS Elevation - Surface (m): - Bore Diameter (mm): 450		

SUBSURFACE PROFILE			SAMPLE			
Depth	Graphic Log	Lithologic Description	Sample ID	PID (ppm)	Sample Type	Comments
0.0		Ground Surface				
		FL Topsoil		-		No odours, staining or ACM observed.
		FL Gravelly CLAY, poorly graded, stiff, brown, heterogeneous, damp, inclusions of brick and concrete fragments.	RAQ036 (0-1)	-	D	10L AQ completed. ACM and FA observed. No odours or staining observed.
1.0		End of Hole @ 0.9 mbgs Service encountered.				
2.0						
3.0						
4.0						

Drilling Method	Sample Type	Reference Level	Log Details
HA - Hand Auger SFA - Solid Flight Auger HFA - Hollow Flight Auger PT - Push Tube AH - Air Hammer	U - Undisturbed tube sample D - Disturbed sample CS - Core sample	AHD - Australian Height Datum BGS - Below Ground Surface	Logged By: Matthew Murray Project Manager: Mitchell Hodgins

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	Borehole No: RAQ-037	Project No: 50369
		Client: Health Infrastructure New South Wales Project Name: WHR - AQ in Accessible Soils Site Address: Westmead Hospital, Westmead, NSW
Date: 2015.02.02 Contractor: Ken Coles Pty Ltd Drill Rig: Backhoe Method: SFA Total Hole Depth (mbgs): 1.0		Eastings (MGA): 313565.67 Northings (MGA): 6257999.21 Reference Level: GS Elevation - Surface (m): - Bore Diameter (mm): 450

SUBSURFACE PROFILE			SAMPLE			
Depth	Graphic Log	Lithologic Description	Sample ID	PID (ppm)	Sample Type	Comments
0.0		Ground Surface				
		FL Topsoil		-		No odours, staining or ACM observed.
		FL CLAY, firm, brown, heterogeneous, damp.	RAQ037 (0-1)	-	D	10L AQ completed. No odours, staining or ACM observed.
		NT CLAY, yellow.		-	D	No odours, staining or ACM observed.
1.0		End of Hole @ 1.0 mbgs Natural				
2.0						
3.0						
4.0						

Drilling Method	Sample Type	Reference Level	Log Details
HA - Hand Auger	U - Undisturbed tube sample	AHD - Australian Height Datum	Logged By: Matthew Murray
SFA - Solid Flight Auger	D - Disturbed sample	BGS - Below Ground Surface	Project Manager: Mitchell Hodgins
HFA - Hollow Flight Auger	CS - Core sample		
PT - Push Tube			
AH - Air Hammer			

NOTE: This bore log is for environmental assessment purposes only and is not intended to provide geotechnical information

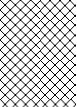
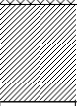
	Borehole No: RAQ-038	Project No: 50369
		Client: Health Infrastructure New South Wales Project Name: WHR - AQ in Accessible Soils Site Address: Westmead Hospital, Westmead, NSW
Date: 2015.02.02 Eastings (MGA): 313565.07 Contractor: Ken Coles Pty Ltd Northings (MGA): 6257975.97 Drill Rig: Backhoe Reference Level: GS Method: SFA Elevation - Surface (m): - Total Hole Depth (mbgs): 1.1 Bore Diameter (mm): 450		

SUBSURFACE PROFILE			SAMPLE			
Depth	Graphic Log	Lithologic Description	Sample ID	PID (ppm)	Sample Type	Comments
0.0		Ground Surface				
		FL Topsoil		-		No odours, staining or ACM observed.
		FL CLAY, firm, brown, heterogeneous, damp.	RAQ-038 (0-1)	-	D	10L AQ completed. No odours, staining or ACM observed.
1.0		NT CLAY, yellow/brown.		-	D	No odours, staining or ACM observed.
		End of Hole @ 1.1 mbgs Natural				
2.0						
3.0						
4.0						

Drilling Method	Sample Type	Reference Level	Log Details
HA - Hand Auger	U - Undisturbed tube sample	AHD - Australian Height Datum	Logged By: Matthew Murray
SFA - Solid Flight Auger	D - Disturbed sample	BGS - Below Ground Surface	Project Manager: Mitchell Hodgins
HFA - Hollow Flight Auger	CS - Core sample		
PT - Push Tube			
AH - Air Hammer			

NOTE: This bore log is for environmental assessment purposes only and is not intended to provide geotechnical information

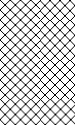
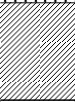
	Borehole No: RAQ-039	Project No: 50369
		Client: Health Infrastructure New South Wales Project Name: WHR - AQ in Accessible Soils Site Address: Westmead Hospital, Westmead, NSW
Date: 2015.02.02 Eastings (MGA): 313611.80 Contractor: Ken Coles Pty Ltd Northings (MGA): 6258003.67 Drill Rig: Backhoe Reference Level: GS Method: SFA Elevation - Surface (m): - Total Hole Depth (mbgs): 0.8 Bore Diameter (mm): 450		

SUBSURFACE PROFILE			SAMPLE			
Depth	Graphic Log	Lithologic Description	Sample ID	PID (ppm)	Sample Type	Comments
0.0		Ground Surface				
		FL Topsoil		-		No odours, staining or ACM observed.
		FL CLAY, firm, brown, heterogeneous, damp, inclusions of detritus.	RAQ039 (0-1)	-	D	10L AQ completed. No odours, staining or ACM observed.
		NT CLAY, yellow/brown.		-	D	No odours, staining or ACM observed.
1.0		End of Hole @ 0.8 mbgs Natural				
2.0						
3.0						
4.0						

Drilling Method	Sample Type	Reference Level	Log Details
HA - Hand Auger	U - Undisturbed tube sample	AHD - Australian Height Datum	Logged By: Matthew Murray
SFA - Solid Flight Auger	D - Disturbed sample	BGS - Below Ground Surface	Project Manager: Mitchell Hodgins
HFA - Hollow Flight Auger	CS - Core sample		
PT - Push Tube			
AH - Air Hammer			

NOTE: This bore log is for environmental assessment purposes only and is not intended to provide geotechnical information

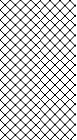
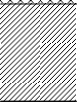
	Borehole No: RAQ-040	Project No: 50369
		Client: Health Infrastructure New South Wales Project Name: WHR - AQ in Accessible Soils Site Address: Westmead Hospital, Westmead, NSW
Date: 2015.02.02 Eastings (MGA): 313587.96 Contractor: Ken Coles Pty Ltd Northings (MGA): 6258003.66 Drill Rig: Backhoe Reference Level: GS Method: SFA Elevation - Surface (m): - Total Hole Depth (mbgs): 0.85 Bore Diameter (mm): 450		

SUBSURFACE PROFILE			SAMPLE			
Depth	Graphic Log	Lithologic Description	Sample ID	PID (ppm)	Sample Type	Comments
0.0		Ground Surface				
		FL Topsoil		-		No odours, staining or ACM observed.
		FL CLAY, firm, brown, heterogeneous, dam, inclusions of detritus.	RAQ040 (0-1)	-	D	10L AQ completed. No odours, staining or ACM observed.
		NT CLAY, yellow/brown.		-	D	No odours, staining or ACM observed.
1.0		End of Hole @ 0.85 mbgs Natural				
2.0						
3.0						
4.0						

Drilling Method	Sample Type	Reference Level	Log Details
HA - Hand Auger	U - Undisturbed tube sample	AHD - Australian Height Datum	Logged By: Matthew Murray
SFA - Solid Flight Auger	D - Disturbed sample	BGS - Below Ground Surface	Project Manager: Mitchell Hodgins
HFA - Hollow Flight Auger	CS - Core sample		
PT - Push Tube			
AH - Air Hammer			

NOTE: This bore log is for environmental assessment purposes only and is not intended to provide geotechnical information

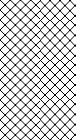
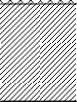
	Borehole No: RAQ-041	Project No: 50369 Client: Health Infrastructure New South Wales Project Name: WHR - AQ in Accessible Soils Site Address: Westmead Hospital, Westmead, NSW			
Date: 2015.02.02 Contractor: Ken Coles Pty Ltd Drill Rig: Backhoe Method: SFA Total Hole Depth (mbgs): 0.9			Eastings (MGA): 313620.79 Northings (MGA): 6257983.45 Reference Level: GS Elevation - Surface (m): - Bore Diameter (mm): 450		

SUBSURFACE PROFILE			SAMPLE			
Depth	Graphic Log	Lithologic Description	Sample ID	PID (ppm)	Sample Type	Comments
0.0		Ground Surface				
		FL Topsoil		-		No odours, staining or ACM observed.
		FL CLAY, firm, brown, heterogeneous, damp, inclusions of detritus.	RAQ041 (0-1)	-	D	10L AQ completed. No odours, staining or ACM observed.
		NT CLAY, yellow/brown.		-	D	No odours, staining or ACM observed.
1.0		End of Hole @ 0.9 mbgs Natural				
2.0						
3.0						
4.0						

Drilling Method	Sample Type	Reference Level	Log Details
HA - Hand Auger SFA - Solid Flight Auger HFA - Hollow Flight Auger PT - Push Tube AH - Air Hammer	U - Undisturbed tube sample D - Disturbed sample CS - Core sample	AHD - Australian Height Datum BGS - Below Ground Surface	Logged By: Matthew Murray Project Manager: Mitchell Hodgins

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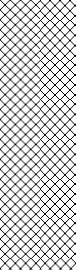
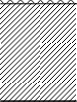
	Borehole No: RAQ-042	Project No: 50369
		Client: Health Infrastructure New South Wales Project Name: WHR - AQ in Accessible Soils Site Address: Westmead Hospital, Westmead, NSW
Date: 2015.02.02 Eastings (MGA): 313611.80 Contractor: Ken Coles Pty Ltd Northings (MGA): - Drill Rig: Backhoe Reference Level: GS Method: SFA Elevation - Surface (m): - Total Hole Depth (mbgs): 0.9 Bore Diameter (mm): 450		

SUBSURFACE PROFILE			SAMPLE			
Depth	Graphic Log	Lithologic Description	Sample ID	PID (ppm)	Sample Type	Comments
0.0		Ground Surface				
		FL Topsoil		-		No odours, staining or ACM observed.
		FL CLAY, firm, brown, heterogeneous, damp, inclusions of detritus.	RAQ042 (0-1)	-	D	10L AQ completed. No odours, staining or ACM observed.
		NT CLAY, yellow/brown.		-	D	No odours, staining or ACM observed.
1.0		End of Hole @ 0.9 mbgs Natural				
2.0						
3.0						
4.0						

Drilling Method	Sample Type	Reference Level	Log Details
HA - Hand Auger	U - Undisturbed tube sample	AHD - Australian Height Datum	Logged By: Matthew Murray
SFA - Solid Flight Auger	D - Disturbed sample	BGS - Below Ground Surface	Project Manager: Mitchell Hodgins
HFA - Hollow Flight Auger	CS - Core sample		
PT - Push Tube			
AH - Air Hammer			

NOTE: This bore log is for environmental assessment purposes only and is not intended to provide geotechnical information

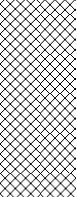
	Borehole No: RAQ-043	Project No: 50369
		Client: Health Infrastructure New South Wales Project Name: WHR - AQ in Accessible Soils Site Address: Westmead Hospital, Westmead, NSW
Date: 2015.02.02 Eastings (MGA): 313639.97 Contractor: Ken Coles Pty Ltd Northings (MGA): 6527927.96 Drill Rig: Backhoe Reference Level: GS Method: SFA Elevation - Surface (m): - Total Hole Depth (mbgs): 1.3 Bore Diameter (mm): 450		

SUBSURFACE PROFILE			SAMPLE			
Depth	Graphic Log	Lithologic Description	Sample ID	PID (ppm)	Sample Type	Comments
0.0		Ground Surface				
		FL Topsoil		-		No odours, staining or ACM observed.
		FL Gravelly CLAY, firm, brown, heterogeneous, damp, inclusions of ash, concrete, plastic fragments and ACM.	RAQ043 (0-1)	-	D	10L AQ completed. ACM observed. No odours or staining observed.
1.0		NT CLAY, yellow/red.		-	D	No odours, staining or ACM observed.
		End of Hole @ 1.3 mbgs Natural				
2.0						
3.0						
4.0						

Drilling Method	Sample Type	Reference Level	Log Details
HA - Hand Auger	U - Undisturbed tube sample	AHD - Australian Height Datum	Logged By: Matthew Murray
SFA - Solid Flight Auger	D - Disturbed sample	BGS - Below Ground Surface	Project Manager: Mitchell Hodgins
HFA - Hollow Flight Auger	CS - Core sample		
PT - Push Tube			
AH - Air Hammer			

NOTE: This bore log is for environmental assessment purposes only and is not intended to provide geotechnical information

	Borehole No: RAQ-044	Project No: 50369
		Client: Health Infrastructure New South Wales Project Name: WHR - AQ in Accessible Soils Site Address: Westmead Hospital, Westmead, NSW
Date: 2015.02.02 Eastings (MGA): 313.668.46 Contractor: Ken Coles Pty Ltd Northings (MGA): 6257953.57 Drill Rig: Backhoe Reference Level: GS Method: SFA Elevation - Surface (m): - Total Hole Depth (mbgs): 1.1 Bore Diameter (mm): 450		

SUBSURFACE PROFILE			SAMPLE			
Depth	Graphic Log	Lithologic Description	Sample ID	PID (ppm)	Sample Type	Comments
0.0		Ground Surface				
		FL Topsoil		-		No odours, staining or ACM observed.
		FL Gravelly CLAY, firm, brown, heterogeneous, damp, inclusions of concrete, plastic fragments and ACM.	RAQ044 (0-1)	-	D	10L AQ completed. ACM observed. No odours or staining observed.
1.0		NT CLAY, yellow.		-	D	No odours, staining or ACM observed.
		End of Hole @ 1.1 mbgs Natural				
2.0						
3.0						
4.0						

Drilling Method	Sample Type	Reference Level	Log Details
HA - Hand Auger	U - Undisturbed tube sample	AHD - Australian Height Datum	Logged By: Matthew Murray
SFA - Solid Flight Auger	D - Disturbed sample	BGS - Below Ground Surface	Project Manager: Mitchell Hodgins
HFA - Hollow Flight Auger	CS - Core sample		
PT - Push Tube			
AH - Air Hammer			

NOTE: This bore log is for environmental assessment purposes only and is not intended to provide geotechnical information

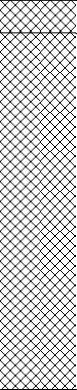
	Borehole No: RAQ-045	Project No: 50369 Client: Health Infrastructure New South Wales Project Name: WHR - AQ in Accessible Soils Site Address: Westmead Hospital, Westmead, NSW
	Date: 2015.01.30 Eastings (MGA): 313644.96 Contractor: Ken Coles Pty Ltd Northings (MGA): 6257908.95 Drill Rig: Backhoe Reference Level: GS Method: SFA Elevation - Surface (m): - Total Hole Depth (mbgs): 1.0 Bore Diameter (mm): 450	

SUBSURFACE PROFILE			SAMPLE			
Depth	Graphic Log	Lithologic Description	Sample ID	PID (ppm)	Sample Type	Comments
0.0		Ground Surface				
		FL Mulch				No odours, staining or ACM observed.
		FL Gravelly CLAY, stiff, brown, heterogeneous, damp, inclusions of shale fragments, cement, plastic and ACM.	RAQ045 (0-1)	-	D	10L AQ completed. ACM observed. No odours or staining observed.
1.0		End of Hole @ 1.0 mbgs Service encountered				
2.0						
3.0						
4.0						

Drilling Method	Sample Type	Reference Level	Log Details
HA - Hand Auger	U - Undisturbed tube sample	AHD - Australian Height Datum	Logged By: Matthew Murray
SFA - Solid Flight Auger	D - Disturbed sample	BGS - Below Ground Surface	Project Manager: Mitchell Hodgins
HFA - Hollow Flight Auger	CS - Core sample		
PT - Push Tube			
AH - Air Hammer			

NOTE: This bore log is for environmental assessment purposes only and is not intended to provide geotechnical information

	Borehole No: RAQ-046	Project No: 50369 Client: Health Infrastructure New South Wales Project Name: WHR - AQ in Accessible Soils Site Address: Westmead Hospital, Westmead, NSW
	Date: 2015.01.30 Eastings (MGA): 313627.26 Contractor: Ken Coles Pty Ltd Northings (MGA): 6257903.34 Drill Rig: Backhoe Reference Level: GS Method: SFA Elevation - Surface (m): - Total Hole Depth (mbgs): 1.2 Bore Diameter (mm): 450	

SUBSURFACE PROFILE			SAMPLE			
Depth	Graphic Log	Lithologic Description	Sample ID	PID (ppm)	Sample Type	Comments
0.0		Ground Surface				
		FL Topsoil				No odours, staining or ACM observed.
		FL Gravelly CLAY, stiff, brown, heterogeneous, damp, inclusions of cement and plastic.	RAQ046 (0-1)	-	D	10L AQ completed. ACM observed. No odours or staining observed,
1.0			RAQ046 (1-2)	-	D	10L AQ completed. ACM observed. No odours or staining observed.
		End of Hole @ 1.2 mbgs Refusal on shale within fill				
2.0						
3.0						
4.0						

Drilling Method	Sample Type	Reference Level	Log Details
HA - Hand Auger	U - Undisturbed tube sample	AHD - Australian Height Datum	Logged By: Matthew Murray
SFA - Solid Flight Auger	D - Disturbed sample	BGS - Below Ground Surface	Project Manager: Mitchell Hodgins
HFA - Hollow Flight Auger	CS - Core sample		
PT - Push Tube			
AH - Air Hammer			



Borehole No: RAQ-047

Project No: 50369

Client: Health Infrastructure New South Wales

Project Name: WHR - AQ in Accessible Soils

Site Address: Westmead Hospital, Westmead, NSW

Date: 2015.01.30

Contractor: Ken Coles Pty Ltd

Drill Rig: Backhoe

Method: SFA

Total Hole Depth (mbgs): 1.5

Eastings (MGA): 313624.07

Northings (MGA): 6257886.62

Reference Level: GS

Elevation - Surface (m): -

Bore Diameter (mm): 450

SUBSURFACE PROFILE			SAMPLE			
Depth	Graphic Log	Lithologic Description	Sample ID	PID (ppm)	Sample Type	Comments
0.0		Ground Surface				
		FL Topsoil				No odours, staining or ACM observed.
		FL Gravelly CLAY, firm, grey, heterogeneous, damp, inclusions of shale fragments and ACM.	RAQ047 (0-1)	-	D	10L AQ completed. ACM observed. No odours or staining observed.
1.0			RAQ047 (1-2)	-	D	10L AQ completed. ACM and FA observed. No odours or staining observed.
		End of Hole @ 1.5 mbgs Hole abandoned due to high wind				
2.0						
3.0						
4.0						

Drilling Method	Sample Type	Reference Level	Log Details
HA - Hand Auger SFA - Solid Flight Auger HFA - Hollow Flight Auger PT - Push Tube AH - Air Hammer	U - Undisturbed tube sample D - Disturbed sample CS - Core sample	AHD - Australian Height Datum BGS - Below Ground Surface	Logged By: Matthew Murray Project Manager: Mitchell Hodgins

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	Borehole No: RAQ-048	Project No: 50369
		Client: Health Infrastructure New South Wales Project Name: WHR - AQ in Accessible Soils Site Address: Westmead Hospital, Westmead, NSW
Date: 2015.01.30 Eastings (MGA): 313617.55 Contractor: Ken Coles Pty Ltd Northings (MGA): 6257879.08 Drill Rig: Backhoe Reference Level: GS Method: SFA Elevation - Surface (m): - Total Hole Depth (mbgs): 1.7 Bore Diameter (mm): 450		

SUBSURFACE PROFILE			SAMPLE			
Depth	Graphic Log	Lithologic Description	Sample ID	PID (ppm)	Sample Type	Comments
0.0		Ground Surface				
		FL Topsoil				No odours, staining or ACM observed.
		FL Gravelly CLAY, firm, grey, heterogeneous, damp, inclusions of shale fragments.	RAQ048 (0-1)	-	D	10L AQ completed. ACM observed. No odours or staining observed.
1.0			RAQ048 (1-2)	-	D	10L AQ completed. ACM and FA observed. No odours or staining observed.
2.0		End of Hole @ 1.7 mbgs Hole abandoned due to high wind				
3.0						
4.0						

Drilling Method	Sample Type	Reference Level	Log Details
HA - Hand Auger	U - Undisturbed tube sample	AHD - Australian Height Datum	Logged By: Matthew Murray
SFA - Solid Flight Auger	D - Disturbed sample	BGS - Below Ground Surface	Project Manager: Mitchell Hodgins
HFA - Hollow Flight Auger	CS - Core sample		
PT - Push Tube			
AH - Air Hammer			

NOTE: This bore log is for environmental assessment purposes only and is not intended to provide geotechnical information

	Borehole No: RAQ-049	Project No: 50369 Client: Health Infrastructure New South Wales Project Name: WHR - AQ in Accessible Soils Site Address: Westmead Hospital, Westmead, NSW			
Date: 2015.01.30 Contractor: Ken Coles Pty Ltd Drill Rig: Backhoe Method: SFA Total Hole Depth (mbgs): 1.0			Eastings (MGA): 313596.64 Northings (MGA): 6257892.09 Reference Level: GS Elevation - Surface (m): - Bore Diameter (mm): 450		

SUBSURFACE PROFILE			SAMPLE			
Depth	Graphic Log	Lithologic Description	Sample ID	PID (ppm)	Sample Type	Comments
0.0		Ground Surface		-		No odours, staining or ACM observed.
	FL Topsoil					
	FL Gravelly CLAY, firm, grey, heterogeneous, damp, inclusions of shale fragments and ACM.		RAQ049 (0-1)	-	D	10L AQ completed. ACM observed. No odours or staining observed.
1.0		End of Hole @ 1.0 mbgs Refusal on concrete blocks				
2.0						
3.0						
4.0						

Drilling Method	Sample Type	Reference Level	Log Details
HA - Hand Auger SFA - Solid Flight Auger HFA - Hollow Flight Auger PT - Push Tube AH - Air Hammer	U - Undisturbed tube sample D - Disturbed sample CS - Core sample	AHD - Australian Height Datum BGS - Below Ground Surface	Logged By: Matthew Murray Project Manager: Mitchell Hodgins

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	Borehole No: RAQ-050	Project No: 50369 Client: Health Infrastructure New South Wales Project Name: WHR - AQ in Accessible Soils Site Address: Westmead Hospital, Westmead, NSW
	Date: 2015.01.30 Eastings (MGA): 313581.95 Contractor: Ken Coles Pty Ltd Northings (MGA): 6257887.81 Drill Rig: Backhoe Reference Level: GS Method: SFA Elevation - Surface (m): - Total Hole Depth (mbgs): 1.5 Bore Diameter (mm): 450	

SUBSURFACE PROFILE			SAMPLE			
Depth	Graphic Log	Lithologic Description	Sample ID	PID (ppm)	Sample Type	Comments
0.0		Ground Surface		-		No odours, staining or ACM observed.
	FL Topsoil					
	FL CLAY, soft, brown, heterogeneous, damp, inclusions of organic matter.		RAQ050 (0-1)	-	D	10L AQ completed. No odours, staining or ACM observed.
1.0			RAQ050 (1-2)	-	D	10L AQ completed. No odours, staining or ACM observed.
	NT CLAY					No odours, staining or ACM observed.
		End of Hole @ 1.5 mbgs Natural				
2.0						
3.0						
4.0						

Drilling Method	Sample Type	Reference Level	Log Details
HA - Hand Auger	U - Undisturbed tube sample	AHD - Australian Height Datum	Logged By: Matthew Murray
SFA - Solid Flight Auger	D - Disturbed sample	BGS - Below Ground Surface	Project Manager: Mitchell Hodgins
HFA - Hollow Flight Auger	CS - Core sample		
PT - Push Tube			
AH - Air Hammer			

NOTE: This bore log is for environmental assessment purposes only and is not intended to provide geotechnical information

	Borehole No: RAQ-051	Project No: 50369
		Client: Health Infrastructure New South Wales Project Name: WHR - AQ in Accessible Soils Site Address: Westmead Hospital, Westmead, NSW
Date: 2015.01.30 Eastings (MGA): 313558.88 Contractor: Ken Coles Pty Ltd Northings (MGA): 6257876.79 Drill Rig: Backhoe Reference Level: GS Method: SFA Elevation - Surface (m): - Total Hole Depth (mbgs): 1.0 Bore Diameter (mm): 450		

SUBSURFACE PROFILE			SAMPLE			
Depth	Graphic Log	Lithologic Description	Sample ID	PID (ppm)	Sample Type	Comments
0.0		Ground Surface		-		No odours, staining or ACM observed.
	FL Topsoil FL Gravelly CLAY, poorly graded, firm, grey, heterogeneous, damp, inclusions of brick, concrete fragments and ACM.		RAQ051 (0-1)	-	D	
1.0		End of Hole @ 1.0 mbgs Refusal on building rubble				10L AQ completed. ACM observed. No odours or staining observed.

	Borehole No: RAQ-052	Project No: 50369
		Client: Health Infrastructure New South Wales Project Name: WHR - AQ in Accessible Soils Site Address: Westmead Hospital, Westmead, NSW
Date: 2015.01.30 Eastings (MGA): 313571.63 Contractor: Ken Coles Pty Ltd Northings (MGA): 6257860.17 Drill Rig: Backhoe Reference Level: GS Method: SFA Elevation - Surface (m): - Total Hole Depth (mbgs): 0.9 Bore Diameter (mm): 450		

SUBSURFACE PROFILE			SAMPLE			
Depth	Graphic Log	Lithologic Description	Sample ID	PID (ppm)	Sample Type	Comments
0.0		Ground Surface				
		FL Topsoil		-		No odours, staining or ACM observed.
		FL Gravelly CLAY, firm, brown, heterogeneous, damp, inclusions of shale fragments and ACM.	-	-		ACM observed. No odours or staining observed. No sampling conducted due to proximity to footpath.
1.0		End of Hole @ 0.9 mbgs Refusal on building rubble				
2.0						
3.0						
4.0						
Drilling Method		Sample Type	Reference Level	Log Details		
HA - Hand Auger		U - Undisturbed tube sample	AHD - Australian Height Datum	Logged By: Matthew Murray		
SFA - Solid Flight Auger		D - Disturbed sample	BGS - Below Ground Surface	Project Manager: Mitchell Hodgins		
HFA - Hollow Flight Auger		CS - Core sample				
PT - Push Tube						
AH - Air Hammer						

NOTE: This bore log is for environmental assessment purposes only and is not intended to provide geotechnical information

	Borehole No: RAQ-053	Project No: 50369 Client: Health Infrastructure New South Wales Project Name: WHR - AQ in Accessible Soils Site Address: Westmead Hospital, Westmead, NSW
Date: 2015.01.30 Contractor: Ken Coles Pty Ltd Drill Rig: Backhoe Method: SFA Total Hole Depth (mbgs): 2.3	Eastings (MGA): 313581.36 Northings (MGA): 6257847.18 Reference Level: GS Elevation - Surface (m): - Bore Diameter (mm): 450	

SUBSURFACE PROFILE			SAMPLE			
Depth	Graphic Log	Lithologic Description	Sample ID	PID (ppm)	Sample Type	Comments
0.0		Ground Surface		-		No odours, staining or ACM observed.
	FL Topsoil					
	FL	Gravelly CLAY, stiff, brown, heterogeneous, damp, inclusions of shale fragments and ACM.	RAQ053 (0-1)	-	D	10L AQ completed. ACM observed. No odours or staining observed.
1.0						
			RAQ053 (1-2)	-	D	10L AQ completed. ACM observed. No odours or staining observed.
2.0						
	NT CLAY			-		No odours, staining or ACM observed.
		End of Hole @ 2.3 mbgs Natural				
3.0						
4.0						

Drilling Method	Sample Type	Reference Level	Log Details
HA - Hand Auger	U - Undisturbed tube sample	AHD - Australian Height Datum	Logged By: Matthew Murray
SFA - Solid Flight Auger	D - Disturbed sample	BGS - Below Ground Surface	Project Manager: Mitchell Hodgins
HFA - Hollow Flight Auger	CS - Core sample		
PT - Push Tube			
AH - Air Hammer			

NOTE: This bore log is for environmental assessment purposes only and is not intended to provide geotechnical information

	Borehole No: RAQ-054	Project No: 50369
		Client: Health Infrastructure New South Wales Project Name: WHR - AQ in Accessible Soils Site Address: Westmead Hospital, Westmead, NSW
Date: 2015.01.30 Eastings (MGA): 313628.90 Contractor: Ken Coles Pty Ltd Northings (MGA): 6257824.87 Drill Rig: Backhoe Reference Level: GS Method: SFA Elevation - Surface (m): - Total Hole Depth (mbgs): 2.3 Bore Diameter (mm): 450		

SUBSURFACE PROFILE			SAMPLE			
Depth	Graphic Log	Lithologic Description	Sample ID	PID (ppm)	Sample Type	Comments
0.0		Ground Surface				
		FL Topsoil		-		No odours, staining or ACM observed.
		FL Gravelly CLAY, stiff, brown, heterogeneous, damp, inclusions of shale fragments and ACM.	RAQ054 (0-1)	-	D	10L AQ completed. ACM observed. No odours or staining observed.
1.0						
			RAQ054 (1-2)	-	D	10L AQ completed. ACM observed. No odours or staining observed.
2.0		NT CLAY		-		No odours, staining or ACM observed.
		End of Hole @ 2.3 mbgs Natural				
3.0						
4.0						

Drilling Method	Sample Type	Reference Level	Log Details
HA - Hand Auger	U - Undisturbed tube sample	AHD - Australian Height Datum	Logged By: Matthew Murray
SFA - Solid Flight Auger	D - Disturbed sample	BGS - Below Ground Surface	Project Manager: Mitchell Hodgins
HFA - Hollow Flight Auger	CS - Core sample		
PT - Push Tube			
AH - Air Hammer			

NOTE: This bore log is for environmental assessment purposes only and is not intended to provide geotechnical information

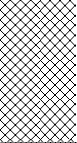
	Borehole No: RAQ-055	Project No: 50369
		Client: Health Infrastructure New South Wales Project Name: WHR - AQ in Accessible Soils Site Address: Westmead Hospital, Westmead, NSW
Date: 2015.01.30 Eastings (MGA): 313637.44 Contractor: Ken Coles Pty Ltd Northings (MGA): 6257826.62 Drill Rig: Backhoe Reference Level: GS Method: SFA Elevation - Surface (m): - Total Hole Depth (mbgs): 2.4 Bore Diameter (mm): 450		

SUBSURFACE PROFILE			SAMPLE			
Depth	Graphic Log	Lithologic Description	Sample ID	PID (ppm)	Sample Type	Comments
0.0		Ground Surface				
	FL	Topsoil		-		No odours, staining or ACM observed.
	FL	Gravelly CLAY, firm, brown, heterogeneous, damp, inclusions of shale fragments and ACM.	RAQ055 (0-1)	-	D	10L AQ completed. ACM observed. No odours or staining observed.
1.0						
			RAQ055 (1-2)	-	D	10L AQ completed. ACM observed. No odours or staining observed.
2.0						
	NT	CLAY				No odours, staining or ACM observed.
		End of Hole @ 2.4 mbgs Natural				
3.0						
4.0						

Drilling Method	Sample Type	Reference Level	Log Details
HA - Hand Auger	U - Undisturbed tube sample	AHD - Australian Height Datum	Logged By: Matthew Murray
SFA - Solid Flight Auger	D - Disturbed sample	BGS - Below Ground Surface	Project Manager: Mitchell Hodgins
HFA - Hollow Flight Auger	CS - Core sample		
PT - Push Tube			
AH - Air Hammer			

NOTE: This bore log is for environmental assessment purposes only and is not intended to provide geotechnical information

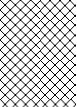
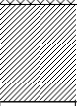
	Borehole No: RAQ-056	Project No: 50369
		Client: Health Infrastructure New South Wales Project Name: WHR - AQ in Accessible Soils Site Address: Westmead Hospital, Westmead, NSW
Date: 2015.02.03 Eastings (MGA): 313587.51 Contractor: Ken Coles Pty Ltd Northings (MGA): 6258016.38 Drill Rig: Backhoe Reference Level: GS Method: SFA Elevation - Surface (m): - Total Hole Depth (mbgs): 0.9 Bore Diameter (mm): 450		

SUBSURFACE PROFILE			SAMPLE			
Depth	Graphic Log	Lithologic Description	Sample ID	PID (ppm)	Sample Type	Comments
0.0		Ground Surface				
		FL Mulch				No odours, staining or ACM observed.
		FL CLAY, firm, brown, heterogeneous, damp, inclusions of detritus.	RAQ056 (0-1)	-	D	10L AQ completed. No odour, staining or ACM observed. QC01 and QA01 collected.
		NT Clay, yellow/brown.				No odours, staining or ACM observed.
1.0		End of Hole @ 0.9 mbgs Natural				
2.0						
3.0						
4.0						

Drilling Method	Sample Type	Reference Level	Log Details
HA - Hand Auger	U - Undisturbed tube sample	AHD - Australian Height Datum	Logged By: Matthew Murray
SFA - Solid Flight Auger	D - Disturbed sample	BGS - Below Ground Surface	Project Manager: Mitchell Hodgins
HFA - Hollow Flight Auger	CS - Core sample		
PT - Push Tube			
AH - Air Hammer			

NOTE: This bore log is for environmental assessment purposes only and is not intended to provide geotechnical information

	Borehole No: RAQ-057	Project No: 50369
		Client: Health Infrastructure New South Wales Project Name: WHR - AQ in Accessible Soils Site Address: Westmead Hospital, Westmead, NSW
Date: 2015.02.04 Eastings (MGA): 313555.92 Contractor: Ken Coles Pty Ltd Northings (MGA): 6258010.34 Drill Rig: Backhoe Reference Level: GS Method: SFA Elevation - Surface (m): - Total Hole Depth (mbgs): 0.8 Bore Diameter (mm): 450		

SUBSURFACE PROFILE			SAMPLE			
Depth	Graphic Log	Lithologic Description	Sample ID	PID (ppm)	Sample Type	Comments
0.0		Ground Surface				
		FL Topsoil				No odours, staining or ACM observed.
		FL CLAY, firm, brown, heterogeneous, damp, inclusions of detritus.	RAQ057 (0-1)	-	D	10L AQ completed. No odours, staining or ACM observed.
		NT Clay, yellow/brown.				No odours, staining or ACM observed.
1.0		End of Hole @ 0.8 mbgs Natural				
2.0						
3.0						
4.0						

Drilling Method	Sample Type	Reference Level	Log Details
HA - Hand Auger	U - Undisturbed tube sample	AHD - Australian Height Datum	Logged By: Matthew Murray
SFA - Solid Flight Auger	D - Disturbed sample	BGS - Below Ground Surface	Project Manager: Mitchell Hodgins
HFA - Hollow Flight Auger	CS - Core sample		
PT - Push Tube			
AH - Air Hammer			

NOTE: This bore log is for environmental assessment purposes only and is not intended to provide geotechnical information

	Borehole No: RAQ-058	Project No: 50369
		Client: Health Infrastructure New South Wales Project Name: WHR - AQ in Accessible Soils Site Address: Westmead Hospital, Westmead, NSW
Date: 2015.02.04 Eastings (MGA): 313520.33 Contractor: Ken Coles Pty Ltd Northings (MGA): 6257983.99 Drill Rig: Backhoe Reference Level: GS Method: SFA Elevation - Surface (m): - Total Hole Depth (mbgs): 0.95 Bore Diameter (mm): 450		

SUBSURFACE PROFILE			SAMPLE			
Depth	Graphic Log	Lithologic Description	Sample ID	PID (ppm)	Sample Type	Comments
0.0		Ground Surface				
		FL Mulch				No odours, staining or ACM observed.
		FL CLAY, firm, brown, heterogeneous, damp, inclusions of brick fragment.	RAQ058 (0-1)	-	D	10L AQ completed. No odours, staining or ACM observed. QC02 and QA02 collected.
		NT Clay, yellow/brown.				No odours, staining or ACM observed.
1.0		End of Hole @ 0.95 mbgs Natural				
2.0						
3.0						
4.0						

Drilling Method	Sample Type	Reference Level	Log Details
HA - Hand Auger	U - Undisturbed tube sample	AHD - Australian Height Datum	Logged By: Matthew Murray
SFA - Solid Flight Auger	D - Disturbed sample	BGS - Below Ground Surface	Project Manager: Mitchell Hodgins
HFA - Hollow Flight Auger	CS - Core sample		
PT - Push Tube			
AH - Air Hammer			

NOTE: This bore log is for environmental assessment purposes only and is not intended to provide geotechnical information

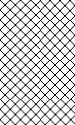
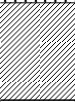
	Borehole No: RAQ-059	Project No: 50369
		Client: Health Infrastructure New South Wales Project Name: WHR - AQ in Accessible Soils Site Address: Westmead Hospital, Westmead, NSW
Date: 2015.02.04 Eastings (MGA): 313380.08 Contractor: Ken Coles Pty Ltd Northings (MGA): 6257983.92 Drill Rig: Backhoe Reference Level: GS Method: SFA Elevation - Surface (m): - Total Hole Depth (mbgs): 0.95 Bore Diameter (mm): 450		

SUBSURFACE PROFILE			SAMPLE			
Depth	Graphic Log	Lithologic Description	Sample ID	PID (ppm)	Sample Type	Comments
0.0		Ground Surface				
		FL Topsoil				No odours, staining or ACM observed.
		FL CLAY, firm, brown, heterogeneous, damp.	RAQ059 (0-1)	-	D	10L AQ completed. No odours, staining or ACM observed.
		NT Clay, yellow/brown.				No odours, staining or ACM observed.
1.0		End of Hole @ 0.95 mbgs Natural				
2.0						
3.0						
4.0						

Drilling Method	Sample Type	Reference Level	Log Details
HA - Hand Auger	U - Undisturbed tube sample	AHD - Australian Height Datum	Logged By: Matthew Murray
SFA - Solid Flight Auger	D - Disturbed sample	BGS - Below Ground Surface	Project Manager: Mitchell Hodgins
HFA - Hollow Flight Auger	CS - Core sample		
PT - Push Tube			
AH - Air Hammer			

NOTE: This bore log is for environmental assessment purposes only and is not intended to provide geotechnical information

	Borehole No: RAQ-060	Project No: 50369
		Client: Health Infrastructure New South Wales Project Name: WHR - AQ in Accessible Soils Site Address: Westmead Hospital, Westmead, NSW
Date: 2015.02.04 Eastings (MGA): 313371.40 Contractor: Ken Coles Pty Ltd Northings (MGA): 6257978.35 Drill Rig: Backhoe Reference Level: GS Method: SFA Elevation - Surface (m): - Total Hole Depth (mbgs): 0.85 Bore Diameter (mm): 450		

SUBSURFACE PROFILE			SAMPLE			
Depth	Graphic Log	Lithologic Description	Sample ID	PID (ppm)	Sample Type	Comments
0.0		Ground Surface				
		FL Mulch				No odours, staining or ACM observed.
		FL CLAY, firm, brown, heterogeneous, damp.	RAQ060 (0-1)	-	D	10L AQ completed. No odours, staining or ACM observed.
		NT Clay, yellow/brown.				No odours, staining or ACM observed.
1.0		End of Hole @ 0.85 mbgs Natural				
2.0						
3.0						
4.0						

Drilling Method	Sample Type	Reference Level	Log Details
HA - Hand Auger	U - Undisturbed tube sample	AHD - Australian Height Datum	Logged By: Matthew Murray
SFA - Solid Flight Auger	D - Disturbed sample	BGS - Below Ground Surface	Project Manager: Mitchell Hodgins
HFA - Hollow Flight Auger	CS - Core sample		
PT - Push Tube			
AH - Air Hammer			

NOTE: This bore log is for environmental assessment purposes only and is not intended to provide geotechnical information

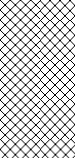
	Borehole No: RAQ-061	Project No: 50369
		Client: Health Infrastructure New South Wales Project Name: WHR - AQ in Accessible Soils Site Address: Westmead Hospital, Westmead, NSW
Date: 2015.02.05 Eastings (MGA): 313801.18 Contractor: Ken Coles Pty Ltd Northings (MGA): 6257943.05 Drill Rig: - Reference Level: GS Method: HA Elevation - Surface (m): - Total Hole Depth (mbgs): 0.4 Bore Diameter (mm): 450		

SUBSURFACE PROFILE			SAMPLE			
Depth	Graphic Log	Lithologic Description	Sample ID	PID (ppm)	Sample Type	Comments
0.0		Ground Surface				
		FL Topsoil and mulch				No odours, staining or ACM observed.
		FL Gravelly CLAY, firm, brown, heterogeneous, damp, inclusions of shale fragments, cement fragments, plastic fragments, and ACM.	RAQ061 (0-1)	-	D	10L AQ completed. FA observed. No odours or staining observed.
		End of Hole @ 0.4 mbgs Refusal on rubble within fill				
1.0						
2.0						
3.0						
4.0						

Drilling Method	Sample Type	Reference Level	Log Details
HA - Hand Auger	U - Undisturbed tube sample	AHD - Australian Height Datum	Logged By: Matthew Murray
SFA - Solid Flight Auger	D - Disturbed sample	BGS - Below Ground Surface	Project Manager: Mitchell Hodgins
HFA - Hollow Flight Auger	CS - Core sample		
PT - Push Tube			
AH - Air Hammer			

NOTE: This bore log is for environmental assessment purposes only and is not intended to provide geotechnical information

	Borehole No: RAQ-062	Project No: 50369
		Client: Health Infrastructure New South Wales Project Name: WHR - AQ in Accessible Soils Site Address: Westmead Hospital, Westmead, NSW
Date: 2015.02.05 Eastings (MGA): 313633.07 Contractor: Ken Coles Pty Ltd Northings (MGA): 6257980.59 Drill Rig: - Reference Level: GS Method: HA Elevation - Surface (m): - Total Hole Depth (mbgs): 0.95 Bore Diameter (mm): 450		

SUBSURFACE PROFILE			SAMPLE			
Depth	Graphic Log	Lithologic Description	Sample ID	PID (ppm)	Sample Type	Comments
0.0		Ground Surface				
		FL Mulch				No odours, staining or ACM observed.
		FL Gravelly CLAY, firm, brown, heterogeneous, damp, inclusions of shale fragments and slag fragment.	RAQ063 (0-1)	-	D	10L AQ completed. No odours, staining or ACM observed. QC03/QA03 collected.
		NT CLAY, yellow/red mottled.				
1.0		End of Hole @ 0.95 mbgs Natural				
2.0						
3.0						
4.0						

Drilling Method	Sample Type	Reference Level	Log Details
HA - Hand Auger	U - Undisturbed tube sample	AHD - Australian Height Datum	Logged By: Matthew Murray
SFA - Solid Flight Auger	D - Disturbed sample	BGS - Below Ground Surface	Project Manager: Mitchell Hodgins
HFA - Hollow Flight Auger	CS - Core sample		
PT - Push Tube			
AH - Air Hammer			

NOTE: This bore log is for environmental assessment purposes only and is not intended to provide geotechnical information

Borehole No: RAQ-063	Project No: 50369
	Client: Health Infrastructure New South Wales Project Name: WHR - AQ in Accessible Soils Site Address: Westmead Hospital, Westmead, NSW
Eastings (MGA): 313640.92 Northings (MGA): 6258024.83 Reference Level: GS Elevation - Surface (m): - Bore Diameter (mm): 450	

SUBSURFACE PROFILE			SAMPLE			
Depth	Graphic Log	Lithologic Description	Sample ID	PID (ppm)	Sample Type	Comments
0.0		Ground Surface				No odours, staining or ACM observed.
		FL Gravel, asphalt and mulch.	RAQ063 (0-1)	-	D	10L AQ completed. No odours, staining or ACM observed.
		FL Sandy CLAY, firm, grey/brown, heterogeneous, moist, inclusions of gravel, sand and asphalt.				
		NT CLAY, yellow.				
		End of Hole @ 0.75 mbgs Refusal on rubble within fill				
1.0						
2.0						
3.0						
4.0						

Drilling Method	Sample Type	Reference Level	Log Details
HA - Hand Auger	U - Undisturbed tube sample	AHD - Australian Height Datum	Logged By: Nicholas Brbot
SFA - Solid Flight Auger	D - Disturbed sample	BGS - Below Ground Surface	Project Manager: Mitchell Hodgins
HFA - Hollow Flight Auger	CS - Core sample		
PT - Push Tube			
AH - Air Hammer			

NOTE: This bore log is for environmental assessment purposes only and is not intended to provide geotechnical information
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	Borehole No: RAQ-064	Project No: 50369 Client: Health Infrastructure New South Wales Project Name: WHR - AQ in Accessible Soils Site Address: Westmead Hospital, Westmead, NSW
Date: 2015.02.05 Contractor: Ken Coles Pty Ltd Drill Rig: - Method: HA Total Hole Depth (mbgs): 1.0 Eastings (MGA): 313629.98 Northings (MGA): 6257928.24 Reference Level: GS Elevation - Surface (m): - Bore Diameter (mm): 450		

SUBSURFACE PROFILE			SAMPLE			
Depth	Graphic Log	Lithologic Description	Sample ID	PID (ppm)	Sample Type	Comments
0.0		Ground Surface				
		FL Topsoil				No odours, staining or ACM observed.
		FL Gravelly CLAY, firm, heterogeneous, grey, damp, inclusions of shale fragments, ash and slag.	RAQ064 (0-1)	-	D	10L AQ completed. No odours, staining or ACM observed.
		FL Gravelly CLAY, firm, heterogeneous, grey, damp, inclusions of shale fragments, ash and slag.				
		NT CLAY, yellow/red mottled.				
1.0		End of Hole @ 1.0 mbgs Natural				
2.0						
3.0						
4.0						

Drilling Method	Sample Type	Reference Level	Log Details
HA - Hand Auger SFA - Solid Flight Auger HFA - Hollow Flight Auger PT - Push Tube AH - Air Hammer	U - Undisturbed tube sample D - Disturbed sample CS - Core sample	AHD - Australian Height Datum BGS - Below Ground Surface	Logged By: Matthew Murray Project Manager: Mitchell Hodgins

NOTE: This bore log is for environmental assessment purposes only and is not intended to provide geotechnical information
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	Borehole No: RAQ-065	Project No: 50369 Client: Health Infrastructure New South Wales Project Name: WHR - AQ in Accessible Soils Site Address: Westmead Hospital, Westmead, NSW
Date: 2015.02.05 Contractor: Ken Coles Pty Ltd Drill Rig: - Method: HA Total Hole Depth (mbgs): 0.8	Eastings (MGA): 313553.00 Northings (MGA): 6257896.20 Reference Level: GS Elevation - Surface (m): - Bore Diameter (mm): 450	

SUBSURFACE PROFILE			SAMPLE			
Depth	Graphic Log	Lithologic Description	Sample ID	PID (ppm)	Sample Type	Comments
0.0		Ground Surface				
		FL Topsoil and gravel.				No odours, staining or ACM observed.
		FL Gravelly CLAY, firm, heterogeneous, grey, damp, inclusions of shale fragments.	RAQ065 (0-1)	-	D	10L AQ completed. No odours, staining or ACM observed.
		FL Gravelly CLAY, firm, heterogeneous, grey, damp, inclusions of shale fragments, ash and slag.				
		FL Gravelly CLAY, firm, heterogeneous, grey, damp, inclusions of shale fragments.				
1.0		NT CLAY, brown-orange.				
		End of Hole @ 0.8 mbgs Natural				
2.0						
3.0						
4.0						

Drilling Method	Sample Type	Reference Level	Log Details
HA - Hand Auger	U - Undisturbed tube sample	AHD - Australian Height Datum	Logged By: Matthew Murray
SFA - Solid Flight Auger	D - Disturbed sample	BGS - Below Ground Surface	Project Manager: Mitchell Hodgins
HFA - Hollow Flight Auger	CS - Core sample		
PT - Push Tube			
AH - Air Hammer			

NOTE: This bore log is for environmental assessment purposes only and is not intended to provide geotechnical information
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	Borehole No: RAQ-066	Project No: 50369
		Client: Health Infrastructure New South Wales Project Name: WHR - AQ in Accessible Soils Site Address: Westmead Hospital, Westmead, NSW
Date: 2015.02.05 Eastings (MGA): 313459.29 Contractor: Ken Coles Pty Ltd Northings (MGA): 6257876.01 Drill Rig: - Reference Level: GS Method: HA Elevation - Surface (m): - Total Hole Depth (mbgs): 0.25 Bore Diameter (mm): 450		

SUBSURFACE PROFILE			SAMPLE			
Depth	Graphic Log	Lithologic Description	Sample ID	PID (ppm)	Sample Type	Comments
0.0		Ground Surface				
		FL Topsoil				
		FL Gravelly CLAY, stiff, heterogeneous, grey, dry, inclusions of shale fragments and concrete fragments.	RAQ066 (0-1)	-	D	No odours, staining or ACM observed. 10L AQ completed. No odours, staining or ACM observed.
		End of Hole @ 0.25 mbgs Refusal on rubble within fill				
1.0						
2.0						
3.0						
4.0						

Drilling Method	Sample Type	Reference Level	Log Details
HA - Hand Auger	U - Undisturbed tube sample	AHD - Australian Height Datum	Logged By: Matthew Murray
SFA - Solid Flight Auger	D - Disturbed sample	BGS - Below Ground Surface	Project Manager: Mitchell Hodgins
HFA - Hollow Flight Auger	CS - Core sample		
PT - Push Tube			
AH - Air Hammer			

NOTE: This bore log is for environmental assessment purposes only and is not intended to provide geotechnical information

	Borehole No: RAQ-067	Project No: 50369
		Client: Health Infrastructure New South Wales Project Name: WHR - AQ in Accessible Soils Site Address: Westmead Hospital, Westmead, NSW
Date: 2015.02.05 Eastings (MGA): 313459.29 Contractor: Ken Coles Pty Ltd Northings (MGA): 6257876.01 Drill Rig: - Reference Level: GS Method: HA Elevation - Surface (m): - Total Hole Depth (mbgs): 0.3 Bore Diameter (mm): 450		

SUBSURFACE PROFILE			SAMPLE			
Depth	Graphic Log	Lithologic Description	Sample ID	PID (ppm)	Sample Type	Comments
0.0		Ground Surface				
		FL Topsoil				No odours, staining or ACM observed.
		FL Gravelly CLAY, very stiff, heterogeneous, brown, dry, inclusions of shale fragments and traces of slag.	RAQ067 (0-1)	-	D	10L AQ completed. No odours, staining or ACM observed.
		End of Hole @ 0.3 mbgs Refusal on compacted clay and rubble within fill				
1.0						
2.0						
3.0						
4.0						

Drilling Method	Sample Type	Reference Level	Log Details
HA - Hand Auger	U - Undisturbed tube sample	AHD - Australian Height Datum	Logged By: Matthew Murray
SFA - Solid Flight Auger	D - Disturbed sample	BGS - Below Ground Surface	Project Manager: Mitchell Hodgins
HFA - Hollow Flight Auger	CS - Core sample		
PT - Push Tube			
AH - Air Hammer			

NOTE: This bore log is for environmental assessment purposes only and is not intended to provide geotechnical information



Borehole No: RAQ-068

Project No: 50369

Client: Health Infrastructure New South Wales

Project Name: WHR - AQ in Accessible Soils

Site Address: Westmead Hospital, Westmead, NSW

Date: 2015.02.05

Contractor: Ken Coles Pty Ltd

Drill Rig: -

Method: HA

Total Hole Depth (mbgs): 0.85

Eastings (MGA): 313402.87

Northings (MGA): 6257945.97

Reference Level: GS

Elevation - Surface (m): -

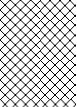
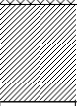
Bore Diameter (mm): 450

SUBSURFACE PROFILE			SAMPLE			
Depth	Graphic Log	Lithologic Description	Sample ID	PID (ppm)	Sample Type	Comments
0.0		Ground Surface				
		FL Topsoil	RAQ068 (0-1)	-	D	No odours, staining or ACM observed.
		FL CLAY, stiff, heterogeneous, brown, damp, inclusions of shale fragments.				10L AQ completed. No odours, staining or ACM observed.
		FL Gravelly CLAY, stiff, heterogeneous, grey, damp, inclusions of shale fragments.				No odours, staining or ACM observed.
		NT Clay, orange/brown.				No odours, staining or ACM observed.
1.0		End of Hole @ 0.85 mbgs Natural				
2.0						
3.0						
4.0						

Drilling Method	Sample Type	Reference Level	Log Details
HA - Hand Auger SFA - Solid Flight Auger HFA - Hollow Flight Auger PT - Push Tube AH - Air Hammer	U - Undisturbed tube sample D - Disturbed sample CS - Core sample	AHD - Australian Height Datum BGS - Below Ground Surface	Logged By: Matthew Murray Project Manager: Mitchell Hodgins

NOTE: This bore log is for environmental assessment purposes only and is not intended to provide geotechnical information
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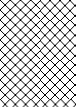
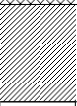
	Borehole No: RAQ-069	Project No: 50369
		Client: Health Infrastructure New South Wales Project Name: WHR - AQ in Accessible Soils Site Address: Westmead Hospital, Westmead, NSW
Date: 2015.02.05 Eastings (MGA): 313443.37 Contractor: Ken Coles Pty Ltd Northings (MGA): 6258040.57 Drill Rig: - Reference Level: GS Method: HA Elevation - Surface (m): - Total Hole Depth (mbgs): 0.8 Bore Diameter (mm): 450		

SUBSURFACE PROFILE			SAMPLE			
Depth	Graphic Log	Lithologic Description	Sample ID	PID (ppm)	Sample Type	Comments
0.0		Ground Surface				
		FL Topsoil				No odours, staining or ACM observed.
		FL CLAY, firm, homogeneous, brown, damp.	RAQ069 (0-1)	-	D	10L AQ completed. No odours, staining or ACM observed.
		NT Clay, yellow.				No odours, staining or ACM observed.
1.0		End of Hole @ 0.8 mbgs Natural				
2.0						
3.0						
4.0						

Drilling Method	Sample Type	Reference Level	Log Details
HA - Hand Auger	U - Undisturbed tube sample	AHD - Australian Height Datum	Logged By: Matthew Murray
SFA - Solid Flight Auger	D - Disturbed sample	BGS - Below Ground Surface	Project Manager: Mitchell Hodgins
HFA - Hollow Flight Auger	CS - Core sample		
PT - Push Tube			
AH - Air Hammer			

NOTE: This bore log is for environmental assessment purposes only and is not intended to provide geotechnical information

	Borehole No: RAQ-070	Project No: 50369
		Client: Health Infrastructure New South Wales Project Name: WHR - AQ in Accessible Soils Site Address: Westmead Hospital, Westmead, NSW
Date: 2015.02.05 Eastings (MGA): 313383.66 Contractor: Ken Coles Pty Ltd Northings (MGA): 6258050.06 Drill Rig: - Reference Level: GS Method: HA Elevation - Surface (m): - Total Hole Depth (mbgs): 0.8 Bore Diameter (mm): 450		

SUBSURFACE PROFILE			SAMPLE			
Depth	Graphic Log	Lithologic Description	Sample ID	PID (ppm)	Sample Type	Comments
0.0		Ground Surface				
		FL Topsoil				No odours, staining or ACM observed.
		FL CLAY, firm, homogeneous, brown, damp.	RAQ070 (0-1)	-	D	10L AQ completed. No odours, staining or ACM observed.
		NT Clay, yellow.				No odours, staining or ACM observed.
1.0		End of Hole @ 0.8 mbgs Natural				
2.0						
3.0						
4.0						

Drilling Method	Sample Type	Reference Level	Log Details
HA - Hand Auger	U - Undisturbed tube sample	AHD - Australian Height Datum	Logged By: Matthew Murray
SFA - Solid Flight Auger	D - Disturbed sample	BGS - Below Ground Surface	Project Manager: Mitchell Hodgins
HFA - Hollow Flight Auger	CS - Core sample		
PT - Push Tube			
AH - Air Hammer			

NOTE: This bore log is for environmental assessment purposes only and is not intended to provide geotechnical information

	Borehole No: RAQ-071	Project No: 50369
		Client: Health Infrastructure New South Wales Project Name: WHR - AQ in Accessible Soils Site Address: Westmead Hospital, Westmead, NSW
Date: 2015.02.05 Eastings (MGA): 313383.66 Contractor: Ken Coles Pty Ltd Northings (MGA): 6258050.06 Drill Rig: - Reference Level: GS Method: HA Elevation - Surface (m): - Total Hole Depth (mbgs): 0.65 Bore Diameter (mm): 450		

SUBSURFACE PROFILE			SAMPLE			
Depth	Graphic Log	Lithologic Description	Sample ID	PID (ppm)	Sample Type	Comments
0.0		Ground Surface				
		FL Topsoil				No odours, staining or ACM observed.
		FL Gravelly CLAY, firm, heterogeneous, brown, damp, inclusions of ash, slag, shale fragments, plastic fragments and concrete fragments.	RAQ070 (0-1)	-	D	10L AQ completed. No odours, staining or ACM observed.
		End of Hole @ 0.65 mbgs Refusal on gravel and rubble within fill				
1.0						
2.0						
3.0						
4.0						

Drilling Method	Sample Type	Reference Level	Log Details
HA - Hand Auger	U - Undisturbed tube sample	AHD - Australian Height Datum	Logged By: Matthew Murray
SFA - Solid Flight Auger	D - Disturbed sample	BGS - Below Ground Surface	Project Manager: Mitchell Hodgins
HFA - Hollow Flight Auger	CS - Core sample		
PT - Push Tube			
AH - Air Hammer			

NOTE: This bore log is for environmental assessment purposes only and is not intended to provide geotechnical information

	Borehole No: RAQ-072	Project No: 50369
		Client: Health Infrastructure New South Wales Project Name: WHR - AQ in Accessible Soils Site Address: Westmead Hospital, Westmead, NSW
Date: 2015.02.05 Eastings (MGA): 313325.19 Contractor: Ken Coles Pty Ltd Northings (MGA): 6257961.23 Drill Rig: - Reference Level: GS Method: HA Elevation - Surface (m): - Total Hole Depth (mbgs): 0.45 Bore Diameter (mm): 450		

SUBSURFACE PROFILE			SAMPLE			
Depth	Graphic Log	Lithologic Description	Sample ID	PID (ppm)	Sample Type	Comments
0.0		Ground Surface				
		FL Topsoil				No odours, staining or ACM observed.
		FL Gravelly CLAY, firm, heterogeneous, brown, damp, inclusions of ash, slag, shale fragments, plastic fragments and concrete fragments.	RAQ072 (0-1)	-	D	10L AQ completed. No odours, staining or ACM observed.
		End of Hole @ 0.45 mbgs Refusal on rubble and concrete within fill				
1.0						
2.0						
3.0						
4.0						

Drilling Method	Sample Type	Reference Level	Log Details
HA - Hand Auger	U - Undisturbed tube sample	AHD - Australian Height Datum	Logged By: Matthew Murray
SFA - Solid Flight Auger	D - Disturbed sample	BGS - Below Ground Surface	Project Manager: Mitchell Hodgins
HFA - Hollow Flight Auger	CS - Core sample		
PT - Push Tube			
AH - Air Hammer			

NOTE: This bore log is for environmental assessment purposes only and is not intended to provide geotechnical information

	Borehole No: RAQ-073	Project No: 50369
		Client: Health Infrastructure New South Wales Project Name: WHR - AQ in Accessible Soils Site Address: Westmead Hospital, Westmead, NSW
Date: 2015.02.05 Eastings (MGA): 313828.30 Contractor: Ken Coles Pty Ltd Northings (MGA): 6257927.46 Drill Rig: - Reference Level: GS Method: HA Elevation - Surface (m): - Total Hole Depth (mbgs): 0.9 Bore Diameter (mm): 450		

SUBSURFACE PROFILE			SAMPLE			
Depth	Graphic Log	Lithologic Description	Sample ID	PID (ppm)	Sample Type	Comments
0.0		Ground Surface				
		FL Topsoil				No odours, staining or ACM observed.
		FL Gravelly CLAY, firm, heterogeneous, grey, damp, inclusions of concrete fragments, brick fragments, and ACM.	RAQ073 (0-1)	-	D	10L AQ completed. FA and ACM observed. No odours or staining observed.
1.0		End of Hole @ 0.9 mbgs Service encountered				
2.0						
3.0						
4.0						

Drilling Method	Sample Type	Reference Level	Log Details
HA - Hand Auger	U - Undisturbed tube sample	AHD - Australian Height Datum	Logged By: Matthew Murray
SFA - Solid Flight Auger	D - Disturbed sample	BGS - Below Ground Surface	Project Manager: Mitchell Hodgins
HFA - Hollow Flight Auger	CS - Core sample		
PT - Push Tube			
AH - Air Hammer			

NOTE: This bore log is for environmental assessment purposes only and is not intended to provide geotechnical information

	Borehole No: RAQ-074	Project No: 50369 Client: Health Infrastructure New South Wales Project Name: WHR - AQ in Accessible Soils Site Address: Westmead Hospital, Westmead, NSW			
Date: 2015.02.07 Contractor: Ken Coles Pty Ltd Drill Rig: - Method: HA Total Hole Depth (mbgs): 1.0			Eastings (MGA): 313845.20 Northings (MGA): 6257954.63 Reference Level: GS Elevation - Surface (m): - Bore Diameter (mm): 450		

SUBSURFACE PROFILE			SAMPLE			
Depth	Graphic Log	Lithologic Description	Sample ID	PID (ppm)	Sample Type	Comments
0.0		Ground Surface				
	FL Topsoil					No odours, staining or ACM observed.
	FL Gravelly CLAY, soft, heterogeneous, brown, dry, inclusions of shale fragments.		RAQ074 (0-1)	-	D	10L AQ completed. FA and ACM observed. No odours or staining observed.
1.0		End of Hole @ 1.0 mbgs Refusal on shale within fill				
2.0						
3.0						
4.0						

Drilling Method	Sample Type	Reference Level	Log Details
HA - Hand Auger SFA - Solid Flight Auger HFA - Hollow Flight Auger PT - Push Tube AH - Air Hammer	U - Undisturbed tube sample D - Disturbed sample CS - Core sample	AHD - Australian Height Datum BGS - Below Ground Surface	Logged By: Matthew Murray Project Manager: Mitchell Hodgins

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	Borehole No: RAQ-075	Project No: 50369
		Client: Health Infrastructure New South Wales Project Name: WHR - AQ in Accessible Soils Site Address: Westmead Hospital, Westmead, NSW
Date: 2015.02.07 Eastings (MGA): 313865.30 Contractor: Ken Coles Pty Ltd Northings (MGA): 6257974.71 Drill Rig: - Reference Level: GS Method: HA Elevation - Surface (m): - Total Hole Depth (mbgs): 2.0 Bore Diameter (mm): 450		

SUBSURFACE PROFILE			SAMPLE			
Depth	Graphic Log	Lithologic Description	Sample ID	PID (ppm)	Sample Type	Comments
0.0		Ground Surface				
		FL Topsoil				No odours, staining or ACM observed.
		FL Gravelly CLAY, heterogeneous, brown, low plasticity, dry, inclusions of igneous gravel, shale, roots, and ACM	RAQ075 (0-1)	-	D	10L AQ completed. ACM observed. No odours or staining observed. QC04 and QA04 collected.
1.0		FL Gravelly CLAY, heterogeneous, brown, low plasticity, dry, inclusions of igneous gravel, shale, roots, and ACM.	RAQ075 (1-2)	-	D	10L AQ completed. FA and ACM observed. No odours or staining observed.
2.0		End of Hole @ 2.0 mbgs Refusal on unidentified obstruction within fill				
3.0						
4.0						

Drilling Method	Sample Type	Reference Level	Log Details
HA - Hand Auger	U - Undisturbed tube sample	AHD - Australian Height Datum	Logged By: Matthew Murray
SFA - Solid Flight Auger	D - Disturbed sample	BGS - Below Ground Surface	Project Manager: Mitchell Hodgins
HFA - Hollow Flight Auger	CS - Core sample		
PT - Push Tube			
AH - Air Hammer			

NOTE: This bore log is for environmental assessment purposes only and is not intended to provide geotechnical information

	Borehole No: RAQ-076	Project No: 50369
		Client: Health Infrastructure New South Wales Project Name: WHR - AQ in Accessible Soils Site Address: Westmead Hospital, Westmead, NSW
Date: 2015.02.07 Eastings (MGA): 6257946.62 Contractor: Ken Coles Pty Ltd Northings (MGA): 313878.31 Drill Rig: - Reference Level: GS Method: HA Elevation - Surface (m): - Total Hole Depth (mbgs): 2.0 Bore Diameter (mm): 450		

SUBSURFACE PROFILE			SAMPLE			
Depth	Graphic Log	Lithologic Description	Sample ID	PID (ppm)	Sample Type	Comments
0.0		Ground Surface				
		FL Gravelly CLAY, heterogeneous, brown, damp, firm. Topsoil	RAQ076 (0-1)	-	D	No odours, staining or ACM observed.
1.0		FL Gravelly CLAY, heterogeneous, brown, damp, firm, inclusions of ACM.	RAQ076 (1-2)	-	D	10L AQ completed. No odours, staining or ACM observed.
2.0		End of Hole @ 2.0 mbgs Refusal on shale within fill				10L AQ completed. FA and ACM observed. No odours or staining observed.
3.0						
4.0						
Drilling Method		Sample Type	Reference Level	Log Details		
HA - Hand Auger		U - Undisturbed tube sample	AHD - Australian Height Datum	Logged By: Matthew Murray		
SFA - Solid Flight Auger		D - Disturbed sample	BGS - Below Ground Surface	Project Manager: Mitchell Hodgins		
HFA - Hollow Flight Auger		CS - Core sample				
PT - Push Tube						
AH - Air Hammer						

NOTE: This bore log is for environmental assessment purposes only and is not intended to provide geotechnical information

	Borehole No: RAQ-077	Project No: 50369
		Client: Health Infrastructure New South Wales Project Name: WHR - AQ in Accessible Soils Site Address: Westmead Hospital, Westmead, NSW
Date: 2015.02.07 Eastings (MGA): 313864.97 Contractor: Ken Coles Pty Ltd Northings (MGA): 6257928.70 Drill Rig: - Reference Level: GS Method: HA Elevation - Surface (m): - Total Hole Depth (mbgs): 1.8 Bore Diameter (mm): 450		

SUBSURFACE PROFILE			SAMPLE			
Depth	Graphic Log	Lithologic Description	Sample ID	PID (ppm)	Sample Type	Comments
0.0		Ground Surface				
		FL Topsoil				No odours, staining or ACM observed.
		FL Gravelly CLAY, heterogeneous, brown, damp, firm, inclusions of ACM.	RAQ077 (0-1)	-	D	10L AQ completed. FA and ACM observed. No odours or staining observed.
1.0			RAQ077 (1-2)	-	D	10L AQ completed. ACM observed. No odours or staining observed.
2.0		End of Hole @ 1.8 mbgs Refusal on shale within fill				
3.0						
4.0						
Drilling Method		Sample Type	Reference Level	Log Details		
HA - Hand Auger		U - Undisturbed tube sample	AHD - Australian Height Datum	Logged By: Matthew Murray		
SFA - Solid Flight Auger		D - Disturbed sample	BGS - Below Ground Surface	Project Manager: Mitchell Hodgins		
HFA - Hollow Flight Auger		CS - Core sample				
PT - Push Tube						
AH - Air Hammer						

NOTE: This bore log is for environmental assessment purposes only and is not intended to provide geotechnical information

	Borehole No: RAQ-078	Project No: 50369
		Client: Health Infrastructure New South Wales Project Name: WHR - AQ in Accessible Soils Site Address: Westmead Hospital, Westmead, NSW
Date: 2015.02.07 Eastings (MGA): 313864.97 Contractor: Ken Coles Pty Ltd Northings (MGA): 6257904.29 Drill Rig: - Reference Level: GS Method: HA Elevation - Surface (m): - Total Hole Depth (mbgs): 0.3 Bore Diameter (mm): 450		

SUBSURFACE PROFILE			SAMPLE			
Depth	Graphic Log	Lithologic Description	Sample ID	PID (ppm)	Sample Type	Comments
0.0		Ground Surface				
		FL Topsoil				No odours, staining or ACM observed.
		FL Gravelly CLAY, heterogeneous, grey, damp, firm, inclusions of ACM.	RAQ078 (0-1)	-	D	10L AQ completed. ACM observed. No odours or staining observed.
		End of Hole @ 0.3 mbgs Refusal on service				
1.0						
2.0						
3.0						
4.0						

Drilling Method	Sample Type	Reference Level	Log Details
HA - Hand Auger	U - Undisturbed tube sample	AHD - Australian Height Datum	Logged By: Matthew Murray
SFA - Solid Flight Auger	D - Disturbed sample	BGS - Below Ground Surface	Project Manager: Mitchell Hodgins
HFA - Hollow Flight Auger	CS - Core sample		
PT - Push Tube			
AH - Air Hammer			

NOTE: This bore log is for environmental assessment purposes only and is not intended to provide geotechnical information

	Borehole No: RAQ-079	Project No: 50369
		Client: Health Infrastructure New South Wales Project Name: WHR - AQ in Accessible Soils Site Address: Westmead Hospital, Westmead, NSW
Date: 2015.02.07 Eastings (MGA): 313864.97 Contractor: Ken Coles Pty Ltd Northings (MGA): 6257904.29 Drill Rig: - Reference Level: GS Method: HA Elevation - Surface (m): - Total Hole Depth (mbgs): 1.9 Bore Diameter (mm): 450		

SUBSURFACE PROFILE			SAMPLE			
Depth	Graphic Log	Lithologic Description	Sample ID	PID (ppm)	Sample Type	Comments
0.0		Ground Surface				
		FL Topsoil				No odours, staining or ACM observed.
		FL Gravelly CLAY, heterogeneous, grey, damp, firm, inclusions of shale.	RAQ079 (0-1)	-	D	10L AQ completed. No odours, staining or ACM observed.
1.0		FL Gravelly CLAY, heterogeneous, grey, damp, firm, inclusions of shale and ACM.	RAQ079 (1-2)	-	D	10L AQ completed. ACM observed. No odours or staining observed.
2.0		End of Hole @ 1.9 mbgs Refusal on shale within fill				
3.0						
4.0						

Drilling Method	Sample Type	Reference Level	Log Details
HA - Hand Auger	U - Undisturbed tube sample	AHD - Australian Height Datum	Logged By: Matthew Murray
SFA - Solid Flight Auger	D - Disturbed sample	BGS - Below Ground Surface	Project Manager: Mitchell Hodgins
HFA - Hollow Flight Auger	CS - Core sample		
PT - Push Tube			
AH - Air Hammer			

NOTE: This bore log is for environmental assessment purposes only and is not intended to provide geotechnical information

	Borehole No: RAQ-080	Project No: 50369
		Client: Health Infrastructure New South Wales Project Name: WHR - AQ in Accessible Soils Site Address: Westmead Hospital, Westmead, NSW
Date: 2015.02.07 Eastings (MGA): 313893.91 Contractor: Ken Coles Pty Ltd Northings (MGA): 6257903.70 Drill Rig: - Reference Level: GS Method: HA Elevation - Surface (m): - Total Hole Depth (mbgs): 1.5 Bore Diameter (mm): 450		

SUBSURFACE PROFILE			SAMPLE			
Depth	Graphic Log	Lithologic Description	Sample ID	PID (ppm)	Sample Type	Comments
0.0		Ground Surface				
		FL Topsoil				No odours, staining or ACM observed.
		FL Gravelly CLAY, heterogeneous, grey, damp, firm, inclusions of shale.	RAQ080 (0-1)	-	D	10L AQ completed. No odours, staining or ACM observed.
1.0		FL Gravelly CLAY, heterogeneous, grey, damp, firm, inclusions of shale and ACM.	RAQ080 (1-2)	-	D	10L AQ completed. ACM observed. No odours or staining observed.
		End of Hole @ 1.5 mbgs Refusal on rubble and shale within fill				
2.0						
3.0						
4.0						

Drilling Method	Sample Type	Reference Level	Log Details
HA - Hand Auger	U - Undisturbed tube sample	AHD - Australian Height Datum	Logged By: Matthew Murray
SFA - Solid Flight Auger	D - Disturbed sample	BGS - Below Ground Surface	Project Manager: Mitchell Hodgins
HFA - Hollow Flight Auger	CS - Core sample		
PT - Push Tube			
AH - Air Hammer			

NOTE: This bore log is for environmental assessment purposes only and is not intended to provide geotechnical information

	Borehole No: RAQ-081	Project No: 50369
		Client: Health Infrastructure New South Wales Project Name: WHR - AQ in Accessible Soils Site Address: Westmead Hospital, Westmead, NSW
Date: 2015.02.07 Eastings (MGA): 313881.54 Contractor: Ken Coles Pty Ltd Northings (MGA): 6257921.28 Drill Rig: - Reference Level: GS Method: HA Elevation - Surface (m): - Total Hole Depth (mbgs): 1.4 Bore Diameter (mm): 450		

SUBSURFACE PROFILE			SAMPLE			
Depth	Graphic Log	Lithologic Description	Sample ID	PID (ppm)	Sample Type	Comments
0.0		Ground Surface				
		FL Topsoil				No odours, staining or ACM observed.
		FL Gravelly CLAY, heterogeneous, grey, damp, firm, inclusions of shale fragments.	RAQ081 (0-1)	-	D	10L AQ completed. No odours, staining or ACM observed.
1.0		FL Gravelly CLAY, heterogeneous, grey, damp, firm, inclusions of shale fragments and concrete fragments.	RAQ081 (1-2)	-	D	10L AQ completed. No odours, staining or ACM observed.
		End of Hole @ 1.4 mbgs Refusal on rubble within fill				
2.0						
3.0						
4.0						

Drilling Method	Sample Type	Reference Level	Log Details
HA - Hand Auger	U - Undisturbed tube sample	AHD - Australian Height Datum	Logged By: Matthew Murray
SFA - Solid Flight Auger	D - Disturbed sample	BGS - Below Ground Surface	Project Manager: Mitchell Hodgins
HFA - Hollow Flight Auger	CS - Core sample		
PT - Push Tube			
AH - Air Hammer			

NOTE: This bore log is for environmental assessment purposes only and is not intended to provide geotechnical information

	Borehole No: RAQ-082	Project No: 50369
		Client: Health Infrastructure New South Wales Project Name: WHR - AQ in Accessible Soils Site Address: Westmead Hospital, Westmead, NSW
Date: 2015.02.07 Eastings (MGA): 313894.25 Contractor: Ken Coles Pty Ltd Northings (MGA): 6257941.01 Drill Rig: - Reference Level: GS Method: HA Elevation - Surface (m): - Total Hole Depth (mbgs): 1.6 Bore Diameter (mm): 450		

SUBSURFACE PROFILE			SAMPLE			
Depth	Graphic Log	Lithologic Description	Sample ID	PID (ppm)	Sample Type	Comments
0.0		Ground Surface				
		FL Topsoil				No odours, staining or ACM observed.
		FL CLAY, heterogeneous, brown, moist, firm.	RAQ082 (0-1)	-	D	10L AQ completed. No odours, staining or ACM observed.
1.0		FL Gravelly CLAY, heterogeneous, brown, damp, firm, inclusions of shale fragments.	RAQ082 (1-2)	-	D	10L AQ completed. No odours, staining or ACM observed.
2.0		End of Hole @ 1.6 mbgs Refusal on shale within fill				
3.0						
4.0						
Drilling Method		Sample Type	Reference Level	Log Details		
HA - Hand Auger		U - Undisturbed tube sample	AHD - Australian Height Datum	Logged By: Matthew Murray		
SFA - Solid Flight Auger		D - Disturbed sample	BGS - Below Ground Surface	Project Manager: Mitchell Hodgins		
HFA - Hollow Flight Auger		CS - Core sample				
PT - Push Tube						
AH - Air Hammer						

NOTE: This bore log is for environmental assessment purposes only and is not intended to provide geotechnical information



Borehole No: RAQ-083

Project No: 50369

Client: Health Infrastructure New South Wales

Project Name: WHR - AQ in Accessible Soils

Site Address: Westmead Hospital, Westmead, NSW

Date: 2015.02.14

Contractor: Ken Coles Pty Ltd

Drill Rig: -

Method: HA

Total Hole Depth (mbgs): 2.1

Eastings (MGA): 313707

Northings (MGA): 6257901

Reference Level: GS

Elevation - Surface (m): -

Bore Diameter (mm): 450

SUBSURFACE PROFILE			SAMPLE			
Depth	Graphic Log	Lithologic Description	Sample ID	PID (ppm)	Sample Type	Comments
0.0		Ground Surface				
		FL Gravelly, Sandy CLAY, heterogeneous, grey-brown, dry, inclusions of shale fragments.	RAQ083 (0-1)	-	D	10L AQ completed. No odours, staining or ACM observed.
1.0		FL Gravelly CLAY, heterogeneous, brown, dry, inclusions of shale fragments, bricks and shells.	RAQ083 (1-2)	-	D	10L AQ completed. No odours, staining or ACM observed.
2.0		End of Hole @ 2.1 mbgs Refusal on unidentified obstruction within fill				
3.0						
4.0						

Drilling Method	Sample Type	Reference Level	Log Details
HA - Hand Auger SFA - Solid Flight Auger HFA - Hollow Flight Auger PT - Push Tube AH - Air Hammer	U - Undisturbed tube sample D - Disturbed sample CS - Core sample	AHD - Australian Height Datum BGS - Below Ground Surface	Logged By: Matthew Murray Project Manager: Mitchell Hodgins

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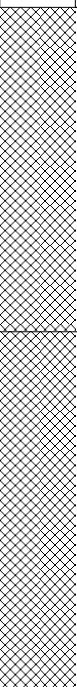
	Borehole No: RAQ-084	Project No: 50369 Client: Health Infrastructure New South Wales Project Name: WHR - AQ in Accessible Soils Site Address: Westmead Hospital, Westmead, NSW
Date: 2015.02.14 Contractor: Ken Coles Pty Ltd Drill Rig: - Method: HA Total Hole Depth (mbgs): 2.0	Eastings (MGA): 313695 Northings (MGA): 6257894 Reference Level: GS Elevation - Surface (m): - Bore Diameter (mm): 450	

SUBSURFACE PROFILE			SAMPLE			
Depth	Graphic Log	Lithologic Description	Sample ID	PID (ppm)	Sample Type	Comments
0.0		Ground Surface				
		FL Gravelly CLAY, heterogeneous, dark brown, moist, soft, low-medium plasticity, inclusions of shale fragments and ACM.	RAQ084 (0-1)	-	D	10L AQ completed. ACM observed. No odours or staining observed.
1.0		FL Gravelly CLAY, heterogeneous, brown, dry, low plasticity, inclusions of shale fragments.	RAQ084 (1-2)	-	D	10L AQ completed. No odours, staining or ACM observed. QC05 and QA05 collected.
2.0		End of Hole @ 2.0 mbgs Refusal on unidentified obstruction within fill				
3.0						
4.0						

Drilling Method	Sample Type	Reference Level	Log Details
HA - Hand Auger SFA - Solid Flight Auger HFA - Hollow Flight Auger PT - Push Tube AH - Air Hammer	U - Undisturbed tube sample D - Disturbed sample CS - Core sample	AHD - Australian Height Datum BGS - Below Ground Surface	Logged By: Matthew Murray Project Manager: Mitchell Hodgins

NOTE: This bore log is for environmental assessment purposes only and is not intended to provide geotechnical information
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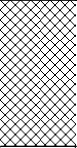
	Borehole No: RAQ-085	Project No: 50369 Client: Health Infrastructure New South Wales Project Name: WHR - AQ in Accessible Soils Site Address: Westmead Hospital, Westmead, NSW
Date: 2015.02.14 Contractor: Ken Coles Pty Ltd Drill Rig: - Method: HA Total Hole Depth (mbgs): 2.1	Eastings (MGA): 313685 Northings (MGA): 6257881 Reference Level: GS Elevation - Surface (m): - Bore Diameter (mm): 450	

SUBSURFACE PROFILE			SAMPLE			
Depth	Graphic Log	Lithologic Description	Sample ID	PID (ppm)	Sample Type	Comments
0.0		Ground Surface				
		FL Gravelly CLAY, heterogeneous, brown, damp, soft, low plasticity, inclusions of shale fragments, brick fragments and ACM.	RAQ085 (0-1)	-	D	10L AQ completed. FA and ACM observed. No odours or staining observed.
1.0		FL Gravelly CLAY, heterogeneous, brown, dry, soft, low plasticity, inclusions of shale fragments, brick fragments and ACM.	RAQ085 (1-2)	-	D	10L AQ completed. FA and ACM observed. No odours or staining observed.
2.0		End of Hole @ 2.1 mbgs Refusal on unidentified obstruction within fill				
3.0						
4.0						

Drilling Method	Sample Type	Reference Level	Log Details
HA - Hand Auger SFA - Solid Flight Auger HFA - Hollow Flight Auger PT - Push Tube AH - Air Hammer	U - Undisturbed tube sample D - Disturbed sample CS - Core sample	AHD - Australian Height Datum BGS - Below Ground Surface	Logged By: Matthew Murray Project Manager: Mitchell Hodgins

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	Borehole No: RAQ-087	Project No: 50369 Client: Health Infrastructure New South Wales Project Name: WHR - AQ in Accessible Soils Site Address: Westmead Hospital, Westmead, NSW
Date: 2015.02.14 Contractor: Ken Coles Pty Ltd Drill Rig: - Method: HA Total Hole Depth (mbgs): 0.45		
Eastings (MGA): 313654 Northings (MGA): 6257822 Reference Level: GS Elevation - Surface (m): - Bore Diameter (mm): 450		

SUBSURFACE PROFILE			SAMPLE			
Depth	Graphic Log	Lithologic Description	Sample ID	PID (ppm)	Sample Type	Comments
0.0		Ground Surface				
		FL Gravelly CLAY, heterogeneous, black, soft, moist, inclusions of glass and brick fragments.	RAQ087 (0-1)	-	D	AQ completed. No odours, staining or ACM observed.
		End of Hole @ 0.45 mbgs Suspected service				
1.0						
2.0						
3.0						
4.0						

Drilling Method	Sample Type	Reference Level	Log Details
HA - Hand Auger SFA - Solid Flight Auger HFA - Hollow Flight Auger PT - Push Tube AH - Air Hammer	U - Undisturbed tube sample D - Disturbed sample CS - Core sample	AHD - Australian Height Datum BGS - Below Ground Surface	Logged By: Matthew Murray Project Manager: Mitchell Hodgins

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Borehole No: RAQ-088	Project No: 50369
	Client: Health Infrastructure New South Wales Project Name: WHR - AQ in Accessible Soils Site Address: Westmead Hospital, Westmead, NSW
Eastings (MGA): 313709 Northings (MGA): 6257884 Reference Level: GS Elevation - Surface (m): - Bore Diameter (mm): 450	

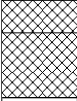
	Borehole No: RAQ-089	Project No: 50369
		Client: Health Infrastructure New South Wales Project Name: WHR - AQ in Accessible Soils Site Address: Westmead Hospital, Westmead, NSW
Date: 2015.02.14 Eastings (MGA): 313699 Contractor: Ken Coles Pty Ltd Northings (MGA): 6257872 Drill Rig: - Reference Level: GS Method: HA Elevation - Surface (m): - Total Hole Depth (mbgs): 0.6 Bore Diameter (mm): 450		

SUBSURFACE PROFILE			SAMPLE			
Depth	Graphic Log	Lithologic Description	Sample ID	PID (ppm)	Sample Type	Comments
0.0		Ground Surface				
		FL Topsoil				
		FL Gravelly CLAY, heterogeneous, grey, soft, damp, inclusions of cement fragments.	RAQ089 (0-1)	-	D	10L AQ completed. No odours, staining or ACM observed.
		End of Hole @ 0.6 mbgs Refusal on rubble and tree roots				
1.0						
2.0						
3.0						
4.0						

Drilling Method	Sample Type	Reference Level	Log Details
HA - Hand Auger	U - Undisturbed tube sample	AHD - Australian Height Datum	Logged By: Matthew Murray
SFA - Solid Flight Auger	D - Disturbed sample	BGS - Below Ground Surface	Project Manager: Mitchell Hodgins
HFA - Hollow Flight Auger	CS - Core sample		
PT - Push Tube			
AH - Air Hammer			

NOTE: This bore log is for environmental assessment purposes only and is not intended to provide geotechnical information

	Borehole No: RAQ-090	Project No: 50369 Client: Health Infrastructure New South Wales Project Name: WHR - AQ in Accessible Soils Site Address: Westmead Hospital, Westmead, NSW			
Date: 2015.02.14 Contractor: Ken Coles Pty Ltd Drill Rig: - Method: HA Total Hole Depth (mbgs): 0.3			Eastings (MGA): 313660 Northings (MGA): 6257853 Reference Level: GS Elevation - Surface (m): - Bore Diameter (mm): 450		

SUBSURFACE PROFILE			SAMPLE			
Depth	Graphic Log	Lithologic Description	Sample ID	PID (ppm)	Sample Type	Comments
0.0		Ground Surface				
		FL Topsoil				
		FL Gravelly CLAY, heterogeneous, grey, soft, damp, inclusions of cement fragments.	RAQ090 (0-1)	-	D	10L AQ completed. No odours, staining or ACM observed.
		End of Hole @ 0.3 mbgs Service encountered				
1.0						
2.0						
3.0						
4.0						

Drilling Method	Sample Type	Reference Level	Log Details
HA - Hand Auger SFA - Solid Flight Auger HFA - Hollow Flight Auger PT - Push Tube AH - Air Hammer	U - Undisturbed tube sample D - Disturbed sample CS - Core sample	AHD - Australian Height Datum BGS - Below Ground Surface	Logged By: Matthew Murray Project Manager: Mitchell Hodgins

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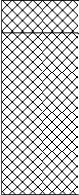
	Borehole No: RAQ-091	Project No: 50369
		Client: Health Infrastructure New South Wales Project Name: WHR - AQ in Accessible Soils Site Address: Westmead Hospital, Westmead, NSW
Date: 2015.02.14 Eastings (MGA): 313650 Contractor: Ken Coles Pty Ltd Northings (MGA): 6257841 Drill Rig: - Reference Level: GS Method: HA Elevation - Surface (m): - Total Hole Depth (mbgs): 0.35 Bore Diameter (mm): 450		

SUBSURFACE PROFILE			SAMPLE			
Depth	Graphic Log	Lithologic Description	Sample ID	PID (ppm)	Sample Type	Comments
0.0		Ground Surface				
		FL Topsoil				
		FL Gravelly CLAY, heterogeneous, grey, soft, damp, inclusions of plastic and cement fragments.	RAQ091 (0-1)	-	D	10L AQ completed. No odours, staining or ACM observed.
		End of Hole @ 0.35 mbgs Refusal on rubble within fill				
1.0						
2.0						
3.0						
4.0						

Drilling Method	Sample Type	Reference Level	Log Details
HA - Hand Auger	U - Undisturbed tube sample	AHD - Australian Height Datum	Logged By: Matthew Murray
SFA - Solid Flight Auger	D - Disturbed sample	BGS - Below Ground Surface	Project Manager: Mitchell Hodgins
HFA - Hollow Flight Auger	CS - Core sample		
PT - Push Tube			
AH - Air Hammer			

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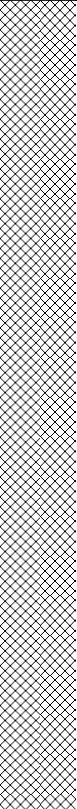
	Borehole No: RAQ-092	Project No: 50369 Client: Health Infrastructure New South Wales Project Name: WHR - AQ in Accessible Soils Site Address: Westmead Hospital, Westmead, NSW			
Date: 2015.02.14 Contractor: Ken Coles Pty Ltd Drill Rig: - Method: HA Total Hole Depth (mbgs): 0.6			Eastings (MGA): 313671 Northings (MGA): 6257843 Reference Level: GS Elevation - Surface (m): - Bore Diameter (mm): 450		

SUBSURFACE PROFILE			SAMPLE			
Depth	Graphic Log	Lithologic Description	Sample ID	PID (ppm)	Sample Type	Comments
0.0		Ground Surface				
		FL Topsoil				
		FL Gravelly CLAY, heterogeneous, grey, soft, damp, inclusions of plastic and brick fragments.	RAQ092 (0-1)	-	D	10L AQ completed. No odours, staining or ACM observed.
		End of Hole @ 0.6 mbgs Refusal on rubble within fill				
1.0						
2.0						
3.0						
4.0						

Drilling Method	Sample Type	Reference Level	Log Details
HA - Hand Auger SFA - Solid Flight Auger HFA - Hollow Flight Auger PT - Push Tube AH - Air Hammer	U - Undisturbed tube sample D - Disturbed sample CS - Core sample	AHD - Australian Height Datum BGS - Below Ground Surface	Logged By: Matthew Murray Project Manager: Mitchell Hodgins

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	Borehole No: RAQ-093	Project No: 50369 Client: Health Infrastructure New South Wales Project Name: WHR - Data Gap Assessment Site Address: Westmead Hospital, Westmead, NSW
	Date: 2015.04.11 Eastings (MGA): 313824 Contractor: Rockwell Drilling Northings (MGA): 6258038 Drill Rig: GeoProbe Reference Level: GS Method: SFA Elevation - Surface (m): - Total Hole Depth (mbgs): 3.0 Bore Diameter (mm): 150	

SUBSURFACE PROFILE			SAMPLE			
Depth	Graphic Log	Lithologic Description	Sample ID	PID (ppm)	Sample Type	Comments
0.0		Ground Surface				
		FL Gravelly CLAY, heterogeneous, low plasticity, firm, damp, inclusions of plastic, brick fragment and mix of bitumen in top 200mm and inclusion of approximately 10% of ash throughout.	RAQ093 (0-0.2)	-	D	10L AQ completed 0 to 1 metres, no odours, staining or ACM observed
			RAQ093 (0.2-0.5)	-	D	
			RAQ093 (0.5-1.0)	-	D	
1.0			RAQ093 (1-1.5)	-	D	10L AQ completed 1 to 2 metres, no odours, staining or ACM observed
			RAQ093 (1.5-2.0)	-	D	
2.0		NT CLAY, red, medium plasticity.				
3.0		End of Hole @ 3.0 m bgs Natural.				

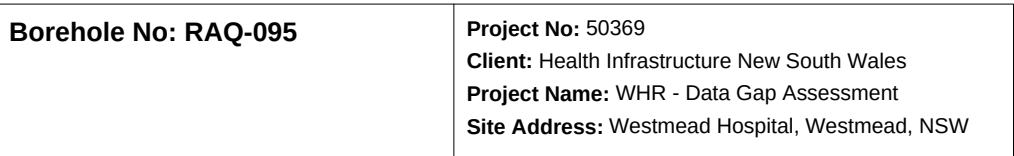
Drilling Method	Sample Type	Reference Level	Log Details
HA - Hand Auger SFA - Solid Flight Auger HFA - Hollow Flight Auger PT - Push Tube AH - Air Hammer	U - Undisturbed tube sample D - Disturbed sample CS - Core sample	AHD - Australian Height Datum BGS - Below Ground Surface	Logged By: Matthew Murray Project Manager: Mitchell Hodgins

NOTE: This bore log is for environmental assessment purposes only and is not intended to provide geotechnical information

	Borehole No: RAQ-094	Project No: 50369 Client: Health Infrastructure New South Wales Project Name: WHR - Data Gap Assessment Site Address: Westmead Hospital, Westmead, NSW
	Date: 2015.04.11 Contractor: Rockwell Drilling Drill Rig: GeoProbe Method: SFA Total Hole Depth (mbgs): 2.0	
Eastings (MGA): 313828 Northings (MGA): 6258038 Reference Level: GS Elevation - Surface (m): - Bore Diameter (mm): 150		

SUBSURFACE PROFILE			SAMPLE			
Depth	Graphic Log	Lithologic Description	Sample ID	PID (ppm)	Sample Type	Comments
0.0		Ground Surface				
		FL Gravelly CLAY, poorly graded, heterogeneous, low plasticity, medium density, firm, damp, inclusions of Brick, metal, tile and 5% ash fragments throughout.	RAQ094 (0-1)	-	D	10L AQ completed. No odours, staining or ACM observed.
1.0			RAQ094 (1-2)	-	D	10L AQ completed. No odours, staining or ACM observed.
2.0		NT CLAY, red, medium plasticity.				
		End of Hole @ 2.5 m bgs Natural. No ACM observed during visual inspection of ground surface of test pit location.				
3.0						
Drilling Method HA - Hand Auger SFA - Solid Flight Auger HFA - Hollow Flight Auger PT - Push Tube AH - Air Hammer		Sample Type U - Undisturbed tube sample D - Disturbed sample CS - Core sample	Reference Level AHD - Australian Height Datum BGS - Below Ground Surface	Log Details Logged By: Matthew Murray Project Manager: Mitchell Hodgins		

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Eastings (MGA): 313813
Northings (MGA): 6258030
Reference Level: GS
Elevation - Surface (m): -
Bore Diameter (mm): 150

Drilling Method	Sample Type	Reference Level	Log Details
HA - Hand Auger	U - Undisturbed tube sample	AHD - Australian Height Datum	Logged By: Matthew Murray
SFA - Solid Flight Auger	D - Disturbed sample	BGS - Below Ground Surface	Project Manager: Mitchell Hodgins
HFA - Hollow Flight Auger	CS - Core sample		
PT - Push Tube			
AH - Air Hammer			

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	Borehole No: RAQ-096	Project No: 50369
		Client: Health Infrastructure New South Wales Project Name: WHR - Data Gap Assessment Site Address: Westmead Hospital, Westmead, NSW
Date: 2015.04.11 Eastings (MGA): 313794 Contractor: Rockwell Drilling Northings (MGA): 6257992 Drill Rig: GeoProbe Reference Level: GS Method: SFA Elevation - Surface (m): - Total Hole Depth (mbgs): 2.0 Bore Diameter (mm): 150		

SUBSURFACE PROFILE			SAMPLE			
Depth	Graphic Log	Lithologic Description	Sample ID	PID (ppm)	Sample Type	Comments
0.0		Ground Surface				
		FL sandy-Gravelly CLAY, brown, heterogeneous, poorly graded, non plastic, brown, firm, damp, inclusions of Brick.	RAQ096 (0-0.2)	-	D	10L AQ completed. No odours, staining or ACM.
			RAQ096 (0.2-0.5)	-	D	
			RAQ096 (0.5-1)	-	D	
1.0		NT SHALE	RAQ096 (1-1.5)	-	D	10L AQ completed. No odours, staining or ACM.
2.0		End of Hole				
3.0						

Drilling Method	Sample Type	Reference Level	Log Details
HA - Hand Auger	U - Undisturbed tube sample	AHD - Australian Height Datum	Logged By: Matthew Murray
SFA - Solid Flight Auger	D - Disturbed sample	BGS - Below Ground Surface	Project Manager: Mitchell Hodgins
HFA - Hollow Flight Auger	CS - Core sample		
PT - Push Tube			
AH - Air Hammer			

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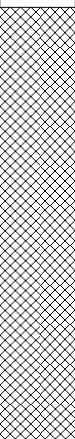
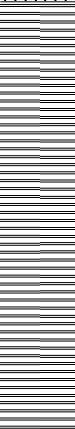
	Borehole No: RAQ-097	Project No: 50369 Client: Health Infrastructure New South Wales Project Name: WHR - Data Gap Assessment Site Address: Westmead Hospital, Westmead, NSW			
Date: 2015.04.11 Contractor: Rockwell Drilling Drill Rig: GeoProbe Method: SFA Total Hole Depth (mbgs): 1.5			Eastings (MGA): 313781 Northings (MGA): 6257997 Reference Level: GS Elevation - Surface (m): - Bore Diameter (mm): 150		

SUBSURFACE PROFILE			SAMPLE			
Depth	Graphic Log	Lithologic Description	Sample ID	PID (ppm)	Sample Type	Comments
0.0		Ground Surface				
		FL sandy-Gravelly CLAY, poorly graded, heterogeneous, non plasticity,brown, firm, damp, inclusions of Brick fragments, sandstone fragments.	RAQ097 (0-0.2)	-	D	10L AQ completed. No odours, staining or ACM.
			RAQ097 (0.2-0.5)	-	D	
			RAQ097 (0.5-0.8)	-	D	
1.0		NT red CLAY				10L AQ completed. No odours, staining or ACM.
		End of Hole				
2.0						

Drilling Method	Sample Type	Reference Level	Log Details
HA - Hand Auger SFA - Solid Flight Auger HFA - Hollow Flight Auger PT - Push Tube AH - Air Hammer	U - Undisturbed tube sample D - Disturbed sample CS - Core sample	AHD - Australian Height Datum BGS - Below Ground Surface	Logged By: Matthew Murray Project Manager: Mitchell Hodgins

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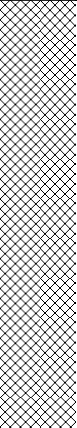
	Borehole No: RAQ-098	Project No: 50369
		Client: Health Infrastructure New South Wales Project Name: WHR - Data Gap Assessment Site Address: Westmead Hospital, Westmead, NSW
Date: 2015.04.11 Eastings (MGA): 313791 Contractor: Rockwell Drilling Northings (MGA): 6258014 Drill Rig: GeoProbe Reference Level: GS Method: SFA Elevation - Surface (m): - Total Hole Depth (mbgs): 2 Bore Diameter (mm): 150		

SUBSURFACE PROFILE			SAMPLE			
Depth	Graphic Log	Lithologic Description	Sample ID	PID (ppm)	Sample Type	Comments
0.0		Ground Surface				
		FL Gravelly CLAY, poorly graded, heterogeneous, medium dense, brown-black, firm, damp, inclusions of Brick fragments, shale fragments and ash 5%.	RAQ098 (0-0.2)	-	D	no odours, staining or ACM observed
			RAQ098 (0.2-0.5)	-	D	no odours, staining or ACM observed
			RAQ098 (0.5-1)	-	D	no odours, staining or ACM observed
1.0		NT SHALE				
2.0		End of Hole				
3.0						

Drilling Method	Sample Type	Reference Level	Log Details
HA - Hand Auger	U - Undisturbed tube sample	AHD - Australian Height Datum	Logged By: Matthew Murray
SFA - Solid Flight Auger	D - Disturbed sample	BGS - Below Ground Surface	Project Manager: Mitchell Hodgins
HFA - Hollow Flight Auger	CS - Core sample		
PT - Push Tube			
AH - Air Hammer			

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	Borehole No: RAQ099	Project No: 50369
		Client: Health Infrastructure New South Wales Project Name: WHR - Data Gap Assessment Site Address: Westmead Hospital, Westmead, NSW
Date: 2015.04.17 Eastings (MGA): 313814 Contractor: Rockwell Drilling Northings (MGA): 6258012 Drill Rig: GeoProbe Reference Level: GS Method: SFA Elevation - Surface (m): - Total Hole Depth (mbgs): 2.0 Bore Diameter (mm): 150		

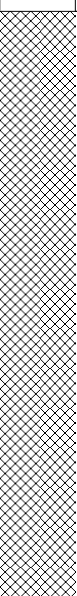
SUBSURFACE PROFILE			SAMPLE			
Depth	Graphic Log	Lithologic Description	Sample ID	PID (ppm)	Sample Type	Comments
0.0		Ground Surface				
		FL Gravelly CLAY, poorly graded, heterogeneous, brown-black, medium density, firm, wet, inclusions of Brick fragments,concreate shale fragments and ash 10%.	RAQ099 (0-0.2)	-	D	10L AQ completed. No odours, staining or ACM.
			RAQ099 (0.2-0.5)	-	D	
			RAQ099 (0.5-1)	-	D	
1.0		NT Red-yellow CLAY				10L AQ completed. No odours, staining or ACM.
		End of Hole				
2.0						
3.0						

Drilling Method	Sample Type	Reference Level	Log Details
HA - Hand Auger	U - Undisturbed tube sample	AHD - Australian Height Datum	Logged By: Matthew Murray
SFA - Solid Flight Auger	D - Disturbed sample	BGS - Below Ground Surface	Project Manager: Mitchell Hodgins
HFA - Hollow Flight Auger	CS - Core sample		
PT - Push Tube			
AH - Air Hammer			

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	Borehole No: RAQ-110	Project No: 50369
		Client: Health Infrastructure New South Wales Project Name: WHR - Data Gap Assessment Site Address: Westmead Hospital, Westmead, NSW

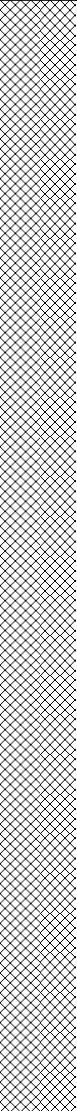
Date: 2015.04.17 Contractor: Rockwell Drilling Pty Ltd Drill Rig: GeoProbe Method: SFA Total Hole Depth (mbgs): 2.0	Eastings (MGA): 313731 Northings (MGA): 6258146 Reference Level: GS Elevation - Surface (m): - Bore Diameter (mm): 150
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SUBSURFACE PROFILE			SAMPLE			
Depth	Graphic Log	Lithologic Description	Sample ID	PID (ppm)	Sample Type	Comments
0.0		Ground Surface				
		FL Silty CLAY, stiff, brown, heterogeneous, damp with little amounts of brick and concrete fragments.	RAQ110 (0-0.1)	-	D	No odours, staining or ACM observed. 10 L AQ completed from 0.0-1.0 m bgs.
			RAQ110 (0.1-0.3)	-	D	
			RAQ110 (0.3-0.5)	-	D	
			RAQ110 (0.5-1.0)	-	D	
1.0			RAQ110 (1.0-1.3)	-	D	
		FL Silty CLAY, stiff, brown, mottled, damp, with trace amounts of concrete fragments.				No odours, staining or ACM observed. 10 L AQ completed from 1.0-1.5 m bgs.
			RAQ110 (1.5-2.0)	-	D	
2.0		NT Silty Clay, brown and mottled.				
		End of Hole @ 2.0 m bgs Natural				

Drilling Method	Sample Type	Reference Level	Log Details
HA - Hand Auger	U - Undisturbed tube sample	AHD - Australian Height Datum	Logged By: Matthew Murray
SFA - Solid Flight Auger	D - Disturbed sample	BGS - Below Ground Surface	Project Manager: Mitchell Hodgins
HFA - Hollow Flight Auger	CS - Core sample		
PT - Push Tube			
AH - Air Hammer			

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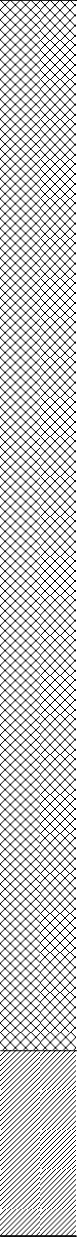
	Borehole No: RAQ-116	Project No: 50369
		Client: Health Infrastructure New South Wales Project Name: WHR - Data Gap Assessment Site Address: Westmead Hospital, Westmead, NSW
Date: 2015.04.17 Eastings (MGA): 313832 Contractor: Rockwell Drilling Pty Ltd Northings (MGA): 6257986 Drill Rig: GeoProbe Reference Level: GS Method: SFA Elevation - Surface (m): - Total Hole Depth (mbgs): 4.0 Bore Diameter (mm): 150		

SUBSURFACE PROFILE			SAMPLE			
Depth	Graphic Log	Lithologic Description	Sample ID	PID (ppm)	Sample Type	Comments
0.0		Ground Surface				
		FL Gravelly CLAY, stiff, orange, heterogeneous, damp with little amounts of concrete, plastic and metal fragments.	RAQ116 (0-0.2)	-	D	No odours or staining identified. ACM oserved throughout.
			RAQ116 (0.2-0.3)	-	D	
			RAQ116 (0.3-0.5)	-	D	
			RAQ116 (0.5-1.0)	-	D	No odours or staining identified. ACM observed throughout.
1.0						
			RAQ116 (1.0-1.5)	-	D	
			RAQ116 (1.5-2.0)	-	D	No odours or staining identified. ACM observed throughout.
2.0						
			RAQ116 (2.0-2.5)	-	D	
			RAQ116 (2.5-3.0)	-	D	No odours or staining identified. ACM observed throughout.
3.0						
			RAQ116 (3.0-3.5)	-	D	
		NT Silty Clay, orange and mottled.	RAQ116 (3.6-3.8)	-	D	
4.0						
		End of Hole @ 4.0 m bgs Natural				

Drilling Method	Sample Type	Reference Level	Log Details
HA - Hand Auger	U - Undisturbed tube sample	AHD - Australian Height Datum	Logged By: Matthew Murray
SFA - Solid Flight Auger	D - Disturbed sample	BGS - Below Ground Surface	Project Manager: Mitchell Hodgins
HFA - Hollow Flight Auger	CS - Core sample		
PT - Push Tube			
AH - Air Hammer			

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	Borehole No: RAQ-117	Project No: 50369 Client: Health Infrastructure New South Wales Project Name: WHR - Data Gap Assessment Site Address: Westmead Hospital, Westmead, NSW
	Date: 2015.04.18 Contractor: Rockwell Drilling Pty Ltd Drill Rig: GeoProbe Method: SFA Total Hole Depth (mbgs): 4.0	
Eastings (MGA): 313834 Northings (MGA): 6257974 Reference Level: GS Elevation - Surface (m): - Bore Diameter (mm): 150		

SUBSURFACE PROFILE			SAMPLE			
Depth	Graphic Log	Lithologic Description	Sample ID	PID (ppm)	Sample Type	Comments
0.0		Ground Surface				
		FL Gravelly CLAY, stiff, brown, heterogeneous, damp with little amounts of concrete, brick and glass fragments. Some bitumen identified within 0.2 m bgs.	RAQ117 (0-0.2)	-	D	No odours, staining or ACM observed.
			RAQ117 (0.2-0.3)	-	D	
			RAQ117 (0.3-0.5)	-	D	
			RAQ117 (0.5-1.0)	-	D	
1.0			RAQ117 (1.0-1.1)	-	D	No odours, staining or ACM observed.
			RAQ117 (1.5-1.6)	-	D	
			RAQ117 (2.0-2.1)	-	D	
2.0			RAQ117 (2.5-2.7)	-	D	
			RAQ117 (3.0-3.2)	-	D	No odours, staining or ACM observed.
3.0			RAQ117 (3.4-3.5)	-	D	
4.0		End of Hole @ 4.0 m bgs Natural				

Drilling Method	Sample Type	Reference Level	Log Details
HA - Hand Auger SFA - Solid Flight Auger HFA - Hollow Flight Auger PT - Push Tube AH - Air Hammer	U - Undisturbed tube sample D - Disturbed sample CS - Core sample	AHD - Australian Height Datum BGS - Below Ground Surface	Logged By: Matthew Murray Project Manager: Mitchell Hodgins

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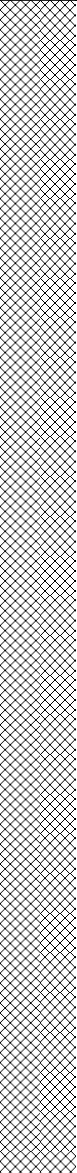
	Borehole No: RAQ-118	Project No: 50369 Client: Health Infrastructure New South Wales Project Name: WHR - Data Gap Assessment Site Address: Westmead Hospital, Westmead, NSW
Date: 2015.04.18 Contractor: Rockwell Drilling Pty Ltd Drill Rig: GeoProbe Method: SFA Total Hole Depth (mbgs): 3.0	Eastings (MGA): 313815 Northings (MGA): 6257990 Reference Level: GS Elevation - Surface (m): - Bore Diameter (mm): 150	

SUBSURFACE PROFILE			SAMPLE			
Depth	Graphic Log	Lithologic Description	Sample ID	PID (ppm)	Sample Type	Comments
0.0		Ground Surface				
		FL Gravelly CLAY, stiff, brown, heterogeneous, damp with little amounts of concrete, brick and glass fragments. Some bitumen identified within 0.2 m bgs.	AQ118 (0-1.0)	-	D	No odours, staining or ACM observed. 10 L AQ completed from 0.0-1.0 m bgs
1.0			AQ118 (1.0-2.0)	-	D	No odours or staining observed. 10 L AQ completed from 1.0-2.0 m bgs with approximately 5 g of AF/FA identified.
2.0			AQ118 (2.0-2.7)	-	D	No odours, staining or ACM observed.
		NT Silty Clay, orange and mottled.				
3.0		End of Hole @ 3.0 m bgs Natural				

Drilling Method	Sample Type	Reference Level	Log Details
HA - Hand Auger SFA - Solid Flight Auger HFA - Hollow Flight Auger PT - Push Tube AH - Air Hammer	U - Undisturbed tube sample D - Disturbed sample CS - Core sample	AHD - Australian Height Datum BGS - Below Ground Surface	Logged By: Matthew Murray Project Manager: Mitchell Hodgins

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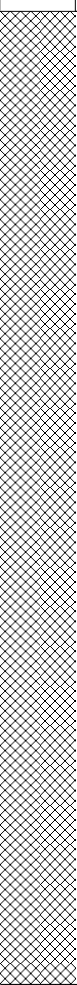
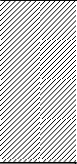
	Borehole No: RAQ-119	Project No: 50369
		Client: Health Infrastructure New South Wales Project Name: WHR - Data Gap Assessment Site Address: Westmead Hospital, Westmead, NSW
Date: 2015.04.21 Eastings (MGA): 313817 Contractor: Rockwell Drilling Pty Ltd Northings (MGA): 6257966 Drill Rig: GeoProbe Reference Level: GS Method: SFA Elevation - Surface (m): - Total Hole Depth (mbgs): 4.0 Bore Diameter (mm): 150		

SUBSURFACE PROFILE			SAMPLE			
Depth	Graphic Log	Lithologic Description	Sample ID	PID (ppm)	Sample Type	Comments
0.0		Ground Surface				
		FL Gravelly CLAY, stiff, brown, heterogeneous, damp with little amounts of concrete, brick and glass fragments. Some bitumen identified within 0.2 m bgs.	RAQ119 (0-0.2)	-	D	No odours, staining or ACM observed. 10 L AQ completed from 0.0-1.0 m bgs
			RAQ119 (0.2-0.5)	-	D	
			RAQ119 (0.7-0.9)	-	D	No odours, staining or ACM observed. 10 L AQ completed from 1.0-2.0 m bgs.
1.0						
			RAQ119 (1.8-2.0)	-	D	No odours, staining or ACM observed. 10 L AQ completed from 1.0-2.0 m bgs.
2.0						
			RAQ119 (2.2-2.4)	-	D	
						No odours, staining or ACM observed. 10 L AQ completed from 3.0-3.8 m bgs.
3.0			RAQ119 (3.0-3.2)	-	D	
			RAQ119 (3.6-3.8)	-	D	No odours, staining or ACM observed. 10 L AQ completed from 3.0-3.8 m bgs.
			RAQ119 (3.8-4.0)	-	D	
4.0		NT Silty Clay, orange and mottled.				
		End of Hole @ 4.0 m bgs Natural				

Drilling Method	Sample Type	Reference Level	Log Details
HA - Hand Auger	U - Undisturbed tube sample	AHD - Australian Height Datum	Logged By: Matthew Murray
SFA - Solid Flight Auger	D - Disturbed sample	BGS - Below Ground Surface	Project Manager: Mitchell Hodgins
HFA - Hollow Flight Auger	CS - Core sample		
PT - Push Tube			
AH - Air Hammer			

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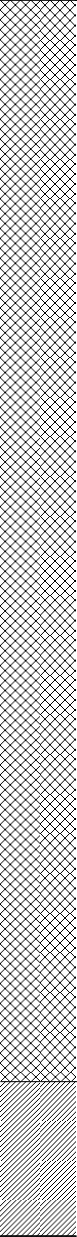
	Borehole No: RAQ-120	Project No: 50369 Client: Health Infrastructure New South Wales Project Name: WHR - Data Gap Assessment Site Address: Westmead Hospital, Westmead, NSW
	Date: 2015.04.18 Contractor: Rockwell Drilling Pty Ltd Drill Rig: GeoProbe Method: SFA Total Hole Depth (mbgs): 3.5	
Eastings (MGA): 313813 Northings (MGA): 6257953 Reference Level: GS Elevation - Surface (m): - Bore Diameter (mm): 150		

SUBSURFACE PROFILE			SAMPLE			
Depth	Graphic Log	Lithologic Description	Sample ID	PID (ppm)	Sample Type	Comments
0.0		Ground Surface				
		FL Gravelly CLAY, stiff, brown, heterogeneous, damp with little amounts of concrete, brick and glass fragments. Some bitumen identified within 0.2 m bgs.	AQ120 (0-1.0)			
				-	D	No odours, staining or ACM observed. 10 L AQ completed from 0.0-1.0 m bgs
1.0						
			AQ120 (1.0-2.0)	-	D	No odours, staining or ACM observed. 10 L AQ completed from 1.0-2.0 m bgs.
2.0						
			AQ120 (2.0-3.0)	-	D	No odours, staining or ACM observed. 10 L AQ completed from 1.0-2.0 m bgs.
3.0		NT Silty Clay, orange and mottled.				
		End of Hole @ 3.5 m bgs Natural				
4.0						

Drilling Method	Sample Type	Reference Level	Log Details
HA - Hand Auger	U - Undisturbed tube sample	AHD - Australian Height Datum	Logged By: Matthew Murray
SFA - Solid Flight Auger	D - Disturbed sample	BGS - Below Ground Surface	Project Manager: Mitchell Hodgins
HFA - Hollow Flight Auger	CS - Core sample		
PT - Push Tube			
AH - Air Hammer			

NOTE: This bore log is for environmental assessment purposes only and is not intended to provide geotechnical information

	Borehole No: RAQ-121	Project No: 50369 Client: Health Infrastructure New South Wales Project Name: WHR - Data Gap Assessment Site Address: Westmead Hospital, Westmead, NSW
Date: 2015.04.18 Contractor: Rockwell Drilling Pty Ltd Drill Rig: GeoProbe Method: SFA Total Hole Depth (mbgs): 4	Eastings (MGA): 313803 Northings (MGA): 6257953 Reference Level: GS Elevation - Surface (m): - Bore Diameter (mm): 150	

SUBSURFACE PROFILE			SAMPLE			
Depth	Graphic Log	Lithologic Description	Sample ID	PID (ppm)	Sample Type	Comments
0.0		Ground Surface				
		FL Gravelly CLAY, stiff, brown, heterogeneous, damp with little amounts of concrete, brick and glass fragments. Some bitumen identified within 0.2 m bgs.	AQ121 (0-1.0)	-	D	No odours or staining observed. 10 L AQ completed from 0-1.0 m bgs with approximately 2 g of AF/FA identified.
1.0			AQ121 (1.0-2.0)	-	D	No odours or staining observed. 10 L AQ completed from 1.0-2.0 m bgs with approximately 3 g of AF/FA identified.
2.0			AQ121 (2.0-3.0)	-	D	No odours or staining observed. 10 L AQ completed from 2.0-3.0 m bgs with approximately 2 g of AF/FA and 22 g of ACM identified.
3.0			AQ121 (3.0-3.5)			No odours or staining observed. 10 L AQ completed from 3.0-3.5 m bgs with approximately 2 g of AF/FA identified.
		NT Silty Clay, orange and mottled.				
4.0		End of Hole @ 4 m bgs Natural				

Drilling Method	Sample Type	Reference Level	Log Details
HA - Hand Auger	U - Undisturbed tube sample	AHD - Australian Height Datum	Logged By: Matthew Murray
SFA - Solid Flight Auger	D - Disturbed sample	BGS - Below Ground Surface	Project Manager: Mitchell Hodgins
HFA - Hollow Flight Auger	CS - Core sample		
PT - Push Tube			
AH - Air Hammer			

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	Borehole No: RAQ-122	Project No: 50369
		Client: Health Infrastructure New South Wales Project Name: WHR - Data Gap Assessment Site Address: Westmead Hospital, Westmead, NSW
Date: 2015.04.18 Contractor: Rockwell Drilling Pty Ltd Drill Rig: GeoProbe Method: SFA Total Hole Depth (mbgs): 3		Eastings (MGA): 313796 Northings (MGA): 6257969 Reference Level: GS Elevation - Surface (m): - Bore Diameter (mm): 150

SUBSURFACE PROFILE			SAMPLE			
Depth	Graphic Log	Lithologic Description	Sample ID	PID (ppm)	Sample Type	Comments
0.0		Ground Surface				
		FL Gravelly CLAY, stiff, brown, heterogeneous, damp with little amounts of concrete, brick and glass fragments. Some bitumen identified within 0.2 m bgs.	AQ122 (0-1.0)	-	D	No odours or staining observed. 10 L AQ completed from 0-1.0 m bgs with approximately 2 g of AF/FA identified.
1.0			AQ122 (1.0-2.0)	-	D	No odours or staining observed. 10 L AQ completed from 1.0-2.0 m bgs with approximately 2 g of AF/FA identified.
2.0			AQ122 (2.0-2.5)	-	D	No odours, staining or ACM observed. 10 L AQ completed from 2.0-2.5 m bgs.
		NT Silty Clay, orange and mottled.				
3.0		End of Hole @ 3 m bgs Natural				

Drilling Method	Sample Type	Reference Level	Log Details
HA - Hand Auger SFA - Solid Flight Auger HFA - Hollow Flight Auger PT - Push Tube AH - Air Hammer	U - Undisturbed tube sample D - Disturbed sample CS - Core sample	AHD - Australian Height Datum BGS - Below Ground Surface	Logged By: Matthew Murray Project Manager: Mitchell Hodgins

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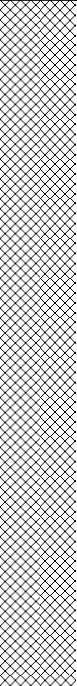
	Borehole No: RAQ-124	Project No: 50369
		Client: Health Infrastructure New South Wales Project Name: WHR - Data Gap Assessment Site Address: Westmead Hospital, Westmead, NSW
Date: 2015.04.18 Eastings (MGA): 313953 Contractor: Rockwell Drilling Pty Ltd Northings (MGA): 6258157 Drill Rig: GeoProbe Reference Level: GS Method: SFA Elevation - Surface (m): - Total Hole Depth (mbgs): 1.0 Bore Diameter (mm): 150		

SUBSURFACE PROFILE			SAMPLE			
Depth	Graphic Log	Lithologic Description	Sample ID	PID (ppm)	Sample Type	Comments
0.0		Ground Surface				
		FL Gravelly CLAY, stiff, brown, heterogeneous, damp with little amounts of concrete fragments.	RAQ124 (0-0.2)	-	D	No odours or staining observed. 10 L AQ completed from 0-0.5 m bgs with approximately 1 g of AF/FA identified.
			RAQ124 (0.3-0.5)	-	D	
		NT Silty Clay, brown and mottled.	RAQ124 (0.5-0.7)	-	D	
1.0		End of Hole @ 1.0 m bgs Natural				

Drilling Method	Sample Type	Reference Level	Log Details
HA - Hand Auger	U - Undisturbed tube sample	AHD - Australian Height Datum	Logged By: Matthew Murray
SFA - Solid Flight Auger	D - Disturbed sample	BGS - Below Ground Surface	Project Manager: Mitchell Hodgins
HFA - Hollow Flight Auger	CS - Core sample		
PT - Push Tube			
AH - Air Hammer			

NOTE: This bore log is for environmental assessment purposes only and is not intended to provide geotechnical information

	Borehole No: RAQ-125	Project No: 50369
		Client: Health Infrastructure New South Wales Project Name: WHR - Data Gap Assessment Site Address: Westmead Hospital, Westmead, NSW
Date: 2015.04.18 Eastings (MGA): 313973 Contractor: Rockwell Drilling Pty Ltd Northings (MGA): 6258174 Drill Rig: GeoProbe Reference Level: GS Method: SFA Elevation - Surface (m): - Total Hole Depth (mbgs): 1.5 Bore Diameter (mm): 150		

SUBSURFACE PROFILE			SAMPLE			
Depth	Graphic Log	Lithologic Description	Sample ID	PID (ppm)	Sample Type	Comments
0.0		Ground Surface				
		FL Gravelly CLAY, stiff, brown, heterogeneous, damp with little amounts of concrete fragments.	RAQ125 (0-0.2)	-	D	No odours or staining observed. 10 L AQ completed from 0-0.9 m bgs with approximately 2 g of AF/FA identified.
			RAQ125 (0.3-0.5)	-	D	
			RAQ125 (0.8-0.9)	-	D	
1.0		NT Silty Clay, brown and mottled.	RAQ125 (0.9-1.0)	-	D	
		End of Hole @ 1.5 m bgs Natural				

Drilling Method	Sample Type	Reference Level	Log Details
HA - Hand Auger	U - Undisturbed tube sample	AHD - Australian Height Datum	Logged By: Matthew Murray
SFA - Solid Flight Auger	D - Disturbed sample	BGS - Below Ground Surface	Project Manager: Mitchell Hodgins
HFA - Hollow Flight Auger	CS - Core sample		
PT - Push Tube			
AH - Air Hammer			

NOTE: This bore log is for environmental assessment purposes only and is not intended to provide geotechnical information

	Borehole No: RAQ-127	Project No: 50369
		Client: Health Infrastructure New South Wales Project Name: WHR - Data Gap Assessment Site Address: Westmead Hospital, Westmead, NSW
Date: 2015.04.24 Contractor: Rockwell Drilling Pty Ltd Drill Rig: GeoProbe Method: SFA Total Hole Depth (mbgs): 1.5		Eastings (MGA): - Northings (MGA): - Reference Level: GS Elevation - Surface (m): - Bore Diameter (mm): 150

SUBSURFACE PROFILE			SAMPLE			
Depth	Graphic Log	Lithologic Description	Sample ID	PID (ppm)	Sample Type	Comments
0.0		Ground Surface				
		FL Gravelly CLAY, stiff, black, heterogeneous, damp with little amounts of concrete fragments and trace amounts of ash.	RAQ127 (0-0.1)	0.1	D	No odours, staining or ACM observed. 10 L AQ completed from 0.0-1.0 m bgs.
			RAQ127 (0.3-0.5)	0.5	D	
		NT Silty Clay, brown and mottled.	RAQ127 (0.7-0.9)	0.7	D	
1.0			RAQ127 (1.0-1.2)	0.7	D	
		End of Hole @ 1.5 m bgs Natural				

Drilling Method	Sample Type	Reference Level	Log Details
HA - Hand Auger	U - Undisturbed tube sample	AHD - Australian Height Datum	Logged By: Matthew Murray
SFA - Solid Flight Auger	D - Disturbed sample	BGS - Below Ground Surface	Project Manager: Mitchell Hodgins
HFA - Hollow Flight Auger	CS - Core sample		
PT - Push Tube			
AH - Air Hammer			

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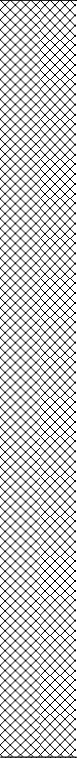
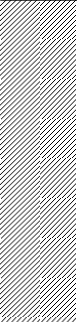
	Borehole No: RAQ-128	Project No: 50369
		Client: Health Infrastructure New South Wales Project Name: WHR - Data Gap Assessment Site Address: Westmead Hospital, Westmead, NSW
Date: 2015.04.24 Contractor: Rockwell Drilling Pty Ltd Drill Rig: GeoProbe Method: SFA Total Hole Depth (mbgs): 1.0		Eastings (MGA): - Northings (MGA): - Reference Level: GS Elevation - Surface (m): - Bore Diameter (mm): 150

SUBSURFACE PROFILE			SAMPLE			
Depth	Graphic Log	Lithologic Description	Sample ID	PID (ppm)	Sample Type	Comments
0.0		Ground Surface				
		FL Gravelly CLAY, stiff, black, heterogeneous, damp with little amounts of concrete fragments and trace amounts of ash.	RAQ128 (0-0.3)	0.1	D	No odours, staining or ACM observed. 10 L AQ completed from 0.0-0.5 m bgs.
			RAQ128 (0.3-0.5)	0.2	D	
		NT Silty Clay, brown and mottled.	RAQ128 (0.5-0.7)	0	D	
1.0		End of Hole @ 1.0 m bgs Natural				

Drilling Method	Sample Type	Reference Level	Log Details
HA - Hand Auger	U - Undisturbed tube sample	AHD - Australian Height Datum	Logged By: Matthew Murray
SFA - Solid Flight Auger	D - Disturbed sample	BGS - Below Ground Surface	Project Manager: Mitchell Hodgins
HFA - Hollow Flight Auger	CS - Core sample		
PT - Push Tube			
AH - Air Hammer			

NOTE: This bore log is for environmental assessment purposes only and is not intended to provide geotechnical information

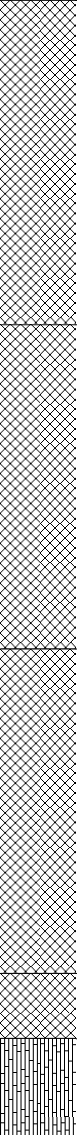
	Borehole No: RAQ-129	Project No: 50369
		Client: Health Infrastructure New South Wales Project Name: WHR - Data Gap Assessment Site Address: Westmead Hospital, Westmead, NSW
Date: 2015.04.24 Contractor: Rockwell Drilling Pty Ltd Drill Rig: GeoProbe Method: SFA Total Hole Depth (mbgs): 1.0		Eastings (MGA): - Northings (MGA): - Reference Level: GS Elevation - Surface (m): - Bore Diameter (mm): 150

SUBSURFACE PROFILE			SAMPLE			
Depth	Graphic Log	Lithologic Description	Sample ID	PID (ppm)	Sample Type	Comments
0.0		Ground Surface				
		FL Silty CLAY, stiff, brown, heterogeneous, damp with no anthropogenic material identified.	RAQ129 (0-0.1)	0.7	D	No odours, staining or ACM observed. 10 L AQ completed from 0.0-0.7 m bgs.
			RAQ129 (0.3-0.5)	0.3	D	No odours, staining or ACM observed. 10 L AQ completed from 0.0-0.7 m bgs.
		NT Silty Clay, brown and mottled.	RAQ129 (0.7-0.9)	0	D	No odours, staining or ACM observed. 10 L AQ completed from 0.0-0.7 m bgs.
1.0		End of Hole @ 1.0 m bgs Natural				

Drilling Method	Sample Type	Reference Level	Log Details
HA - Hand Auger	U - Undisturbed tube sample	AHD - Australian Height Datum	Logged By: Matthew Murray
SFA - Solid Flight Auger	D - Disturbed sample	BGS - Below Ground Surface	Project Manager: Mitchell Hodgins
HFA - Hollow Flight Auger	CS - Core sample		
PT - Push Tube			
AH - Air Hammer			

NOTE: This bore log is for environmental assessment purposes only and is not intended to provide geotechnical information

	Borehole No: RAQ-130	Project No: 50369 Client: Health Infrastructure New South Wales Project Name: WHR - AQ in Accessible Soils Site Address: Westmead Hospital, Westmead, NSW
	Date: 2015.04.29 Eastings (MGA): 313895 Contractor: Northings (MGA): 6258154 Drill Rig: Geoprobe Reference Level: Method: Elevation - Surface (m): - Total Hole Depth (mbgs): 3.5 Bore Diameter (mm): 120	

SUBSURFACE PROFILE			SAMPLE			
Depth	Graphic Log	Lithologic Description	Sample ID	PID (ppm)	Sample Type	Comments
0.0		Ground Surface				
		FL Clay, brown/red, heterogeneous, damp, low-medium plasticity, firm-hard, inclusions of igneous and shale gravels.	RAQ130 (0-0.2)	-		No odours, staining or ACM observed
			RAQ130 (0.2-0.4)	-		
			RAQ130 (0.5-0.7)	-		No odours, staining or ACM observed
			RAQ130 (1.0-1.2)	-		
			RAQ130 (1.5-1.7)	-		No odours, staining or ACM observed
			RAQ130 (2.0-2.2)	-		
			RAQ130 (2.5-2.7)	-		No odours, staining or ACM observed
			RAQ130 (3.0-3.2)	-		No odours, staining or ACM observed
						No odours, staining or ACM observed
		End of Hole @ 3.5 mbgs Natural				
4.0						

Drilling Method	Sample Type	Reference Level	Log Details
HA - Hand Auger SFA - Solid Flight Auger HFA - Hollow Flight Auger PT - Push Tube AH - Air Hammer	U - Undisturbed tube sample D - Disturbed sample CS - Core sample	AHD - Australian Height Datum BGS - Below Ground Surface	Logged By: Matthew Murray Project Manager: Mitchell Hodgins

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	Borehole No: RAQ-131	Project No: 50369 Client: Health Infrastructure New South Wales Project Name: WHR - AQ in Accessible Soils Site Address: Westmead Hospital, Westmead, NSW
	Date: 2015.04.29 Eastings (MGA): 313893 Contractor: Northings (MGA): 6258139 Drill Rig: Geoprobe Reference Level: Method: Elevation - Surface (m): - Total Hole Depth (mbgs): 3.5 Bore Diameter (mm): 120	

SUBSURFACE PROFILE			SAMPLE			
Depth	Graphic Log	Lithologic Description	Sample ID	PID (ppm)	Sample Type	Comments
0.0		Ground Surface				
		FL Clay, brown/red, heterogeneous, damp, low-medium plasticity, firm, inclusions of brick fragments, igneous and sandstone gravels.	RAQ131 (0.0-0.2)	-		No odours, staining or ACM observed
			RAQ131 (0.2-0.4)	-		
			RAQ131 (0.5-0.7)	-		
1.0		FL Silty clay, brown, heterogeneous, damp, low plasticity, firm, inclusions of igneous and shale gravels.	RAQ131 (1.0-1.2)	-		No odours, staining or ACM observed
			RAQ131 (1.5-1.7)	-		
2.0			RAQ131 (2.0-2.2)	-		No odours, staining or ACM observed
		FL Silty clay, brown, heterogeneous, damp, low plasticity, firm, inclusions of brick fragments, igneous and shale gravels.	RAQ131 (2.5-2.7)	-		
3.0			RAQ131 (3.0-3.2)	-		No odours, staining or ACM observed
			RAQ131 (3.5-3.7)	-		
4.0		Silty sand, light brown, heterogeneous, dry, loose, inclusions of siltstone	RAQ131 (4.0-4.2)	-		No odours, staining or ACM observed
			RAQ131 (4.2-4.4)	-		
		End of Hole @ 4.4 mbgs Natural				
5.0						

Drilling Method	Sample Type	Reference Level	Log Details
HA - Hand Auger	U - Undisturbed tube sample	AHD - Australian Height Datum	Logged By: Matthew Murray
SFA - Solid Flight Auger	D - Disturbed sample	BGS - Below Ground Surface	Project Manager: Mitchell Hodgins
HFA - Hollow Flight Auger	CS - Core sample		
PT - Push Tube			
AH - Air Hammer			

NOTE: This bore log is for environmental assessment purposes only and is not intended to provide geotechnical information

	Borehole No: RAQ-132	Project No: 50369 Client: Health Infrastructure New South Wales Project Name: WHR - AQ in Accessible Soils Site Address: Westmead Hospital, Westmead, NSW
	Date: 2015.04.29 Eastings (MGA): 313874 Contractor: Rockwell Northings (MGA): 6258114 Drill Rig: Geoprobe Reference Level: GS Method: SFA Elevation - Surface (m): - Total Hole Depth (mbgs): 4.0 Bore Diameter (mm): 120	

SUBSURFACE PROFILE			SAMPLE			
Depth	Graphic Log	Lithologic Description	Sample ID	PID (ppm)	Sample Type	Comments
0.0		Ground Surface				
		FL Clay, brown/black, heterogeneous, damp, low plasticity, soft, inclusions of igneous gravel..	RAQ132 (0-0.2)	-	D	No odours or staining observed. 10L AQ completed.
		FL Clay, brown with red and white mottles, heterogeneous, damp, medium plasticity, hard, inclusions of igneous gravels and wood.	RAQ132 (0.2-0.4)	-	D	
			RAQ132 (0.5-0.7)	-	D	
1.0		FL Silry Clay, brown, heterogeneous, dry, damp, low plasticity, firm, inclusions of igneous and sandstone gravels.	RAQ132 (1.0-1.2)	-	D	No odours or staining observed. 10L AQ completed.
			RAQ132 (1.5-1.7)	-	D	
2.0		FL Clay, dark brown, heterogeneous, damp, low plasticity, hard, inclusions of igneous gravels.	RAQ132 (2.0-2.2)	-	D	No odours or staining observed. 10L AQ completed.
			RAQ132 (2.5-2.7)	-	D	
3.0		FL Clay, dark brown, heterogeneous, moist, low plasticity, hard, inclusions of igneous gravels.	RAQ132 (3.0-3.2)	-	D	No odours or staining observed. 10L AQ completed.
			RAQ132 (3.5-3.7)	-	D	
		NT Clay, brown with red mottles, homogeneous, moist, medium-high plasticity, firm.				
4.0		End of Hole @ 4.0 mbgs Natural				No odours, staining or ACM observed
5.0						

Drilling Method	Sample Type	Reference Level	Log Details
HA - Hand Auger	U - Undisturbed tube sample	AHD - Australian Height Datum	Logged By: Patanan Pongsathorn
SFA - Solid Flight Auger	D - Disturbed sample	BGS - Below Ground Surface	Project Manager: Mitchell Hodgins
HFA - Hollow Flight Auger	CS - Core sample		
PT - Push Tube			
AH - Air Hammer			

NOTE: This bore log is for environmental assessment purposes only and is not intended to provide geotechnical information

	Borehole No: RAQ-133	Project No: 50369 Client: Health Infrastructure New South Wales Project Name: WHR - AQ in Accessible Soils Site Address: Westmead Hospital, Westmead, NSW
	Date: 2015.04.29 Eastings (MGA): 313859 Contractor: Rockwell Northings (MGA): 6258088 Drill Rig: Geoprobe Reference Level: GS Method: SFA Elevation - Surface (m): - Total Hole Depth (mbgs): 3.7 Bore Diameter (mm): 120	

SUBSURFACE PROFILE			SAMPLE			
Depth	Graphic Log	Lithologic Description	Sample ID	PID (ppm)	Sample Type	Comments
0.0		Ground Surface				
		FL Clay, brown, heterogeneous, damp, low plasticity, firm, inclusions of igneous gravels and wood.	RAQ133 (0-0.2)	-	D	No odours or staining observed. 10L AQ completed.
			RAQ133 (0.2-0.4)	-	D	
			RAQ133 (0.5-0.7)	-	D	
1.0		FL Clay, reddish brown, heterogeneous, damp, low plasticity, firm, inclusions of igneous gravels and wood.				No odours or staining observed. 10L AQ completed.
		FL Clay, reddish brown, heterogeneous, dry, non-plastic, stiff, inclusions of igneous gravels, glass and mulch.	RAQ133 (1.0-1.2)	-	D	No odours or staining observed. 10L AQ completed.
			RAQ133 (1.5-1.7)	-	D	
2.0		FL Clay, brown, heterogeneous, damp, low plasticity, firm, inclusions of igneous gravels and shale gravels.	RAQ133 (2.0-2.2)	-	D	No odours or staining observed. 10L AQ completed.
		FL Clay, brown-dark brown, heterogeneous, dry, non-plastic, soft, inclusions of igneous gravel.	RAQ133 (2.5-2.7)	-	D	No odours or staining observed. 10L AQ completed.
3.0		FL Clay, brown, heterogeneous, damp, low plasticity, soft, inclusions of igneous gravels.	RAQ133 (3.0-3.2)	-	D	No odours or staining observed. 10L AQ completed.
		NT Clay, brown, homogeneous, moist, medium plasticity, firm.				No odours, staining or ACM observed
			RAQ133 (3.5-3.7)	-	D	
		End of Hole @ 3.7 mbgs Natural				
4.0						
5.0						

Drilling Method	Sample Type	Reference Level	Log Details
HA - Hand Auger	U - Undisturbed tube sample	AHD - Australian Height Datum	Logged By: Patanan Pongsathorn
SFA - Solid Flight Auger	D - Disturbed sample	BGS - Below Ground Surface	Project Manager: Mitchell Hodgins
HFA - Hollow Flight Auger	CS - Core sample		
PT - Push Tube			
AH - Air Hammer			

NOTE: This bore log is for environmental assessment purposes only and is not intended to provide geotechnical information

	Borehole No: RAQ-134	Project No: 50369
		Client: Health Infrastructure New South Wales Project Name: WHR - AQ in Accessible Soils Site Address: Westmead Hospital, Westmead, NSW
Date: 2015.04.29 Eastings (MGA): 313845 Contractor: Rockwell Northings (MGA): 6258065 Drill Rig: Geoprobe Reference Level: GS Method: SFA Elevation - Surface (m): - Total Hole Depth (mbgs): 3.7 Bore Diameter (mm): 120		

SUBSURFACE PROFILE			SAMPLE			
Depth	Graphic Log	Lithologic Description	Sample ID	PID (ppm)	Sample Type	Comments
0.0		Ground Surface				
		FL Silty Clay, brown, heterogeneous, dry, low plasticity, firm, inclusions of igneous gravels and brick fragments.	RAQ134 (0-0.2)	-	D	No odours or staining observed. 10L AQ completed.
			RAQ134 (0.2-0.4)	-	D	
			RAQ134 (0.5-0.7)	-	D	
1.0		FL Clay, brown, heterogeneous, damp, low plasticity, firm, inclusions of igneous gravels, sandstone gravels and steel.	RAQ134 (1.0-1.2)	-	D	No odours or staining observed. 10L AQ completed.
			RAQ134 (1.5-1.7)	-	D	
2.0		FL Clay, brown, heterogeneous, damp, low plasticity, firm, inclusions of igneous gravels.l	RAQ134 (2.0-2.2)	-	D	No odours or staining observed. 10L AQ completed.
			RAQ134 (2.5-2.7)	-	D	
		NT Clay, brown/green, homogeneous, damp, medium plasticity, moist, soft.	RAQ134 (2.7-2.9)	-	D	No odours, staining or ACM observed.
3.0		End of Hole @ 3.0 mbgs Natural				
4.0						
5.0						

Drilling Method	Sample Type	Reference Level	Log Details
HA - Hand Auger	U - Undisturbed tube sample	AHD - Australian Height Datum	Logged By: Patanan Pongsathorn
SFA - Solid Flight Auger	D - Disturbed sample	BGS - Below Ground Surface	Project Manager: Mitchell Hodgins
HFA - Hollow Flight Auger	CS - Core sample		
PT - Push Tube			
AH - Air Hammer			

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	Borehole No: RAQ-144	Project No: 50369
		Client: Health Infrastructure New South Wales Project Name: WHR - AQ in Accessible Soils Site Address: Westmead Hospital, Westmead, NSW
Date: 2015.01.29 Eastings (MGA): 313719 Contractor: Ken Coles Pty Ltd Northings (MGA): 6258019 Drill Rig: Geoprobe Reference Level: GS Method: SFA Elevation - Surface (m): - Total Hole Depth (mbgs): 1.2 Bore Diameter (mm): 200		

SUBSURFACE PROFILE			SAMPLE			
Depth	Graphic Log	Lithologic Description	Sample ID	PID (ppm)	Sample Type	Comments
0.0		Ground Surface				
		FL Silty CLAY with some gravel, firm, brown, heterogenous, damp, inclusions of some concrete and brick fragments and trace amounts of ash nodules.	AQ144 (0.0-0.7)	-	D	No odours, staining or ACM identified. 10 L AQ completed from 0-0.7 m bgs.
		NT Silty CLAY, brown and mottled.				
1.0						
		End of Hole @ 1.2 mbgs Natural				

Drilling Method	Sample Type	Reference Level	Log Details
HA - Hand Auger SFA - Solid Flight Auger HFA - Hollow Flight Auger PT - Push Tube AH - Air Hammer	U - Undisturbed tube sample D - Disturbed sample CS - Core sample	AHD - Australian Height Datum BGS - Below Ground Surface	Logged By: Matthew Murray Project Manager: Mitchell Hodgins

NOTE: This bore log is for environmental assessment purposes only and is not intended to provide geotechnical information

	Borehole No: RAQ-145	Project No: 50369 Client: Health Infrastructure New South Wales Project Name: WHR - AQ in Accessible Soils Site Address: Westmead Hospital, Westmead, NSW
	Date: 2015.01.29 Contractor: Ken Coles Pty Ltd Drill Rig: Geoprobe Method: SFA Total Hole Depth (mbgs): 1.0	
Eastings (MGA): 313718 Northings (MGA): 6258000 Reference Level: GS Elevation - Surface (m): - Bore Diameter (mm): 200		

SUBSURFACE PROFILE			SAMPLE			
Depth	Graphic Log	Lithologic Description	Sample ID	PID (ppm)	Sample Type	Comments
0.0		Ground Surface				
		FL Silty CLAY with some gravel, firm, brown, heterogenous, damp, inclusions of some concrete and brick fragments and trace amounts of ash nodules.	RAQ145 (0.0-0.2)	-	D	No odours, staining or ACM identified. 10 L AQ completed from 0-0.5 m bgs.
			AQ145 (0.0-0.5)	-	D	
			RAQ145 (0.3-0.5)	-	D	
		NT Silty CLAY, brown and mottled.	RAQ145 (0.5-0.7)	-	D	
1.0		End of Hole @ 1.0 mbgs Natural				

Drilling Method	Sample Type	Reference Level	Log Details
HA - Hand Auger	U - Undisturbed tube sample	AHD - Australian Height Datum	Logged By: Matthew Murray
SFA - Solid Flight Auger	D - Disturbed sample	BGS - Below Ground Surface	Project Manager: Mitchell Hodgins
HFA - Hollow Flight Auger	CS - Core sample		
PT - Push Tube			
AH - Air Hammer			

NOTE: This bore log is for environmental assessment purposes only and is not intended to provide geotechnical information



Borehole No: RAQ-146

Project No: 50369

Client: Health Infrastructure New South Wales

Project Name: WHR - AQ in Accessible Soils

Site Address: Westmead Hospital, Westmead, NSW

Date: 2015.01.29

Contractor: Ken Coles Pty Ltd

Drill Rig: Geoprobe

Method: SFA

Total Hole Depth (mbgs): 1.5

Eastings (MGA): 313707

Northings (MGA): 6257996

Reference Level: GS

Elevation - Surface (m): -

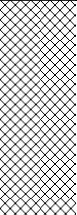
Bore Diameter (mm): 200

SUBSURFACE PROFILE			SAMPLE			
Depth	Graphic Log	Lithologic Description	Sample ID	PID (ppm)	Sample Type	Comments
0.0		Ground Surface				
		FL Silty CLAY with some gravel, firm, brown, heterogenous, damp, inclusions of some concrete and brick fragments and trace amounts of ash.	AQ146 (0.0-1.0)	-	D	No odours or staining observed. AF/FA observed from 0-0.4 m bgs. 10 L AQ completed from 0-1.0 m bgs.
1.0		NT Silty CLAY, brown and mottled.	AQ146 (1.0-1.5)	-	D	No odours, staining or ACM observed. 10 L AQ completed from 1.0-1.5 m bgs.
		End of Hole @ 1.5 mbgs Natural				

Drilling Method	Sample Type	Reference Level	Log Details
HA - Hand Auger SFA - Solid Flight Auger HFA - Hollow Flight Auger PT - Push Tube AH - Air Hammer	U - Undisturbed tube sample D - Disturbed sample CS - Core sample	AHD - Australian Height Datum BGS - Below Ground Surface	Logged By: Matthew Murray Project Manager: Mitchell Hodgins

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	Borehole No: RAQ-147	Project No: 50369
		Client: Health Infrastructure New South Wales Project Name: WHR - AQ in Accessible Soils Site Address: Westmead Hospital, Westmead, NSW
Date: 2015.01.29 Eastings (MGA): 313702 Contractor: Ken Coles Pty Ltd Northings (MGA): 6258009 Drill Rig: Geoprobe Reference Level: GS Method: SFA Elevation - Surface (m): - Total Hole Depth (mbgs): 1.0 Bore Diameter (mm): 200		

SUBSURFACE PROFILE			SAMPLE			
Depth	Graphic Log	Lithologic Description	Sample ID	PID (ppm)	Sample Type	Comments
0.0		Ground Surface				
		FL Silty CLAY with some gravel, firm, brown, heterogenous, damp, inclusions of some concrete and brick fragments.	AQ147 (0.0-0.2)	-	D	No odours, staining or ACM observed. 10 L AQ completed from 0.0-0.2 m bgs.
		NT Silty CLAY, brown and mottled.				
1.0		End of Hole @ 1.0 mbgs Natural				

Drilling Method	Sample Type	Reference Level	Log Details
HA - Hand Auger	U - Undisturbed tube sample	AHD - Australian Height Datum	Logged By: Matthew Murray
SFA - Solid Flight Auger	D - Disturbed sample	BGS - Below Ground Surface	Project Manager: Mitchell Hodgins
HFA - Hollow Flight Auger	CS - Core sample		
PT - Push Tube			
AH - Air Hammer			

NOTE: This bore log is for environmental assessment purposes only and is not intended to provide geotechnical information

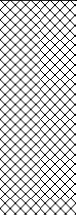
	Borehole No: RAQ-148	Project No: 50369
		Client: Health Infrastructure New South Wales Project Name: WHR - AQ in Accessible Soils Site Address: Westmead Hospital, Westmead, NSW
Date: 2015.01.29 Eastings (MGA): 313673 Contractor: Ken Coles Pty Ltd Northings (MGA): 6258025 Drill Rig: Geoprobe Reference Level: GS Method: SFA Elevation - Surface (m): - Total Hole Depth (mbgs): 1.0 Bore Diameter (mm): 200		

SUBSURFACE PROFILE			SAMPLE			
Depth	Graphic Log	Lithologic Description	Sample ID	PID (ppm)	Sample Type	Comments
0.0		Ground Surface				
		FL Gravelly CLAY, firm, black, heterogenous, damp, inclusions of some bitumen, concrete and brick fragments.	AQ148 (0.0-0.5)	-	D	No odours, staining or ACM observed. 10 L AQ completed from 0.0-0.5 m bgs. QC17 and QCA17 taken from sample AQ 148 (0.0-0.5).
		NT Silty CLAY, brown and mottled.				
1.0		End of Hole @ 1.0 mbgs Natural				

Drilling Method	Sample Type	Reference Level	Log Details
HA - Hand Auger	U - Undisturbed tube sample	AHD - Australian Height Datum	Logged By: Matthew Murray
SFA - Solid Flight Auger	D - Disturbed sample	BGS - Below Ground Surface	Project Manager: Mitchell Hodgins
HFA - Hollow Flight Auger	CS - Core sample		
PT - Push Tube			
AH - Air Hammer			

NOTE: This bore log is for environmental assessment purposes only and is not intended to provide geotechnical information

	Borehole No: RAQ-149	Project No: 50369
		Client: Health Infrastructure New South Wales Project Name: WHR - AQ in Accessible Soils Site Address: Westmead Hospital, Westmead, NSW
Date: 2015.01.29 Eastings (MGA): 313649 Contractor: Ken Coles Pty Ltd Northings (MGA): 6258006 Drill Rig: Geoprobe Reference Level: GS Method: SFA Elevation - Surface (m): - Total Hole Depth (mbgs): 1.0 Bore Diameter (mm): 200		

SUBSURFACE PROFILE			SAMPLE			
Depth	Graphic Log	Lithologic Description	Sample ID	PID (ppm)	Sample Type	Comments
0.0		Ground Surface				
		FL Silty CLAY with some gravel, firm, brown, heterogenous, damp, inclusions of some concrete and brick fragments and trace amounts of ash nodules.	RAQ149 (0.0-0.2)	-	D	No odours, staining or ACM observed. 10 L AQ completed from 0.0-0.2 m bgs.
			AQ149 (0.0-0.2)	-	D	
		NT Silty CLAY, brown and mottled.	RAQ149 (0.2-0.4)	-	D	
1.0		End of Hole @ 1.0 mbgs Natural				

Drilling Method	Sample Type	Reference Level	Log Details
HA - Hand Auger	U - Undisturbed tube sample	AHD - Australian Height Datum	Logged By: Matthew Murray
SFA - Solid Flight Auger	D - Disturbed sample	BGS - Below Ground Surface	Project Manager: Mitchell Hodgins
HFA - Hollow Flight Auger	CS - Core sample		
PT - Push Tube			
AH - Air Hammer			

NOTE: This bore log is for environmental assessment purposes only and is not intended to provide geotechnical information

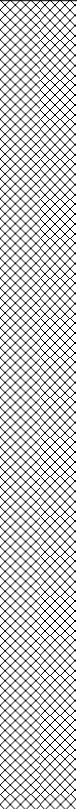
	Borehole No: RAQ-150	Project No: 50369
		Client: Health Infrastructure New South Wales Project Name: WHR - AQ in Accessible Soils Site Address: Westmead Hospital, Westmead, NSW
Date: 2015.05.01 Eastings (MGA): 313639 Contractor: Ken Coles Pty Ltd Northings (MGA): 6258022 Drill Rig: Geoprobe Reference Level: GS Method: SFA Elevation - Surface (m): - Total Hole Depth (mbgs): 1.0 Bore Diameter (mm): 200		

SUBSURFACE PROFILE			SAMPLE			
Depth	Graphic Log	Lithologic Description	Sample ID	PID (ppm)	Sample Type	Comments
0.0		Ground Surface				
		FL Silty CLAY, firm, yellow, moist with yellow orange mottles and inclusions of trace amounts of rounded pebbles and bitumen.	AQ150 (0.0-0.5)	-	D	No odours, staining or ACM observed. 10 L AQ completed from 0.0-0.5 m bgs.
		FL Silty CLAY, brown, mottled.				
1.0		End of Hole @ 1.0 mbgs Natural				

Drilling Method	Sample Type	Reference Level	Log Details
HA - Hand Auger	U - Undisturbed tube sample	AHD - Australian Height Datum	Logged By: Matthew Murray
SFA - Solid Flight Auger	D - Disturbed sample	BGS - Below Ground Surface	Project Manager: Mitchell Hodgins
HFA - Hollow Flight Auger	CS - Core sample		
PT - Push Tube			
AH - Air Hammer			

NOTE: This bore log is for environmental assessment purposes only and is not intended to provide geotechnical information

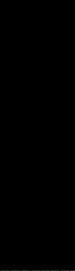
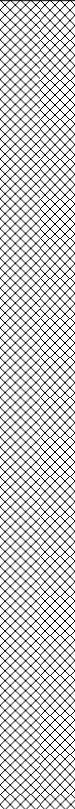
	Borehole No: RAQ-151	Project No: 50369 Client: Health Infrastructure New South Wales Project Name: WHR - AQ in Accessible Soils Site Address: Westmead Hospital, Westmead, NSW
	Date: 2015.05.01 Eastings (MGA): 313639 Contractor: Ken Coles Pty Ltd Northings (MGA): 6258008 Drill Rig: Geoprobe Reference Level: GS Method: SFA Elevation - Surface (m): - Total Hole Depth (mbgs): 1.0 Bore Diameter (mm): 200	

SUBSURFACE PROFILE			SAMPLE			
Depth	Graphic Log	Lithologic Description	Sample ID	PID (ppm)	Sample Type	Comments
0.0		Ground Surface				
		FL Bitumen				
		FL Silty CLAY, yellow, low plasticity, medium dense, firm, moist with yellow orange mottles and inclusions of trace amounts rounded pebbles.	AQ151 (0.0-0.5)	-	D	No odours, staining or ACM observed. 10 L AQ completed from 0.0-0.5 m bgs.
1.0		End of Hole @ 1.0 mbgs Natural				

Drilling Method	Sample Type	Reference Level	Log Details
HA - Hand Auger	U - Undisturbed tube sample	AHD - Australian Height Datum	Logged By: Matthew Murray
SFA - Solid Flight Auger	D - Disturbed sample	BGS - Below Ground Surface	Project Manager: Mitchell Hodgins
HFA - Hollow Flight Auger	CS - Core sample		
PT - Push Tube			
AH - Air Hammer			

NOTE: This bore log is for environmental assessment purposes only and is not intended to provide geotechnical information

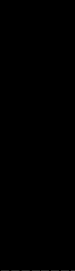
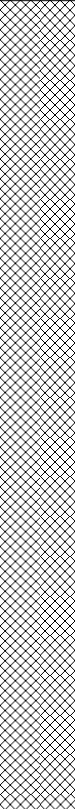
	Borehole No: RAQ-152	Project No: 50369 Client: Health Infrastructure New South Wales Project Name: WHR - AQ in Accessible Soils Site Address: Westmead Hospital, Westmead, NSW
Date: 2015.05.01 Contractor: Ken Coles Pty Ltd Drill Rig: Geoprobe Method: SFA Total Hole Depth (mbgs): 1.0		
Eastings (MGA): 313649 Northings (MGA): 6257986 Reference Level: GS Elevation - Surface (m): - Bore Diameter (mm): 200		

SUBSURFACE PROFILE			SAMPLE			
Depth	Graphic Log	Lithologic Description	Sample ID	PID (ppm)	Sample Type	Comments
0.0		Ground Surface				
		FL Bitumen				
		FL Silty CLAY, yellow, low plasticity, medium dense, firm, moist with yellow orange mottles and inclusions of trace amounts rounded pebbles.	AQ152 (0.0-0.5)	-	D	No odours, staining or ACM observed. 10 L AQ completed from 0.0-0.5 m bgs.
1.0		End of Hole @ 1.0 mbgs Natural				

Drilling Method	Sample Type	Reference Level	Log Details
HA - Hand Auger SFA - Solid Flight Auger HFA - Hollow Flight Auger PT - Push Tube AH - Air Hammer	U - Undisturbed tube sample D - Disturbed sample CS - Core sample	AHD - Australian Height Datum BGS - Below Ground Surface	Logged By: Matthew Murray Project Manager: Mitchell Hodgins

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	Borehole No: RAQ-153	Project No: 50369 Client: Health Infrastructure New South Wales Project Name: WHR - AQ in Accessible Soils Site Address: Westmead Hospital, Westmead, NSW
	Date: 2015.05.01 Contractor: Ken Coles Pty Ltd Drill Rig: Geoprobe Method: SFA Total Hole Depth (mbgs): 1.0	
Eastings (MGA): 313673 Northings (MGA): 6257967 Reference Level: GS Elevation - Surface (m): - Bore Diameter (mm): 200		

SUBSURFACE PROFILE			SAMPLE			
Depth	Graphic Log	Lithologic Description	Sample ID	PID (ppm)	Sample Type	Comments
0.0		Ground Surface				
		FL Bitumen				
		FL Silty CLAY, yellow, low plasticity, medium dense, firm, moist with yellow orange mottles and inclusions of trace amounts rounded pebbles.	AQ152 (0.0-0.5)	-	D	No odours, staining or ACM observed. 10 L AQ completed from 0.0-0.5 m bgs.
1.0		End of Hole @ 1.0 mbgs Natural				

Drilling Method	Sample Type	Reference Level	Log Details
HA - Hand Auger	U - Undisturbed tube sample	AHD - Australian Height Datum	Logged By: Matthew Murray
SFA - Solid Flight Auger	D - Disturbed sample	BGS - Below Ground Surface	Project Manager: Mitchell Hodgins
HFA - Hollow Flight Auger	CS - Core sample		
PT - Push Tube			
AH - Air Hammer			

NOTE: This bore log is for environmental assessment purposes only and is not intended to provide geotechnical information

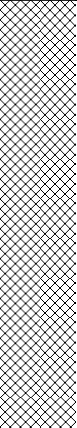
	Borehole No: RAQ-154	Project No: 50369 Client: Health Infrastructure New South Wales Project Name: WHR - AQ in Accessible Soils Site Address: Westmead Hospital, Westmead, NSW			
Date: 2015.05.01 Contractor: Ken Coles Pty Ltd Drill Rig: Geoprobe Method: SFA Total Hole Depth (mbgs): 1.0			Eastings (MGA): 313657 Northings (MGA): 6257972 Reference Level: GS Elevation - Surface (m): - Bore Diameter (mm): 200		

SUBSURFACE PROFILE			SAMPLE			
Depth	Graphic Log	Lithologic Description	Sample ID	PID (ppm)	Sample Type	Comments
0.0		Ground Surface				
		FL Gravelly CLAY, firm, grey, moist, heterogenous and inclusions of little amounts of brick and concrete fragments and trace amounts of ash.	AQ154 (0.0-0.5)	-	D	No odours, staining or ACM observed. 10 L AQ completed from 0.0-0.5 m bgs.
		NT Silty CLAY, brown, mottled.				
1.0		End of Hole @ 1.0 mbgs Natural				

Drilling Method	Sample Type	Reference Level	Log Details
HA - Hand Auger SFA - Solid Flight Auger HFA - Hollow Flight Auger PT - Push Tube AH - Air Hammer	U - Undisturbed tube sample D - Disturbed sample CS - Core sample	AHD - Australian Height Datum BGS - Below Ground Surface	Logged By: Matthew Murray Project Manager: Mitchell Hodgins

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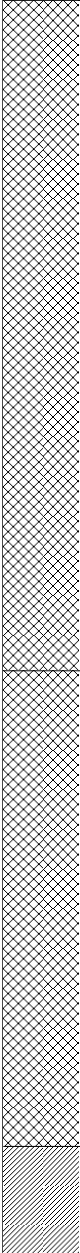
	Borehole No: RAQ-155	Project No: 50369
		Client: Health Infrastructure New South Wales Project Name: WHR - AQ in Accessible Soils Site Address: Westmead Hospital, Westmead, NSW
Date: 2015.05.01 Eastings (MGA): 313726 Contractor: Ken Coles Pty Ltd Northings (MGA): 6258027 Drill Rig: Geoprobe Reference Level: GS Method: SFA Elevation - Surface (m): - Total Hole Depth (mbgs): 1.0 Bore Diameter (mm): 200		

SUBSURFACE PROFILE			SAMPLE			
Depth	Graphic Log	Lithologic Description	Sample ID	PID (ppm)	Sample Type	Comments
0.0		Ground Surface				
		FL Gravelly CLAY, firm, grey, moist, heterogenous and inclusions of little amounts of brick and concrete fragments and little amounts of ash.	RAQ155 (0.0-0.2)	-	D	No odours, staining or ACM observed. 10 L AQ completed from 0-0.4 m bgs.
			RAQ155 (0.2-0.4)	-	D	
		NT Silty CLAY, brown, mottled.	RAQ155 (0.4-0.6)	-	D	
1.0		End of Hole @ 1.0 mbgs Natural				

Drilling Method	Sample Type	Reference Level	Log Details
HA - Hand Auger SFA - Solid Flight Auger HFA - Hollow Flight Auger PT - Push Tube AH - Air Hammer	U - Undisturbed tube sample D - Disturbed sample CS - Core sample	AHD - Australian Height Datum BGS - Below Ground Surface	Logged By: Matthew Murray Project Manager: Mitchell Hodgins

NOTE: This bore log is for environmental assessment purposes only and is not intended to provide geotechnical information

	Borehole No: RAQ-156	Project No: 50369 Client: Health Infrastructure New South Wales Project Name: WHR - AQ in Accessible Soils Site Address: Westmead Hospital, Westmead, NSW
Date: 2015.05.01 Contractor: Ken Coles Pty Ltd Drill Rig: Geoprobe Method: SFA Total Hole Depth (mbgs): 5.8	Eastings (MGA): 313902 Northings (MGA): 6257957 Reference Level: GS Elevation - Surface (m): - Bore Diameter (mm): 200	

SUBSURFACE PROFILE			SAMPLE			
Depth	Graphic Log	Lithologic Description	Sample ID	PID (ppm)	Sample Type	Comments
0.0		Ground Surface				
		FL Gravelly CLAY, firm, grey, moist, heterogenous and inclusions of little amounts of brick and concrete fragments and little amounts of ash.	AQ156 (0.0-1.0)	-	D	No odours or staining observed. 10 L AQ completed from 0-1.0 m bgs with approximately 20 g of AF/FA identified. QC18 and QCA18 sampled from AQ156 (0.0-1.0).
1.0			AQ156 (1.0-2.0)	-	D	
2.0			AQ156 (2.0-3.0)	-	D	
3.0		FL Silty CLAY, firm, brown, moist, heterogenous with trace amounts of rounded pebbles and some brick and concrete fragments.	AQ156 (3.0-4.0)	-	D	No odours or staining observed. 10 L AQ completed from 3.0-4.0 m bgs with approximately 5 g of AF/FA identified.
4.0			AQ156 (4.0-5.0)	-	D	
5.0			AQ156 (5.0-5.3)	-	D	
		NT Silty CLAY, brown, mottled.	AQ156 (5.3-5.5)	-	D	No odours, staining or ACM observed. 10 L AQ completed from 5.0-5.3 m bgs. No odours, staining or ACM observed. 10 L AQ completed from 5.3-5.5 m bgs.
6.0						
		End of Hole @ 5.8 mbgs Natural				
Drilling Method HA - Hand Auger SFA - Solid Flight Auger HFA - Hollow Flight Auger PT - Push Tube AH - Air Hammer		Sample Type U - Undisturbed tube sample D - Disturbed sample CS - Core sample	Reference Level AHD - Australian Height Datum BGS - Below Ground Surface	Log Details Logged By: Matthew Murray Project Manager: Mitchell Hodgins		

NOTE: This bore log is for environmental assessment purposes only and is not intended to provide geotechnical information

	Borehole No: RAQ-157	Project No: 50369
		Client: Health Infrastructure New South Wales Project Name: WHR - AQ in Accessible Soils Site Address: Westmead Hospital, Westmead, NSW
Date: 2015.05.01 Contractor: Ken Coles Pty Ltd Drill Rig: Geoprobe Method: SFA Total Hole Depth (mbgs): 1.2		Eastings (MGA): 313359 Northings (MGA): 6257877 Reference Level: GS Elevation - Surface (m): - Bore Diameter (mm): 200

SUBSURFACE PROFILE			SAMPLE			
Depth	Graphic Log	Lithologic Description	Sample ID	PID (ppm)	Sample Type	Comments
0.0		Ground Surface				
		FL Gravelly CLAY, firm, brown, damp, heterogenous and inclusions of little amounts of brick and concrete fragments.	RAQ157 (0.0-0.2)	-	D	No odours, staining or ACM observed. 10 L AQ completed from 0.0-1.0 m bgs.
			RAQ157 (0.5-0.6)	-	D	
1.0		NT Silty CLAY, brown, mottled.	RAQ157 (1.0-1.2)	-	D	
		End of Hole @ 1.2 mbgs Natural				

Drilling Method	Sample Type	Reference Level	Log Details
HA - Hand Auger	U - Undisturbed tube sample	AHD - Australian Height Datum	Logged By: Matthew Murray
SFA - Solid Flight Auger	D - Disturbed sample	BGS - Below Ground Surface	Project Manager: Mitchell Hodgins
HFA - Hollow Flight Auger	CS - Core sample		
PT - Push Tube			
AH - Air Hammer			

NOTE: This bore log is for environmental assessment purposes only and is not intended to provide geotechnical information

	Borehole No: RAQ-158	Project No: 50369
		Client: Health Infrastructure New South Wales Project Name: WHR - AQ in Accessible Soils Site Address: Westmead Hospital, Westmead, NSW
Date: 2015.05.01 Eastings (MGA): 313348 Contractor: Ken Coles Pty Ltd Northings (MGA): 6257907 Drill Rig: Geoprobe Reference Level: GS Method: SFA Elevation - Surface (m): - Total Hole Depth (mbgs): 1.0 Bore Diameter (mm): 200		

SUBSURFACE PROFILE			SAMPLE			
Depth	Graphic Log	Lithologic Description	Sample ID	PID (ppm)	Sample Type	Comments
0.0		Ground Surface				
		FL Gravelly CLAY, firm, grey, moist, heterogenous and inclusions of little amounts of brick and concrete fragments.	RAQ158 (0.0-0.2)	-	D	No odours, staining or ACM observed. 10 L AQ completed from 0.0-0.5 m bgs.
		NT Silty CLAY, brown, mottled.	RAQ158 (0.5-0.6)	-	D	
1.0		End of Hole @ 1.0 mbgs Natural				

Drilling Method	Sample Type	Reference Level	Log Details
HA - Hand Auger	U - Undisturbed tube sample	AHD - Australian Height Datum	Logged By: Matthew Murray
SFA - Solid Flight Auger	D - Disturbed sample	BGS - Below Ground Surface	Project Manager: Mitchell Hodgins
HFA - Hollow Flight Auger	CS - Core sample		
PT - Push Tube			
AH - Air Hammer			

NOTE: This bore log is for environmental assessment purposes only and is not intended to provide geotechnical information

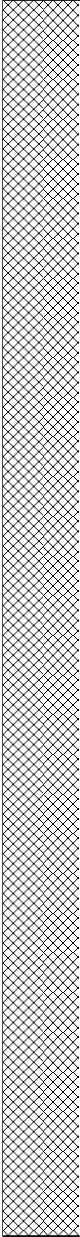
	Borehole No: RAQ-159	Project No: 50369
		Client: Health Infrastructure New South Wales Project Name: WHR - AQ in Accessible Soils Site Address: Westmead Hospital, Westmead, NSW
Date: 2015.05.01 Eastings (MGA): 313917 Contractor: Ken Coles Pty Ltd Northings (MGA): 6257920 Drill Rig: Geoprobe Reference Level: GS Method: SFA Elevation - Surface (m): - Total Hole Depth (mbgs): 4.0 Bore Diameter (mm): 200		

SUBSURFACE PROFILE			SAMPLE			
Depth	Graphic Log	Lithologic Description	Sample ID	PID (ppm)	Sample Type	Comments
0.0		Ground Surface				
		FL Gravelly CLAY, firm, grey, moist, heterogenous and inclusions of little amounts of brick and concrete fragments and little amounts of ash.	AQ159 (0.0-1.0)	-	D	No odours, staining or ACM observed. 10 L AQ completed from 0-1.0 m bgs.
1.0			AQ159 (1.0-2.0)	-	D	No odours, staining or ACM observed. 10 L AQ completed from 1.0-2.0 m bgs.
2.0			AQ159 (2.0-3.0)	-	D	No odours, staining or ACM observed. 10 L AQ completed from 2.0-3.0 m bgs.
3.0			AQ159 (3.0-4.0)	-	D	No odours, staining or ACM observed. 10 L AQ completed from 3.0-4.0 m bgs.
4.0		End of Hole @ 4.0 mbgs No natural soils identified				

Drilling Method	Sample Type	Reference Level	Log Details
HA - Hand Auger SFA - Solid Flight Auger HFA - Hollow Flight Auger PT - Push Tube AH - Air Hammer	U - Undisturbed tube sample D - Disturbed sample CS - Core sample	AHD - Australian Height Datum BGS - Below Ground Surface	Logged By: Matthew Murray Project Manager: Mitchell Hodgins

NOTE: This bore log is for environmental assessment purposes only and is not intended to provide geotechnical information

	Borehole No: RAQ-160	Project No: 50369 Client: Health Infrastructure New South Wales Project Name: WHR - AQ in Accessible Soils Site Address: Westmead Hospital, Westmead, NSW
Date: 2015.05.01 Contractor: Ken Coles Pty Ltd Drill Rig: Geoprobe Method: SFA Total Hole Depth (mbgs): 4.0	Eastings (MGA): 313929 Northings (MGA): 6257933 Reference Level: GS Elevation - Surface (m): - Bore Diameter (mm): 200	

SUBSURFACE PROFILE			SAMPLE			
Depth	Graphic Log	Lithologic Description	Sample ID	PID (ppm)	Sample Type	Comments
0.0		Ground Surface				
		FL Gravelly CLAY, firm, grey, moist, heterogenous and inclusions of little amounts of brick and concrete fragments and little amounts of ash.	AQ159 (0.0-1.0)	-	D	No odours or staining observed. 10 L AQ completed from 0.0-1.0 m bgs with approximately 5 g of AF/FA identified.
1.0			AQ159 (1.0-2.0)	-	D	No odours, staining or ACM observed. 10 L AQ completed from 1.0-2.0 m bgs.
2.0			AQ159 (2.0-3.0)	-	D	No odours or staining observed. 10 L AQ completed from 2.0-3.0 m bgs with 10 g of AF/FA identified.
3.0			AQ159 (3.0-4.0)	-	D	No odours or staining observed. 10 L AQ completed from 3.0-4.0 m bgs with 10 g of AF/FA identified.
4.0		End of Hole @ 4.0 mbgs No natural soils identified				

Drilling Method	Sample Type	Reference Level	Log Details
HA - Hand Auger SFA - Solid Flight Auger HFA - Hollow Flight Auger PT - Push Tube AH - Air Hammer	U - Undisturbed tube sample D - Disturbed sample CS - Core sample	AHD - Australian Height Datum BGS - Below Ground Surface	Logged By: Matthew Murray Project Manager: Mitchell Hodgins

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Borehole No: RAQ-161

Project No: 50369

Client: Health Infrastructure New South Wales

Project Name: WHR - AQ in Accessible Soils

Site Address: Westmead Hospital, Westmead, NSW

Date: 2015.05.01

Contractor: Ken Coles Pty Ltd

Drill Rig: Geoprobe

Method: SFA

Total Hole Depth (mbgs): 1.0

Eastings (MGA): 313339

Northings (MGA): 6257933

Reference Level: GS

Elevation - Surface (m): -

Bore Diameter (mm): 200

SUBSURFACE PROFILE			SAMPLE			
Depth	Graphic Log	Lithologic Description	Sample ID	PID (ppm)	Sample Type	Comments
0.0		Ground Surface				
		FL Gravelly CLAY, firm, grey, moist, heterogenous and inclusions of little amounts of brick and concrete fragments.	RAQ161 (0.0-0.2)	-	D	No odours, staining or ACM observed. 10 L AQ completed from 0.0-0.5 m bgs.
		NT Silty CLAY, brown, mottled.	RAQ161 (0.5-0.6)	-	D	
1.0		End of Hole @ 1.0 mbgs Natural				

Drilling Method	Sample Type	Reference Level	Log Details
HA - Hand Auger SFA - Solid Flight Auger HFA - Hollow Flight Auger PT - Push Tube AH - Air Hammer	U - Undisturbed tube sample D - Disturbed sample CS - Core sample	AHD - Australian Height Datum BGS - Below Ground Surface	Logged By: Matthew Murray Project Manager: Mitchell Hodgins

NOTE: This bore log is for environmental assessment purposes only and is not intended to provide geotechnical information
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	Borehole No: RAQ-162	Project No: 50369
		Client: Health Infrastructure New South Wales Project Name: WHR - AQ in Accessible Soils Site Address: Westmead Hospital, Westmead, NSW
Date: 2015.05.02 Eastings (MGA): 313450 Contractor: Ken Coles Pty Ltd Northings (MGA): 6257857 Drill Rig: Geoprobe Reference Level: GS Method: SFA Elevation - Surface (m): - Total Hole Depth (mbgs): 1.3 Bore Diameter (mm): 200		

SUBSURFACE PROFILE			SAMPLE			
Depth	Graphic Log	Lithologic Description	Sample ID	PID (ppm)	Sample Type	Comments
0.0		Ground Surface				
		FL Gravelly CLAY, firm, grey, moist, heterogenous and inclusions of little amounts of road-base, brick and concrete fragments.	AQ162 (0.0-0.8)	-	D	No odours, staining or ACM observed. 10 L AQ completed from 0.0-0.8 m bgs.
		NT Silty CLAY, brown, mottled.				
1.0						
		End of Hole @ 1.3 mbgs Natural				

Drilling Method	Sample Type	Reference Level	Log Details
HA - Hand Auger	U - Undisturbed tube sample	AHD - Australian Height Datum	Logged By: Matthew Murray
SFA - Solid Flight Auger	D - Disturbed sample	BGS - Below Ground Surface	Project Manager: Mitchell Hodgins
HFA - Hollow Flight Auger	CS - Core sample		
PT - Push Tube			
AH - Air Hammer			

NOTE: This bore log is for environmental assessment purposes only and is not intended to provide geotechnical information

	Borehole No: RAQ-163	Project No: 50369
		Client: Health Infrastructure New South Wales Project Name: WHR - AQ in Accessible Soils Site Address: Westmead Hospital, Westmead, NSW
Date: 2015.05.02 Eastings (MGA): 313483 Contractor: Ken Coles Pty Ltd Northings (MGA): 6257867 Drill Rig: Geoprobe Reference Level: GS Method: SFA Elevation - Surface (m): - Total Hole Depth (mbgs): 1.0 Bore Diameter (mm): 200		

SUBSURFACE PROFILE			SAMPLE			
Depth	Graphic Log	Lithologic Description	Sample ID	PID (ppm)	Sample Type	Comments
0.0		Ground Surface				
		FL Gravelly CLAY, firm, grey, moist, heterogenous and inclusions of little amounts of road-base, brick and concrete fragments.	AQ162 (0.0-0.4)	-	D	No odours, staining or ACM observed. 10 L AQ completed from 0.0-0.4 m bgs.
		NT Silty CLAY, brown, mottled.				
1.0		End of Hole @ 1.0 mbgs Natural				

Drilling Method	Sample Type	Reference Level	Log Details
HA - Hand Auger SFA - Solid Flight Auger HFA - Hollow Flight Auger PT - Push Tube AH - Air Hammer	U - Undisturbed tube sample D - Disturbed sample CS - Core sample	AHD - Australian Height Datum BGS - Below Ground Surface	Logged By: Matthew Murray Project Manager: Mitchell Hodgins

NOTE: This bore log is for environmental assessment purposes only and is not intended to provide geotechnical information

	Borehole No: RAQ-164	Project No: 50369 Client: Health Infrastructure New South Wales Project Name: WHR - AQ in Accessible Soils Site Address: Westmead Hospital, Westmead, NSW
	Date: 2015.05.02 Contractor: Ken Coles Pty Ltd Drill Rig: Geoprobe Method: SFA Total Hole Depth (mbgs): 1.0	
Eastings (MGA): 313511 Northings (MGA): 6257876 Reference Level: GS Elevation - Surface (m): - Bore Diameter (mm): 200		

SUBSURFACE PROFILE			SAMPLE			
Depth	Graphic Log	Lithologic Description	Sample ID	PID (ppm)	Sample Type	Comments
0.0		Ground Surface				
		FL Gravelly CLAY, firm, grey, moist, heterogenous and inclusions of little amounts of road-base, brick and concrete fragments.	AQ164 (0.0-0.5)	-	D	No odours, staining or ACM observed. 10 L AQ completed from 0.0-0.5 m bgs.
		NT Silty CLAY, red, mottled.				
1.0		End of Hole @ 1.0 mbgs Natural				

Drilling Method	Sample Type	Reference Level	Log Details
HA - Hand Auger SFA - Solid Flight Auger HFA - Hollow Flight Auger PT - Push Tube AH - Air Hammer	U - Undisturbed tube sample D - Disturbed sample CS - Core sample	AHD - Australian Height Datum BGS - Below Ground Surface	Logged By: Matthew Murray Project Manager: Mitchell Hodgins

NOTE: This bore log is for environmental assessment purposes only and is not intended to provide geotechnical information

	Borehole No: RAQ-165	Project No: 50369
		Client: Health Infrastructure New South Wales Project Name: WHR - AQ in Accessible Soils Site Address: Westmead Hospital, Westmead, NSW
Date: 2015.05.02 Eastings (MGA): 313536 Contractor: Ken Coles Pty Ltd Northings (MGA): 6257885 Drill Rig: Geoprobe Reference Level: GS Method: SFA Elevation - Surface (m): - Total Hole Depth (mbgs): 1.0 Bore Diameter (mm): 200		

SUBSURFACE PROFILE			SAMPLE			
Depth	Graphic Log	Lithologic Description	Sample ID	PID (ppm)	Sample Type	Comments
0.0		Ground Surface				
		FL Gravelly CLAY, firm, grey, moist, heterogenous and inclusions of little amounts of road-base, brick and concrete fragments.	AQ165 (0.0-0.4)	-	D	No odours, staining or ACM observed. 10 L AQ completed from 0.0-0.4 m bgs.
		NT Silty CLAY, red, mottled.				
1.0		End of Hole @ 1.0 mbgs Natural				

Drilling Method	Sample Type	Reference Level	Log Details
HA - Hand Auger SFA - Solid Flight Auger HFA - Hollow Flight Auger PT - Push Tube AH - Air Hammer	U - Undisturbed tube sample D - Disturbed sample CS - Core sample	AHD - Australian Height Datum BGS - Below Ground Surface	Logged By: Matthew Murray Project Manager: Mitchell Hodgins

NOTE: This bore log is for environmental assessment purposes only and is not intended to provide geotechnical information

	Borehole No: RAQ-166	Project No: 50369 Client: Health Infrastructure New South Wales Project Name: WHR - AQ in Accessible Soils Site Address: Westmead Hospital, Westmead, NSW
	Date: 2015.05.02 Eastings (MGA): 313576 Contractor: Ken Coles Pty Ltd Northings (MGA): 6257898 Drill Rig: Geoprobe Reference Level: GS Method: SFA Elevation - Surface (m): - Total Hole Depth (mbgs): 1.5 Bore Diameter (mm): 200	

SUBSURFACE PROFILE			SAMPLE			
Depth	Graphic Log	Lithologic Description	Sample ID	PID (ppm)	Sample Type	Comments
0.0		Ground Surface				
		FL Gravelly CLAY, firm, grey, moist, heterogenous and inclusions of little amounts of road-base, brick and concrete fragments.	AQ166 (0.0-0.9)	-	D	No odours, staining or ACM observed. 10 L AQ completed from 0.0-0.4 m bgs.
		FL Gravelly CLAY, firm grey, mosit, heterogenous and inclusions of little amounts of brick and concrete fragments.				
1.0		NT Silty CLAY, red, mottled.				
		End of Hole @ 1.5 mbgs Natural				

Drilling Method	Sample Type	Reference Level	Log Details
HA - Hand Auger	U - Undisturbed tube sample	AHD - Australian Height Datum	Logged By: Matthew Murray
SFA - Solid Flight Auger	D - Disturbed sample	BGS - Below Ground Surface	Project Manager: Mitchell Hodgins
HFA - Hollow Flight Auger	CS - Core sample		
PT - Push Tube			
AH - Air Hammer			

NOTE: This bore log is for environmental assessment purposes only and is not intended to provide geotechnical information

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	Borehole No: RAQ-167	Project No: 50369
		Client: Health Infrastructure New South Wales Project Name: WHR - AQ in Accessible Soils Site Address: Westmead Hospital, Westmead, NSW
Date: 2015.05.02 Eastings (MGA): 313618 Contractor: Ken Coles Pty Ltd Northings (MGA): 6257913 Drill Rig: Geoprobe Reference Level: GS Method: SFA Elevation - Surface (m): - Total Hole Depth (mbgs): 1.0 Bore Diameter (mm): 200		

SUBSURFACE PROFILE			SAMPLE			
Depth	Graphic Log	Lithologic Description	Sample ID	PID (ppm)	Sample Type	Comments
0.0		Ground Surface				
		FL Gravelly CLAY, firm, grey, moist, heterogenous and inclusions of little amounts of road-base, brick and concrete fragments.	AQ167 (0.0-0.5)	-	D	No odours, staining or ACM observed. 10 L AQ completed from 0.0-0.5 m bgs
		NT Silty CLAY, red, mottled.				
1.0		End of Hole @ 1.0 mbgs Natural				

Drilling Method	Sample Type	Reference Level	Log Details
HA - Hand Auger	U - Undisturbed tube sample	AHD - Australian Height Datum	Logged By: Matthew Murray
SFA - Solid Flight Auger	D - Disturbed sample	BGS - Below Ground Surface	Project Manager: Mitchell Hodgins
HFA - Hollow Flight Auger	CS - Core sample		
PT - Push Tube			
AH - Air Hammer			

NOTE: This bore log is for environmental assessment purposes only and is not intended to provide geotechnical information

	Borehole No: RAQ-168	Project No: 50369
		Client: Health Infrastructure New South Wales Project Name: WHR - AQ in Accessible Soils Site Address: Westmead Hospital, Westmead, NSW
Date: 2015.05.02 Eastings (MGA): 313665 Contractor: Rockwell Drilling Pty Ltd Northings (MGA): 6257930 Drill Rig: Geoprobe Reference Level: GS Method: SFA Elevation - Surface (m): - Total Hole Depth (mbgs): 1.0 Bore Diameter (mm): 200		

SUBSURFACE PROFILE			SAMPLE			
Depth	Graphic Log	Lithologic Description	Sample ID	PID (ppm)	Sample Type	Comments
0.0		Ground Surface				
		FL Gravelly CLAY, firm, grey, moist, heterogenous and inclusions of little amounts of road-base, brick and concrete fragments.	AQ168 (0.0-0.5)	-	D	No odours, staining or ACM observed. 10 L AQ completed from 0.0-0.5 m bgs
		NT Silty CLAY, red, mottled.				
1.0		End of Hole @ 1.0 mbgs Natural				

Drilling Method	Sample Type	Reference Level	Log Details
HA - Hand Auger	U - Undisturbed tube sample	AHD - Australian Height Datum	Logged By: Matthew Murray
SFA - Solid Flight Auger	D - Disturbed sample	BGS - Below Ground Surface	Project Manager: Mitchell Hodgins
HFA - Hollow Flight Auger	CS - Core sample		
PT - Push Tube			
AH - Air Hammer			

NOTE: This bore log is for environmental assessment purposes only and is not intended to provide geotechnical information



Borehole No: RAQ-169

Project No: 50369

Client: Health Infrastructure New South Wales

Project Name: WHR - AQ in Accessible Soils

Site Address: Westmead Hospital, Westmead, NSW

Date: 2015.05.02

Contractor: Rockwell Drilling Pty Ltd

Drill Rig: Geoprobe

Method: SFA

Total Hole Depth (mbgs): 1.0

Eastings (MGA): 313669

Northings (MGA): 6257913

Reference Level: GS

Elevation - Surface (m): -

Bore Diameter (mm): 200

SUBSURFACE PROFILE			SAMPLE			
Depth	Graphic Log	Lithologic Description	Sample ID	PID (ppm)	Sample Type	Comments
0.0		Ground Surface				
		FL Gravelly CLAY, firm, grey, moist, heterogenous and inclusions of little amounts of road-base, brick and concrete fragments.	AQ169 (0.0-0.5)	-	D	No odours, staining or ACM observed. 10 L AQ completed from 0.0-0.5 m bgs
		NT Silty CLAY, red, mottled.				
1.0		End of Hole @ 1.0 mbgs Natural				

Drilling Method	Sample Type	Reference Level	Log Details
HA - Hand Auger SFA - Solid Flight Auger HFA - Hollow Flight Auger PT - Push Tube AH - Air Hammer	U - Undisturbed tube sample D - Disturbed sample CS - Core sample	AHD - Australian Height Datum BGS - Below Ground Surface	Logged By: Matthew Murray Project Manager: Mitchell Hodgins

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	Borehole No: RAQ-170	Project No: 50369
		Client: Health Infrastructure New South Wales Project Name: WHR - AQ in Accessible Soils Site Address: Westmead Hospital, Westmead, NSW
Date: 2015.05.02 Eastings (MGA): 313662 Contractor: Rockwell Drilling Pty Ltd Northings (MGA): 6257841 Drill Rig: Geoprobe Reference Level: GS Method: SFA Elevation - Surface (m): - Total Hole Depth (mbgs): 3.0 Bore Diameter (mm): 200		

SUBSURFACE PROFILE			SAMPLE			
Depth	Graphic Log	Lithologic Description	Sample ID	PID (ppm)	Sample Type	Comments
0.0		Ground Surface				
		FL Gravelly CLAY, firm, grey, damp, heterogenous and inclusions of little amounts of road-base, brick and concrete fragments.	AQ170 (0.0-1.0)	-	D	No odours, staining or ACM observed. 10 L AQ completed from 0.0-1.0 m bgs.
1.0		FL Gravelly CLAY, firm, brown, damp, heterogenous with yellow mottling.	AQ170 (1.0-2.0)	-	D	No odours, staining or ACM observed. 10 L AQ completed from 1.0-2.0 m bgs.
2.0		NT Silty CLAY, red, mottled.	AQ170 (2.0-3.0)	-	D	No odours, staining or ACM observed. 10 L AQ completed from 2.0-3.0 m bgs.
3.0		End of Hole @ 3.0 mbgs Natural				

Drilling Method	Sample Type	Reference Level	Log Details
HA - Hand Auger SFA - Solid Flight Auger HFA - Hollow Flight Auger PT - Push Tube AH - Air Hammer	U - Undisturbed tube sample D - Disturbed sample CS - Core sample	AHD - Australian Height Datum BGS - Below Ground Surface	Logged By: Matthew Murray Project Manager: Mitchell Hodgins

NOTE: This bore log is for environmental assessment purposes only and is not intended to provide geotechnical information

	Borehole No: RAQ-171	Project No: 50369
		Client: Health Infrastructure New South Wales Project Name: WHR - AQ in Accessible Soils Site Address: Westmead Hospital, Westmead, NSW
Date: 2015.05.02 Eastings (MGA): 313671 Contractor: Rockwell Drilling Pty Ltd Northings (MGA): 6257858 Drill Rig: Geoprobe Reference Level: GS Method: SFA Elevation - Surface (m): - Total Hole Depth (mbgs): 3.0 Bore Diameter (mm): 200		

SUBSURFACE PROFILE			SAMPLE			
Depth	Graphic Log	Lithologic Description	Sample ID	PID (ppm)	Sample Type	Comments
0.0		Ground Surface				
		FL Gravelly CLAY, firm, brown, damp, heterogenous and inclusions of little amounts of road-base, brick and concrete fragments.	AQ171 (0.0-1.0)	-	D	No odours, staining or ACM observed. 10 L AQ completed from 0.0-1.0 m bgs.
1.0		FL Gravelly CLAY, firm, yellow, damp, heterogenous with yellow mottling.	AQ171 (1.0-2.0)	-	D	No odours, staining or ACM observed. 10 L AQ completed from 1.0-2.0 m bgs.
2.0		NT Silty CLAY, red, mottled.				
3.0		End of Hole @ 3.0 mbgs Natural				

Drilling Method	Sample Type	Reference Level	Log Details
HA - Hand Auger SFA - Solid Flight Auger HFA - Hollow Flight Auger PT - Push Tube AH - Air Hammer	U - Undisturbed tube sample D - Disturbed sample CS - Core sample	AHD - Australian Height Datum BGS - Below Ground Surface	Logged By: Matthew Murray Project Manager: Mitchell Hodgins

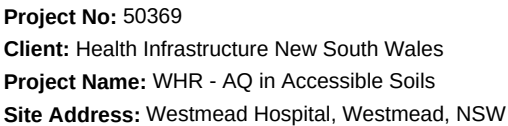
NOTE: This bore log is for environmental assessment purposes only and is not intended to provide geotechnical information

	Borehole No: RAQ-172	Project No: 50369
		Client: Health Infrastructure New South Wales Project Name: WHR - AQ in Accessible Soils Site Address: Westmead Hospital, Westmead, NSW
Date: 2015.05.02 Contractor: Rockwell Drilling Pty Ltd Drill Rig: Geoprobe Method: SFA Total Hole Depth (mbgs): 1.5		Eastings (MGA): 313324 Northings (MGA): 6257968 Reference Level: GS Elevation - Surface (m): - Bore Diameter (mm): 200

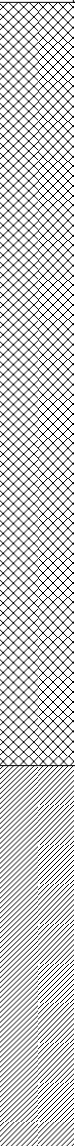
SUBSURFACE PROFILE			SAMPLE			
Depth	Graphic Log	Lithologic Description	Sample ID	PID (ppm)	Sample Type	Comments
0.0		Ground Surface				
		FL Gravelly CLAY, firm, brown, damp, heterogenous and inclusions of little amounts of road-base, brick and concrete fragments.				
			RAQ172 (0.3-0.4)	0.2	D	
						No odours, staining or ACM observed. 10 L AQ completed from 0.0-0.9 m bgs.
1.0		NT Silty CLAY, red, mottled.				
		End of Hole @ 1.5 mbgs Natural				

Drilling Method	Sample Type	Reference Level	Log Details
HA - Hand Auger	U - Undisturbed tube sample	AHD - Australian Height Datum	Logged By: Matthew Murray
SFA - Solid Flight Auger	D - Disturbed sample	BGS - Below Ground Surface	Project Manager: Mitchell Hodgins
HFA - Hollow Flight Auger	CS - Core sample		
PT - Push Tube			
AH - Air Hammer			

NOTE: This bore log is for environmental assessment purposes only and is not intended to provide geotechnical information



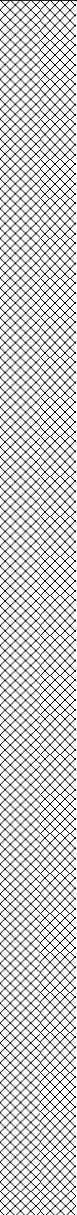
Eastings (MGA): 313315
Northings (MGA): 6257996
Reference Level: GS
Elevation - Surface (m): -
Bore Diameter (mm): 200

SUBSURFACE PROFILE			SAMPLE			
Depth	Graphic Log	Lithologic Description	Sample ID	PID (ppm)	Sample Type	Comments
0.0		Ground Surface				No odours, staining or ACM observed. 10 L AQ completed from 0.0-1.0 m bgs.
		FL Gravelly CLAY, firm, brown, damp, heterogenous and inclusions of little amounts of road-base, brick and concrete fragments.	RAQ173 (0.1-0.2)	0.2	D	
1.0		NT Silty CLAY, red, mottled.				
		End of Hole @ 1.5 mbgs Natural				

Drilling Method	Sample Type	Reference Level	Log Details
HA - Hand Auger	U - Undisturbed tube sample	AHD - Australian Height Datum	Logged By: Matthew Murray
SFA - Solid Flight Auger	D - Disturbed sample	BGS - Below Ground Surface	Project Manager: Mitchell Hodgins
HFA - Hollow Flight Auger	CS - Core sample		
PT - Push Tube			
AH - Air Hammer			

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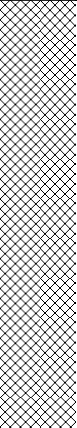
	Borehole No: RAQ-176	Project No: 50369 Client: Health Infrastructure New South Wales Project Name: WHR - AQ in Accessible Soils Site Address: Westmead Hospital, Westmead, NSW
Date: 2015.05.01 Contractor: Ken Coles Pty Ltd Drill Rig: Geoprobe Method: SFA Total Hole Depth (mbgs): 3.0	Eastings (MGA): - Northings (MGA): - Reference Level: GS Elevation - Surface (m): - Bore Diameter (mm): 200	

SUBSURFACE PROFILE			SAMPLE			
Depth	Graphic Log	Lithologic Description	Sample ID	PID (ppm)	Sample Type	Comments
0.0		Ground Surface		-	D	No odours, staining or ACM observed. 10 L AQ completed from 0-1.0 m bgs.
		FL Gravelly CLAY, firm, grey, moist, heterogenous and inclusions of little amounts of brick and concrete fragments and little amounts of ash.	AQ177 (0.0-1.0)			
1.0			AQ177 (1.0-2.0)			
2.0			AQ177 (2.0-3.0)			
3.0		End of Hole @ 3.0 mbgs No natural soils identified				

Drilling Method	Sample Type	Reference Level	Log Details
HA - Hand Auger SFA - Solid Flight Auger HFA - Hollow Flight Auger PT - Push Tube AH - Air Hammer	U - Undisturbed tube sample D - Disturbed sample CS - Core sample	AHD - Australian Height Datum BGS - Below Ground Surface	Logged By: Matthew Murray Project Manager: Mitchell Hodgins

NOTE: This bore log is for environmental assessment purposes only and is not intended to provide geotechnical information
 © JBS&G

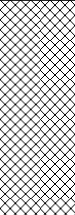
	Borehole No: RAQ-177	Project No: 50369
		Client: Health Infrastructure New South Wales Project Name: WHR - AQ in Accessible Soils Site Address: Westmead Hospital, Westmead, NSW
Date: 2015.05.01 Eastings (MGA): 313282 Contractor: Ken Coles Pty Ltd Northings (MGA): 6258106 Drill Rig: Geoprobe Reference Level: GS Method: SFA Elevation - Surface (m): - Total Hole Depth (mbgs): 1.0 Bore Diameter (mm): 200		

SUBSURFACE PROFILE			SAMPLE			
Depth	Graphic Log	Lithologic Description	Sample ID	PID (ppm)	Sample Type	Comments
0.0		Ground Surface				
		FL Gravelly CLAY, firm, black, moist, heterogenous with inclusions of little amounts of brick and concrete fragments and some ash and slag.	RAQ177 (0.0-0.2)	-	D	No odours, staining or ACM observed. 10 L AQ completed from 0-0.4 m bgs.
			AQ177 (0.2-0.4)	-	D	
		NT Silty CLAY, firm, brown and homogenous.	AQ177 (0.4-0.6)	-	D	
1.0		End of Hole @ 1.0 mbgs Natural.				

Drilling Method	Sample Type	Reference Level	Log Details
HA - Hand Auger SFA - Solid Flight Auger HFA - Hollow Flight Auger PT - Push Tube AH - Air Hammer	U - Undisturbed tube sample D - Disturbed sample CS - Core sample	AHD - Australian Height Datum BGS - Below Ground Surface	Logged By: Matthew Murray Project Manager: Mitchell Hodgins

NOTE: This bore log is for environmental assessment purposes only and is not intended to provide geotechnical information

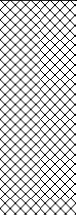
	Borehole No: RAQ-178	Project No: 50369 Client: Health Infrastructure New South Wales Project Name: WHR - AQ in Accessible Soils Site Address: Westmead Hospital, Westmead, NSW
	Date: 2015.05.01 Eastings (MGA): 313306 Contractor: Ken Coles Pty Ltd Northings (MGA): 6258124 Drill Rig: Geoprobe Reference Level: GS Method: SFA Elevation - Surface (m): - Total Hole Depth (mbgs): 1.0 Bore Diameter (mm): 200	

SUBSURFACE PROFILE			SAMPLE			
Depth	Graphic Log	Lithologic Description	Sample ID	PID (ppm)	Sample Type	Comments
0.0		Ground Surface				
		FL Gravelly CLAY, firm, black, moist, heterogenous with inclusions of trace amounts of sandstone, gypsum and concrete fragments.	RAQ178 (0.0-0.2)	-	D	No odours, staining or ACM observed. 10 L AQ completed from 0.0-0.2 m bgs. QC22 and QCA22 taken from sample RAQ178 (0.0-0.2).
		NT Silty CLAY, firm, brown and homogenous.	RAQ178 (0.2-0.4)	-	D	
1.0		End of Hole @ 1.0 mbgs Natural.				

Drilling Method	Sample Type	Reference Level	Log Details
HA - Hand Auger SFA - Solid Flight Auger HFA - Hollow Flight Auger PT - Push Tube AH - Air Hammer	U - Undisturbed tube sample D - Disturbed sample CS - Core sample	AHD - Australian Height Datum BGS - Below Ground Surface	Logged By: Matthew Murray Project Manager: Mitchell Hodgins

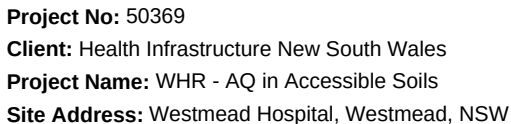
NOTE: This bore log is for environmental assessment purposes only and is not intended to provide geotechnical information

	Borehole No: RAQ-179	Project No: 50369
		Client: Health Infrastructure New South Wales Project Name: WHR - AQ in Accessible Soils Site Address: Westmead Hospital, Westmead, NSW
Date: 2015.05.05 Eastings (MGA): 313300 Contractor: Ken Coles Pty Ltd Northings (MGA): 6258149 Drill Rig: Geoprobe Reference Level: GS Method: SFA Elevation - Surface (m): - Total Hole Depth (mbgs): 1.0 Bore Diameter (mm): 200		

SUBSURFACE PROFILE			SAMPLE			
Depth	Graphic Log	Lithologic Description	Sample ID	PID (ppm)	Sample Type	Comments
0.0		Ground Surface				
		FL Gravelly CLAY, firm, black, moist, heterogenous with inclusions of trace amounts of sandstone, gypsum and concrete fragments.	RAQ179 (0.0-0.2)	-	D	No odours, staining or ACM observed. 10 L AQ completed from 0.0-0.2 m bgs.
		NT Silty CLAY, firm, brown and homogenous.				
1.0		End of Hole @ 1.0 mbgs Natural.				

Drilling Method	Sample Type	Reference Level	Log Details
HA - Hand Auger	U - Undisturbed tube sample	AHD - Australian Height Datum	Logged By: Matthew Murray
SFA - Solid Flight Auger	D - Disturbed sample	BGS - Below Ground Surface	Project Manager: Mitchell Hodgins
HFA - Hollow Flight Auger	CS - Core sample		
PT - Push Tube			
AH - Air Hammer			

NOTE: This bore log is for environmental assessment purposes only and is not intended to provide geotechnical information



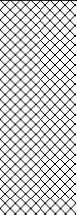
Eastings (MGA): 313293
Northings (MGA): 6258065
Reference Level: GS
Elevation - Surface (m): -
Bore Diameter (mm): 200

[illegible]

Drilling Method	Sample Type	Reference Level	Log Details
HA - Hand Auger	U - Undisturbed tube sample	AHD - Australian Height Datum	Logged By: Matthew Murray
SFA - Solid Flight Auger	D - Disturbed sample	BGS - Below Ground Surface	Project Manager: Mitchell Hodgins
HFA - Hollow Flight Auger	CS - Core sample		
PT - Push Tube			
AH - Air Hammer			

NOTE: This bore log is for environmental assessment purposes only and is not intended to provide geotechnical information
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	Borehole No: RAQ-186	Project No: 50369
		Client: Health Infrastructure New South Wales Project Name: WHR - AQ in Accessible Soils Site Address: Westmead Hospital, Westmead, NSW
Date: 2015.05.05 Eastings (MGA): 313306 Contractor: DYMA Cut Pty Ltd Northings (MGA): 6258022 Drill Rig: Hand Auger Reference Level: GS Method: SFA Elevation - Surface (m): - Total Hole Depth (mbgs): 1.0 Bore Diameter (mm): 200		

SUBSURFACE PROFILE			SAMPLE			
Depth	Graphic Log	Lithologic Description	Sample ID	PID (ppm)	Sample Type	Comments
0.0		Ground Surface				
		FL Silty CLAY, soft, black, moist, heterogenous with little amounts of road-base, bitumen and ash.	RAQ186 (0.0-0.2)	-	D	No odours, staining or ACM observed. 10 L AQ completed from 0.0-0.2 m bgs.
		NT Silty CLAY, firm, brown and homogenous.	RAQ186 (0.2-0.4)	-	D	No odours, staining or ACM observed.
1.0		End of Hole @ 1.0 mbgs Natural.				

Drilling Method	Sample Type	Reference Level	Log Details
HA - Hand Auger	U - Undisturbed tube sample	AHD - Australian Height Datum	Logged By: Matthew Murray
SFA - Solid Flight Auger	D - Disturbed sample	BGS - Below Ground Surface	Project Manager: Mitchell Hodgins
HFA - Hollow Flight Auger	CS - Core sample		
PT - Push Tube			
AH - Air Hammer			

NOTE: This bore log is for environmental assessment purposes only and is not intended to provide geotechnical information

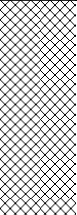
	Borehole No: RAQ-187	Project No: 50369
		Client: Health Infrastructure New South Wales Project Name: WHR - AQ in Accessible Soils Site Address: Westmead Hospital, Westmead, NSW
Date: 2015.05.05 Eastings (MGA): 313315 Contractor: DYMA Cut Pty Ltd Northings (MGA): 6257995 Drill Rig: Hand Auger Reference Level: GS Method: SFA Elevation - Surface (m): - Total Hole Depth (mbgs): 1.0 Bore Diameter (mm): 200		

SUBSURFACE PROFILE			SAMPLE			
Depth	Graphic Log	Lithologic Description	Sample ID	PID (ppm)	Sample Type	Comments
0.0		Ground Surface				
		FL Silty CLAY, soft, black, moist, heterogenous with little amounts of road-base, bitumen and ash.	RAQ187 (0.0-0.2)	-	D	No odours, staining or ACM observed. 10 L AQ completed from 0.0-0.2 m bgs.
		NT Silty CLAY, firm, brown and homogenous.	RAQ187 (0.2-0.4)	-	D	No odours, staining or ACM observed.
1.0		End of Hole @ 1.0 mbgs Natural.				

Drilling Method	Sample Type	Reference Level	Log Details
HA - Hand Auger SFA - Solid Flight Auger HFA - Hollow Flight Auger PT - Push Tube AH - Air Hammer	U - Undisturbed tube sample D - Disturbed sample CS - Core sample	AHD - Australian Height Datum BGS - Below Ground Surface	Logged By: Matthew Murray Project Manager: Mitchell Hodgins

NOTE: This bore log is for environmental assessment purposes only and is not intended to provide geotechnical information

	Borehole No: RAQ-188	Project No: 50369
		Client: Health Infrastructure New South Wales Project Name: WHR - AQ in Accessible Soils Site Address: Westmead Hospital, Westmead, NSW
Date: 2015.05.05 Eastings (MGA): 313324 Contractor: DYMA Cut Pty Ltd Northings (MGA): 6257966 Drill Rig: Hand Auger Reference Level: GS Method: SFA Elevation - Surface (m): - Total Hole Depth (mbgs): 1.0 Bore Diameter (mm): 200		

SUBSURFACE PROFILE			SAMPLE			
Depth	Graphic Log	Lithologic Description	Sample ID	PID (ppm)	Sample Type	Comments
0.0		Ground Surface				
		FL Silty CLAY, soft, black, moist, heterogenous with little amounts of road-base, bitumen and ash.	RAQ188 (0.0-0.2)	-	D	No odours, staining or ACM observed. 10 L AQ completed from 0.0-0.2 m bgs.
		NT Silty CLAY, firm, brown and homogenous.	RAQ188 (0.2-0.4)	-	D	No odours, staining or ACM observed.
1.0		End of Hole @ 1.0 mbgs Natural.				

Drilling Method	Sample Type	Reference Level	Log Details
HA - Hand Auger	U - Undisturbed tube sample	AHD - Australian Height Datum	Logged By: Matthew Murray
SFA - Solid Flight Auger	D - Disturbed sample	BGS - Below Ground Surface	Project Manager: Mitchell Hodgins
HFA - Hollow Flight Auger	CS - Core sample		
PT - Push Tube			
AH - Air Hammer			

NOTE: This bore log is for environmental assessment purposes only and is not intended to provide geotechnical information

Appendix B: Laboratory Documentation

Certificate of Analysis



NATA Accredited
Accreditation Number 1261
Site Number 18217

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

JBS & G Australia (NSW & WA) P/L
Level 1, 50 Margaret St
Sydney
NSW 2000

Attention: Mitch Hodgins
Report 444926-V2-AID
Project Name WESTMEAD AQ 50369
Received Date Jan 20, 2015
Date Reported Feb 24, 2015

Methodology:

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

Project Name WESTMEAD AQ 50369
Project ID
Date Sampled Jan 17, 2015
Report 444926-V2-AID

Client Sample ID	Eurofins mgt Sample No.	Date Sampled	Sample Description	Result
RAQ001-0-1	15-Ja08766	Jan 17, 2015	Approximate Sample 707g Sample consisted of: Brown coarse-grained clayey soil and rocks	ACM: Chrysotile, amosite and crocidolite asbestos detected in assorted fibre cement fragments. Raw weight of ACM = 26.8419g Total estimated asbestos content in ACM = 4.0263g Total estimated asbestos concentration in ACM = 0.5698% w/w FA: Chrysotile, amosite and crocidolite asbestos detected in weathered fibre cement fragments. Amosite asbestos detected in fibrous insulation-like fragments. Approximate raw weight of FA = 13.4290g Estimated asbestos content in FA = 4.7002g AF: Chrysotile, amosite and crocidolite asbestos detected in fibre cement fragments and in the form of loose fibre bundles mostly embedded in soil particles. Approximate raw weight of AF = 8.1607g Estimated asbestos content in AF = 6.5286g Total estimated asbestos content in FA and AF = 11.2287g Total estimated asbestos concentration in FA and AF = 1.5891% w/w Organic fibre detected.^{M11}

Client Sample ID	Eurofins mgt Sample No.	Date Sampled	Sample Description	Result
RAQ001-1-2	15-Ja08767	Jan 17, 2015	Approximate Sample 718g Sample consisted of: Brown coarse-grained clayey soil and rocks	ACM: Chrysotile, amosite and crocidolite asbestos detected in assorted fibre cement fragments. Raw weight of ACM = 4.2000g Total estimated asbestos content in ACM = 0.6300g Total estimated asbestos concentration in ACM = 0.0877% w/w FA: Chrysotile, amosite and crocidolite asbestos detected in weathered fibre cement fragments. Approximate raw weight of FA = 0.1010g Estimated asbestos content in FA = 0.0606g AF: Chrysotile, amosite and crocidolite asbestos detected in fibre cement fragments and in the form of loose fibre bundles. Approximate raw weight of AF = 0.9021g Estimated asbestos content in AF = 0.7217g Total estimated asbestos content in FA and AF = 0.7823g Total estimated asbestos concentration in FA and AF = 0.1089% w/w Organic fibre detected.^{M11}
RAQ001-2-3	15-Ja08768	Jan 17, 2015	Approximate Sample 623g Sample consisted of: Brown coarse-grained clayey soil and rocks	ACM: Chrysotile, amosite and crocidolite asbestos detected in assorted fibre cement fragments. Raw weight of ACM = 32.1100g Total estimated asbestos content in ACM = 4.8165g Total estimated asbestos concentration in ACM = 0.7726% w/w FA: Chrysotile, amosite and crocidolite asbestos detected in weathered fibre cement fragments. Approximate raw weight of FA = 0.4130g Estimated asbestos content in FA = 0.2478g AF: Chrysotile, amosite and crocidolite asbestos detected in fibre cement fragments and in the form of loose fibre bundles. Approximate raw weight of AF = 0.6182g Estimated asbestos content in AF = 0.4946g Total estimated asbestos content in FA and AF = 0.7424g Total estimated asbestos concentration in FA and AF = 0.1191% w/w Organic fibre detected.^{M11}

Client Sample ID	Eurofins mgt Sample No.	Date Sampled	Sample Description	Result
RAQ002-0-1	15-Ja08769	Jan 17, 2015	Approximate Sample 708g Sample consisted of: Brown coarse-grained clayey soil and rocks	ACM: Chrysotile, amosite and crocidolite asbestos detected in assorted fibre cement fragments. Raw weight of ACM = 8.0942g Total estimated asbestos content in ACM = 1.2141g Total estimated asbestos concentration in ACM = 0.1716% w/w FA: Chrysotile, amosite and crocidolite asbestos detected in weathered fibre cement fragments. Approximate raw weight of FA = 0.0378g Estimated asbestos content in FA = 0.0227g AF: Chrysotile, amosite and crocidolite asbestos detected in fibre cement fragments and in the form of loose fibre bundles. Approximate raw weight of AF = 1.3669g Estimated asbestos content in AF = 1.0935g Total estimated asbestos content in FA and AF = 1.1162g Total estimated asbestos concentration in FA and AF = 0.1577% w/w Organic fibre detected.^{M11}

Sample History

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

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

Description	Testing Site	Extracted	Holding Time
Asbestos – LTM-ASB-8020	Sydney	Jan 21, 2015	Indefinite

Company Name: JBS & G Australia (NSW & WA) P/L
Address: Level 1, 50 Margaret St
Sydney
NSW 2000
Project Name: WESTMEAD AQ 50369

Order No.:
Report #: 444926
Phone: 02 8245 0300
Fax:

Received: Jan 20, 2015 5:02 PM
Due: Jan 28, 2015
Priority: 5 Day
Contact Name: Mitch Hodgins

Eurofins | mgt Client Manager: Charl Du Preez

Sample Detail					Asbestos - WA guidelines
Laboratory where analysis is conducted					
Melbourne Laboratory - NATA Site # 1254 & 14271					
Sydney Laboratory - NATA Site # 18217					X
Brisbane Laboratory - NATA Site # 20794					
External Laboratory					
Sample ID	Sample Date	Sampling Time	Matrix	LAB ID	
RAQ001-0-1	Jan 17, 2015		Soil	S15-Ja08766	X
RAQ001-1-2	Jan 17, 2015		Soil	S15-Ja08767	X
RAQ001-2-3	Jan 17, 2015		Soil	S15-Ja08768	X
RAQ002-0-1	Jan 17, 2015		Soil	S15-Ja08769	X

Eurofins | mgt Internal Quality Control Review and Glossary

General

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

Holding Times

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

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

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

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

UNITS

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

TERMS

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

Comments

Report amended to reflect amended ID's.

Sample Integrity

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

Qualifier Codes/Comments

Code	Description
N/A	Not applicable
M11	NATA accreditation does not cover the performance of this service.

Authorised by:

Nibha Vaidya

Senior Analyst-Asbestos (NSW)



Glenn Jackson
National Laboratory Manager

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

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

Uncertainty data is available on request

Eurofins | mgt shall not be liable for loss, cost, damages or expenses incurred by the client, or any other person or company, resulting from the use of any information or interpretation given in this report. In no case shall Eurofins | mgt be liable for consequential damages including, but not limited to, lost profits, damages for failure to meet deadlines and lost production arising from this report. This document shall not be reproduced except in full and relates only to the items tested. Unless indicated otherwise, the tests were performed on the samples as received.

[illegible]

Sean

20 JAN 2015 17:02

Sample Receipt Advice

Company name: **JBS & G Australia (NSW & WA) P/L**

Contact name: Lindsey Blecher
Project name: WESTMEAD AQ 50369
COC number: Not provided
Turn around time: 5 Day
Date/Time received: Jan 20, 2015 5:02 PM
Eurofins | mgt reference: **444926**

Sample information

- ☒ A detailed list of analytes logged into our LIMS, is included in the attached summary table.
- ☒ Sample Temperature of a random sample selected from the batch as recorded by Eurofins | mgt
Sample Receipt : 22 degrees Celsius.
- ☒ All samples have been received as described on the above COC.
- ☒ COC has been completed correctly.
- ☒ Attempt to chill was evident.
- ☒ Appropriately preserved sample containers have been used.
- ☒ All samples were received in good condition.
- ☒ Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.
- ☒ Appropriate sample containers have been used.
- ☒ Some samples have been subcontracted.
- N/A Custody Seals intact (if used).

Contact notes

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

Charl Du Preez on Phone : or by e.mail: charldupreez@eurofins.com.au

Results will be delivered electronically via e.mail to Lindsey Blecher - LBlecher@jbsg.com.au.

Certificate of Analysis



NATA Accredited
Accreditation Number 1261
Site Number 18217

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

JBS & G Australia (NSW & WA) P/L
Level 1, 50 Margaret St
Sydney
NSW 2000

Attention: Mitch Hodgins
Report 446405-AID
Project Name 50369
Received Date Feb 04, 2015
Date Reported Feb 24, 2015

Methodology:

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

Project Name 50369
Project ID
Date Sampled Jan 29, 2015 to Feb 04, 2015
Report 446405-AID

Client Sample ID	Eurofins mgt Sample No.	Date Sampled	Sample Description	Result
RAQ002-1-2	15-Fe02692	Jan 29, 2015	Approximate Sample 636g Sample consisted of: Brown fine-grained clayey soil and rocks	ACM: Chrysotile, amosite and crocidolite asbestos detected in fibre cement fragments. Raw weight of ACM = 2.1536g Total estimated asbestos content in ACM = 0.3230g Total estimated asbestos concentration in ACM = 0.0508% w/w FA: Chrysotile, amosite and crocidolite asbestos detected in weathered fibre cement fragments. Approximate raw weight of FA = 0.8971g Estimated asbestos content in FA = 0.3588g AF: Chrysotile and amosite asbestos detected in the form of loose fibre bundles. Approximate raw weight of AF = 0.8000g Estimated asbestos content in AF = 0.8000g Total estimated asbestos content in FA and AF = 1.1588g Total estimated asbestos concentration in FA and AF = 0.1821% w/w Organic fibre detected. ^{M11}

Client Sample ID	Eurofins mgt Sample No.	Date Sampled	Sample Description	Result
RAQ002-2-3	15-Fe02693	Jan 29, 2015	Approximate Sample 789g Sample consisted of: Brown fine-grained clayey soil and rocks	FA: Chrysotile, amosite and crocidolite asbestos detected in weathered fibre cement fragments. Approximate raw weight of FA = 0.8971g Estimated asbestos content in FA = 0.3588g AF: Chrysotile, amosite and crocidolite asbestos detected in the form of loose fibre bundles. Approximate raw weight of AF = 0.6500g Estimated asbestos content in AF = 0.6500g Total estimated asbestos content in FA and AF = 1.0088g Total estimated asbestos concentration in FA and AF = 0.1278% w/w Organic fibre detected.^{M11}
RAQ003-0-1	15-Fe02694	Jan 29, 2015	Approximate Sample 580g Sample consisted of: Brown fine-grained clayey soil and rocks	FA: Chrysotile and amosite asbestos detected in weathered fibre cement fragments. Approximate raw weight of FA = 0.0021g Estimated asbestos content in FA = 0.0015g AF: Chrysotile, amosite and crocidolite asbestos detected in the form of loose fibre bundles. Approximate raw weight of AF = 0.0080g Estimated asbestos content in AF = 0.0080g Total estimated asbestos content in FA and AF = 0.0095g Total estimated asbestos concentration in FA and AF = 0.0016% w/w* Organic fibre detected.^{M11}

Client Sample ID	Eurofins mgt Sample No.	Date Sampled	Sample Description	Result
RAQ003-1-2	15-Fe02695	Jan 29, 2015	Approximate Sample 742g Sample consisted of: Brown fine-grained clayey soil and rocks	ACM: Chrysotile, amosite and crocidolite asbestos detected in fibre cement fragments. Raw weight of ACM = 0.8423g Total estimated asbestos content in ACM = 0.1263g Total estimated asbestos concentration in ACM = 0.0170% w/w FA: Chrysotile, amosite and crocidolite asbestos detected in weathered fibre cement fragments Chrysotile and amosite asbestos detected in insulation-like fragments. Approximate raw weight of FA = 0.0221g Estimated asbestos content in FA = 0.0133g AF: Chrysotile, amosite and crocidolite asbestos detected in the form of loose fibre bundles. Approximate raw weight of AF = 0.4000g Estimated asbestos content in AF = 0.4000g Total estimated asbestos content in FA and AF = 0.4133g Total estimated asbestos concentration in FA and AF = 0.0557% w/w Organic fibre detected.^{M11}
RAQ004-0-1	15-Fe02696	Jan 29, 2015	Approximate Sample 743g Sample consisted of: Brown fine-grained clayey soil and rocks	AF: Chrysotile, amosite and crocidolite asbestos detected in fibre cement fragments and in the form of loose fibre bundles. Approximate raw weight of AF = 0.1446g Estimated asbestos content in AF = 0.0723g Total estimated asbestos concentration in AF = 0.0097% w/w* Organic fibre detected.^{M11}

Client Sample ID	Eurofins mgt Sample No.	Date Sampled	Sample Description	Result
RAQ004-1-2	15-Fe02697	Jan 29, 2015	Approximate Sample 775g Sample consisted of: Brown fine-grained clayey soil and rocks	FA: Chrysotile, amosite and crocidolite asbestos detected in weathered fibre cement fragments. Approximate raw weight of FA = 0.0419g Estimated asbestos content in FA = 0.0293g AF: Chrysotile, amosite and crocidolite asbestos detected in the form of loose fibre bundles. Approximate raw weight of AF = 0.0100g Estimated asbestos content in AF = 0.0100g Total estimated asbestos content in FA and AF = 0.0393g Total estimated asbestos concentration in FA and AF = 0.0051% w/w* Organic fibre detected.^{M11}
RAQ005-0-1	15-Fe02698	Jan 29, 2015	Approximate Sample 724g Sample consisted of: Brown fine-grained clayey soil and rocks	FA: Chrysotile, amosite and crocidolite asbestos detected in weathered fibre cement fragments. Approximate raw weight of FA = 0.0181g Estimated asbestos content in FA = 0.0127g AF: Chrysotile, amosite and crocidolite asbestos detected in the form of loose fibre bundles. Approximate raw weight of AF = 0.0080g Estimated asbestos content in AF = 0.0080g Total estimated asbestos content in FA and AF = 0.0207g Total estimated asbestos concentration in FA and AF = 0.0029% w/w* Organic fibre detected.^{M11}

Client Sample ID	Eurofins mgt Sample No.	Date Sampled	Sample Description	Result
RAQ006-0-1	15-Fe02699	Jan 29, 2015	Approximate Sample 645g Sample consisted of: Brown fine-grained clayey soil and rocks	FA: Chrysotile and amosite asbestos detected in weathered fibre cement fragments. Approximate raw weight of FA = 0.1151g Estimated asbestos content in FA = 0.0806g AF: Chrysotile, amosite and crocidolite asbestos detected in the form of loose fibre bundles. Chrysotile and amosite asbestos detected in fibre cement fragments. Approximate raw weight of AF = 0.1334g Estimated asbestos content in AF = 0.0267g Total estimated asbestos content in FA and AF = 0.1073g Total estimated asbestos concentration in FA and AF = 0.0166% w/w Organic fibre detected.^{M11}
RAQ006-1-2	15-Fe02700	Jan 29, 2015	Approximate Sample 786g Sample consisted of: Brown fine-grained clayey soil and rocks	FA: Chrysotile, amosite and crocidolite asbestos detected in weathered fibre cement fragments. Approximate raw weight of FA = 0.4182g Estimated asbestos content in FA = 0.2509g AF: Chrysotile, amosite and crocidolite asbestos detected in the form of loose fibre bundles. Chrysotile and amosite asbestos detected in fibre cement fragments. Approximate raw weight of AF = 0.1862g Estimated asbestos content in AF = 0.0372g Total estimated asbestos content in FA and AF = 0.2882g Total estimated asbestos concentration in FA and AF = 0.0367% w/w Organic fibre detected.^{M11}

Client Sample ID	Eurofins mgt Sample No.	Date Sampled	Sample Description	Result
RAQ007-0-1	15-Fe02701	Jan 29, 2015	Approximate Sample 626g Sample consisted of: Brown fine-grained clayey soil and rocks	ACM: Chrysotile and amosite asbestos detected in fibre cement fragments. Raw weight of ACM = 1.3896g Total estimated asbestos content in ACM = 0.2084g Total estimated asbestos concentration in ACM = 0.0333% w/w FA: Chrysotile, amosite and crocidolite asbestos detected in weathered fibre cement fragments. Approximate raw weight of FA = 0.1112g Estimated asbestos content in FA = 0.0778g AF: Chrysotile, amosite and crocidolite asbestos detected in the form of loose fibre bundles. Approximate raw weight of AF = 0.0018g Estimated asbestos content in AF = 0.0018g Total estimated asbestos content in FA and AF = 0.0796g Total estimated asbestos concentration in FA and AF = 0.0127% w/w Organic fibre detected.^{M11}
RAQ008-0-1	15-Fe02702	Jan 29, 2015	Approximate Sample 867g Sample consisted of: Brown fine-grained clayey soil and rocks	AF: Chrysotile, amosite and crocidolite asbestos detected in the form of loose fibre bundles. Approximate raw weight of AF = 0.0300g Estimated asbestos content in AF = 0.0300g Total estimated asbestos concentration in AF = 0.0035% w/w* Organic fibre detected.^{M11}
RAQ009-0-1	15-Fe02703	Jan 29, 2015	Approximate Sample 702g Sample consisted of: Brown fine-grained clayey soil and rocks	AF: Chrysotile, amosite and crocidolite asbestos detected in the form of loose fibre bundles. Approximate raw weight of AF = 0.0250g Estimated asbestos content in AF = 0.0250g Total estimated asbestos concentration in AF = 0.0036% w/w* Organic fibre detected.^{M11}

Client Sample ID	Eurofins mgt Sample No.	Date Sampled	Sample Description	Result
RAQ009-1-2	15-Fe02704	Jan 29, 2015	Approximate Sample 549g Sample consisted of: Brown fine-grained clayey soil and rocks	FA: Chrysotile, amosite and crocidolite asbestos detected in weathered fibre cement fragments. Raw weight of FA = 0.2241g Estimated asbestos content in FA = 0.1569g AF: Chrysotile, amosite and crocidolite asbestos detected in the form of loose fibre bundles. Approximate raw weight of AF = 0.0350g Estimated asbestos content in AF = 0.0350g Total estimated asbestos content in FA and AF = 0.1919g Total estimated asbestos concentration in FA and AF = 0.0350% w/w Organic fibre detected.^{M11}
RAQ009-2-3	15-Fe02705	Jan 29, 2015	Approximate Sample 765g Sample consisted of: Brown fine-grained clayey soil and rocks	ACM: Chrysotile, amosite and crocidolite asbestos detected in fibre cement fragments. Raw weight of ACM = 13.4527g Total estimated asbestos content in ACM = 2.0179g Total estimated asbestos concentration in ACM = 0.2637% w/w FA: Chrysotile, amosite and crocidolite asbestos detected in weathered fibre cement fragments. Approximate raw weight of FA = 0.8861g Estimated asbestos content in FA = 0.5317g AF: Chrysotile, amosite and crocidolite asbestos detected in the form of loose fibre bundles. Approximate raw weight of AF = 0.0350g Estimated asbestos content in AF = 0.0350g Total estimated asbestos content in FA and AF = 0.5667g Total estimated asbestos concentration in FA and AF = 0.0740% w/w Organic fibre detected.^{M11}

Client Sample ID	Eurofins mgt Sample No.	Date Sampled	Sample Description	Result
RAQ010_0-1	15-Fe02706	Jan 29, 2015	Approximate Sample 686g Sample consisted of: Brown fine-grained clayey soil and rocks	AF: Chrysotile and amosite asbestos detected in the form of loose fibre bundles. Approximate raw weight of AF = 0.0200g Estimated asbestos content in AF = 0.0200g Total estimated asbestos concentration in AF = 0.0029% w/w* Organic fibre detected. ^{M11}
RAQ010-1-2	15-Fe02707	Jan 29, 2015	Approximate Sample 676g Sample consisted of: Brown fine-grained clayey soil and rocks	ACM: Chrysotile, amosite and crocidolite asbestos detected in fibre cement fragments. Raw weight of ACM = 12.9345g Total estimated asbestos content in ACM = 1.9402g Total estimated asbestos concentration in ACM = 0.2869% w/w FA: Chrysotile, amosite and crocidolite asbestos detected in weathered fibre cement fragments. Approximate raw weight of FA = 0.0785g Estimated asbestos content in FA = 0.0471g AF: Chrysotile, amosite and crocidolite asbestos detected in the form of loose fibre bundles. Approximate raw weight of AF = 0.1500g Estimated asbestos content in AF = 0.1500g Total estimated asbestos content in FA and AF = 0.1971g Total estimated asbestos concentration in FA and AF = 0.0291% w/w Organic fibre detected. ^{M11}
RAQ010-2-3	15-Fe02708	Jan 29, 2015	Approximate Sample 659g Sample consisted of: Brown fine-grained clayey soil and rocks	AF: Chrysotile, amosite and crocidolite asbestos detected in fibre cement fragments. Approximate raw weight of AF = 0.0157g Estimated asbestos content in AF = 0.0024g Total estimated asbestos concentration in AF = 0.0004% w/w* No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. ^{M11}

Client Sample ID	Eurofins mgt Sample No.	Date Sampled	Sample Description	Result
RAQ011-0-1	15-Fe02709	Jan 29, 2015	Approximate Sample 570g Sample consisted of: Brown fine-grained clayey soil and rocks	AF: Chrysotile, amosite and crocidolite asbestos detected in the form of loose fibre bundles. Approximate raw weight of AF = 0.0150g Estimated asbestos content in AF = 0.0150g Total estimated asbestos concentration in AF = 0.0026% w/w* Organic fibre detected. ^{M11}
RAQ011-1-2	15-Fe02710	Jan 29, 2015	Approximate Sample 759g Sample consisted of: Brown fine-grained clayey soil and rocks	ACM: Chrysotile, amosite and crocidolite asbestos detected in fibre cement fragments. Raw weight of ACM = 20.2964g Total estimated asbestos content in ACM = 3.0445g Total estimated asbestos concentration in ACM = 0.4013% w/w FA: Chrysotile, amosite and crocidolite asbestos detected in weathered fibre cement fragments. Approximate raw weight of FA = 1.1136g Estimated asbestos content in FA = 0.6682g AF: Chrysotile, amosite and crocidolite asbestos detected in the form of loose fibre bundles. Approximate raw weight of AF = 0.0500g Estimated asbestos content in AF = 0.0500g Total estimated asbestos content in FA and AF = 0.7182g Total estimated asbestos concentration in FA and AF = 0.0947% w/w Organic fibre detected. ^{M11}

Client Sample ID	Eurofins mgt Sample No.	Date Sampled	Sample Description	Result
RAQ012-0-1	15-Fe02711	Jan 29, 2015	Approximate Sample 602g Sample consisted of: Brown fine-grained clayey soil and rocks	ACM: Chrysotile, amosite and crocidolite asbestos detected in fibre cement fragments. Raw weight of ACM = 4.6989g Total estimated asbestos content in ACM = 0.7048g Total estimated asbestos concentration in ACM = 0.1170% w/w FA: Chrysotile, amosite and crocidolite asbestos detected in weathered fibre cement fragments. Approximate raw weight of FA = 1.5055g Estimated asbestos content in FA = 1.2044g AF: Chrysotile, amosite and crocidolite asbestos detected in the form of loose fibre bundles. Approximate raw weight of AF = 0.0500g Estimated asbestos content in AF = 0.0500g Total estimated asbestos content in FA and AF = 1.2544g Total estimated asbestos concentration in FA and AF = 0.2083% w/w Organic fibre detected.^{M11}
RAQ012-1-2	15-Fe02712	Jan 29, 2015	Approximate Sample 806g Sample consisted of: Brown fine-grained clayey soil and rocks	FA: Chrysotile, amosite and crocidolite asbestos detected in weathered fibre cement fragments. Approximate raw weight of FA = 0.1491g Estimated asbestos content in FA = 0.0895g AF: Chrysotile, amosite and crocidolite asbestos detected in the form of loose fibre bundles. Approximate raw weight of AF = 0.0700g Estimated asbestos content in AF = 0.0700g Total estimated asbestos content in FA and AF = 0.1595g Total estimated asbestos concentration in FA and AF = 0.0198% w/w Organic fibre detected.^{M11}

Client Sample ID	Eurofins mgt Sample No.	Date Sampled	Sample Description	Result
RAQ012-2-3	15-Fe02713	Jan 29, 2015	Approximate Sample 731g Sample consisted of: Brown fine-grained clayey soil and rocks	FA: Chrysotile, amosite and crocidolite asbestos detected in weathered fibre cement fragments. Approximate raw weight of FA = 0.0335g Estimated asbestos content in FA = 0.0134g AF: Chrysotile, amosite and crocidolite asbestos detected in the form of loose fibre bundles. Approximate raw weight of AF = 0.0160g Estimated asbestos content in AF = 0.0160g Total estimated asbestos content in FA and AF = 0.0294g Total estimated asbestos concentration in FA and AF = 0.0040% w/w* Organic fibre detected. ^{M11}
RAQ013-0-1	15-Fe02714	Jan 29, 2015	Approximate Sample 794g Sample consisted of: Brown fine-grained clayey soil and rocks	AF: Chrysotile, amosite and crocidolite asbestos detected in the form of loose fibre bundles. Approximate raw weight of AF = 0.0380g Estimated asbestos content in AF = 0.0380g Total estimated asbestos concentration in AF = 0.0048% w/w* Organic fibre detected. ^{M11}
RAQ014-0-1	15-Fe02715	Jan 29, 2015	Approximate Sample 794g Sample consisted of: Brown fine-grained clayey soil and rocks	AF: Chrysotile and crocidolite asbestos detected in the form of loose fibre bundles. Approximate raw weight of AF = 0.0020g Estimated asbestos content in AF = 0.0020g Total estimated asbestos concentration in AF = 0.0003% w/w* No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. ^{M11}
RAQ014-1-2	15-Fe02716	Jan 29, 2015	Approximate Sample 845g Sample consisted of: Brown fine-grained clayey soil and rocks	AF: Chrysotile and crocidolite asbestos detected in the form of loose fibre bundles. Approximate raw weight of AF = 0.0015g Estimated asbestos content in AF = 0.0015g Total estimated asbestos concentration in AF = 0.0002% w/w* No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. ^{M11}

Client Sample ID	Eurofins mgt Sample No.	Date Sampled	Sample Description	Result
RAQ014-2-3	15-Fe02717	Jan 29, 2015	Approximate Sample 530g Sample consisted of: Brown fine-grained clayey soil and rocks	AF: Chrysotile and crocidolite asbestos detected in the form of loose fibre bundles. Approximate raw weight of AF = 0.0035g Estimated asbestos content in AF = 0.0035g Total estimated asbestos concentration in AF = 0.0007% w/w* No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. ^{M11}
RAQ015-0-1	15-Fe02718	Jan 29, 2015	Approximate Sample 738g Sample consisted of: Brown fine-grained clayey soil and rocks	FA: Chrysotile and amosite asbestos detected in insulation-like fragments. Approximate raw weight of FA = 0.0046g Estimated asbestos content in FA = 0.0032g Total estimated asbestos concentration in FA = 0.0004% w/w* No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. ^{M11}
RAQ015-1-2	15-Fe02719	Jan 29, 2015	Approximate Sample 793g Sample consisted of: Brown fine-grained clayey soil and rocks	FA: Chrysotile, amosite and crocidolite asbestos detected in weathered fibre cement fragments. Approximate raw weight of FA = 0.0678g Estimated asbestos content in FA = 0.0407g Total estimated asbestos concentration in FA = 0.0051% w/w* Organic fibre detected. ^{M11}
RAQ015-2-3	15-Fe02720	Jan 29, 2015	Approximate Sample 894g Sample consisted of: Brown fine-grained clayey soil and rocks	AF: Chrysotile and crocidolite asbestos detected in the form of loose fibre bundles. Approximate raw weight of AF = 0.0035g Estimated asbestos content in AF = 0.0035g Total estimated asbestos concentration in AF = 0.0004% w/w* No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. ^{M11}

Client Sample ID	Eurofins mgt Sample No.	Date Sampled	Sample Description	Result
RAQ016-0-1	15-Fe02721	Jan 29, 2015	Approximate Sample 590g Sample consisted of: Brown fine-grained clayey soil and rocks	FA: Chrysotile and amosite asbestos detected in insulation-like fragments. Raw weight of FA = 0.0730g Estimated asbestos content in FA = 0.0438g AF: Chrysotile and amosite asbestos detected in the form of loose fibre bundles. Approximate raw weight of AF = 0.0030g Estimated asbestos content in AF = 0.0030g Total estimated asbestos content in FA and AF = 0.0468g Total estimated asbestos concentration in FA and AF = 0.0079% w/w* Organic fibre detected. ^{M11}
RAQ017-0-1	15-Fe02722	Jan 29, 2015	Approximate Sample 613g Sample consisted of: Brown fine-grained clayey soil and rocks	AF: Chrysotile, amosite and crocidolite asbestos detected in the form of loose fibre bundles. Approximate raw weight of AF = 0.0014g Estimated asbestos content in AF = 0.0014g Total estimated asbestos concentration in AF = 0.0002% w/w* No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. ^{M11}
RAQ018-0-1	15-Fe02723	Feb 03, 2015	Approximate Sample 695g Sample consisted of: Brown fine-grained clayey soil and rocks	AF: Crocidolite asbestos detected in the form of loose fibre bundles. Approximate raw weight of AF = 0.0015g Estimated asbestos content in AF = 0.0015g Total estimated asbestos concentration in AF = 0.0002% w/w* No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. ^{M11}
RAQ019-0-1	15-Fe02724	Feb 03, 2015	Approximate Sample 693g Sample consisted of: Brown fine-grained clayey soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No respirable fibres detected. ^{M11}
RAQ020-0-1	15-Fe02725	Feb 03, 2015	Approximate Sample 772g Sample consisted of: Brown fine-grained clayey soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No respirable fibres detected. ^{M11}
RAQ021-0-1	15-Fe02726	Feb 03, 2015	Approximate Sample 735g Sample consisted of: Brown fine-grained clayey soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No respirable fibres detected. ^{M11}

Client Sample ID	Eurofins mgt Sample No.	Date Sampled	Sample Description	Result
RAQ022-0-1	15-Fe02727	Feb 03, 2015	Approximate Sample 754g Sample consisted of: Brown fine-grained clayey soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No respirable fibres detected. ^{M11}
RAQ023-0-1	15-Fe02728	Feb 03, 2015	Approximate Sample 835g Sample consisted of: Brown fine-grained clayey soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No respirable fibres detected. ^{M11}
RAQ024-0-1	15-Fe02729	Feb 03, 2015	Approximate Sample 874g Sample consisted of: Brown fine-grained clayey soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No respirable fibres detected. ^{M11}
RAQ025-0-1	15-Fe02730	Feb 03, 2015	Approximate Sample 567g Sample consisted of: Brown fine-grained clayey soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No respirable fibres detected. ^{M11}
RAQ026-0-1	15-Fe02731	Feb 03, 2015	Approximate Sample 780g Sample consisted of: Brown fine-grained clayey soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No respirable fibres detected. ^{M11}
RAQ027-0-1	15-Fe02732	Feb 03, 2015	Approximate Sample 784g Sample consisted of: Brown fine-grained clayey soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No respirable fibres detected. ^{M11}
RAQ028-0-1	15-Fe02733	Feb 03, 2015	Approximate Sample 705g Sample consisted of: Brown fine-grained clayey soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No respirable fibres detected. ^{M11}
RAQ029-0-1	15-Fe02734	Feb 03, 2015	Approximate Sample 872g Sample consisted of: Brown fine-grained clayey soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No respirable fibres detected. ^{M11}
RAQ030-0-1	15-Fe02735	Feb 03, 2015	Approximate Sample 576g Sample consisted of: Brown fine-grained clayey soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No respirable fibres detected. ^{M11}
RAQ031-0-1	15-Fe02736	Feb 03, 2015	Approximate Sample 672g Sample consisted of: Brown fine-grained clayey soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No respirable fibres detected. ^{M11}
RAQ032-0-1	15-Fe02788	Feb 03, 2015	Approximate Sample 735g Sample consisted of: Brown fine-grained clayey soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No respirable fibres detected. ^{M11}
RAQ032-1-2	15-Fe02789	Feb 03, 2015	Approximate Sample 770g Sample consisted of: Brown fine-grained clayey soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No respirable fibres detected. ^{M11}
RAQ033-0-1	15-Fe02790	Feb 03, 2015	Approximate Sample 782g Sample consisted of: Brown fine-grained clayey soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No respirable fibres detected. ^{M11}

Client Sample ID	Eurofins mgt Sample No.	Date Sampled	Sample Description	Result
RAQ033-1-2	15-Fe02791	Feb 03, 2015	Approximate Sample 898g Sample consisted of: Brown fine-grained clayey soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No respirable fibres detected. ^{M11}
RAQ034-0-1	15-Fe02792	Feb 03, 2015	Approximate Sample 826g Sample consisted of: Brown fine-grained clayey soil and rocks	ACM: Chrysotile and amosite asbestos detected in fibre cement fragments. Raw weight of ACM = 1.1269g Total estimated asbestos content in ACM = 0.1690g Total estimated asbestos concentration in ACM = 0.0205% w/w FA: Chrysotile and amosite asbestos detected in weathered fibre cement fragments. Approximate raw weight of FA = 0.0198g Estimated asbestos content in FA = 0.0119g AF: Amosite asbestos detected in the form of loose fibre bundles. Approximate raw weight of AF = 0.0019g Estimated asbestos content in AF = 0.0019g Total estimated asbestos content in FA and AF = 0.0138g Total estimated asbestos concentration in FA and AF = 0.0017% w/w* Organic fibre detected. ^{M11}
RAQ034-1-2	15-Fe02793	Feb 03, 2015	Approximate Sample 802g Sample consisted of: Brown fine-grained clayey soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No respirable fibres detected. ^{M11}
RAQ035-0-1	15-Fe02794	Feb 03, 2015	Approximate Sample 660g Sample consisted of: Brown fine-grained clayey soil and rocks	FA: Chrysotile and amosite asbestos detected in weathered fibre cement fragments. Approximate raw weight of FA = 0.0052g Estimated asbestos content in FA = 0.0036g AF: Chrysotile and amosite asbestos detected in the form of loose fibre bundles. Approximate raw weight of AF = 0.0400g Estimated asbestos content in AF = 0.0400g Total estimated asbestos content in FA and AF = 0.0436g Total estimated asbestos concentration in FA and AF = 0.0066% w/w* Organic fibre detected. ^{M11}

Client Sample ID	Eurofins mgt Sample No.	Date Sampled	Sample Description	Result
RAQ036-0-1	15-Fe02795	Jan 31, 2015	Approximate Sample 835g Sample consisted of: Brown fine-grained clayey soil and rocks	FA: Chrysotile, amosite and crocidolite asbestos detected in weathered fibre cement fragments. Approximate raw weight of FA = 0.0786g Estimated asbestos content in FA = 0.0629g AF: Chrysotile, amosite and crocidolite asbestos detected in fibre cement fragments and in the form of loose fibre bundles. Approximate raw weight of AF = 0.1145g Estimated asbestos content in AF = 0.0229g Total estimated asbestos content in FA and AF = 0.0858g Total estimated asbestos concentration in FA and AF = 0.0103% w/w Organic fibre detected. ^{M11}
RAQ037-0-1	15-Fe02796	Feb 02, 2015	Approximate Sample 864g Sample consisted of: Brown fine-grained clayey soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No respirable fibres detected. ^{M11}
RAQ038-0-1	15-Fe02797	Feb 02, 2015	Approximate Sample 791g Sample consisted of: Brown fine-grained clayey soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No respirable fibres detected. ^{M11}
RAQ039-0-1	15-Fe02798	Feb 02, 2015	Approximate Sample 641g Sample consisted of: Brown fine-grained clayey soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No respirable fibres detected. ^{M11}
RAQ040-0-1	15-Fe02799	Feb 02, 2015	Approximate Sample 805g Sample consisted of: Brown fine-grained clayey soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No respirable fibres detected. ^{M11}
RAQ041-0-1	15-Fe02800	Feb 02, 2015	Approximate Sample 752g Sample consisted of: Brown fine-grained clayey soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No respirable fibres detected. ^{M11}
RAQ042-0-1	15-Fe02801	Feb 02, 2015	Approximate Sample 736g Sample consisted of: Brown fine-grained clayey soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No respirable fibres detected. ^{M11}

Client Sample ID	Eurofins mgt Sample No.	Date Sampled	Sample Description	Result
RAQ043-0-1	15-Fe02802	Feb 02, 2015	Approximate Sample 632g Sample consisted of: Brown fine-grained clayey soil and rocks	FA: Chrysotile, amosite and crocidolite asbestos detected in weathered fibre cement fragments. Raw weight of FA = 0.0060g Estimated asbestos content in FA = 0.0042g AF: Chrysotile and amosite asbestos detected in the form of loose fibre bundles. Approximate raw weight of AF = 0.0150g Estimated asbestos content in AF = 0.0150g Total estimated asbestos content in FA and AF = 0.0192g Total estimated asbestos concentration in FA and AF = 0.0030% w/w* Organic fibre detected.^{M11}
RAQ044-0-1	15-Fe02803	Feb 02, 2015	Approximate Sample 705g Sample consisted of: Brown fine-grained clayey soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No respirable fibres detected.^{M11}
RAQ045-0-1	15-Fe02804	Jan 30, 2015	Approximate Sample 608g Sample consisted of: Brown fine-grained clayey soil and rocks	ACM: Chrysotile and amosite asbestos detected in fibre cement fragments. Raw weight of ACM = 17.8000g Total estimated asbestos content in ACM = 2.6700g Total estimated asbestos concentration in ACM = 0.4395% w/w FA: Chrysotile, amosite and crocidolite asbestos detected in weathered fibre cement fragments. Amosite asbestos detected in the form of matted fibre bundles. Approximate raw weight of FA = 0.3078g Estimated asbestos content in FA = 0.2462g AF: Chrysotile and amosite asbestos detected in the form of loose fibre bundles. Approximate raw weight of AF = 0.0242g Estimated asbestos content in AF = 0.0242g Total estimated asbestos content in FA and AF = 0.2704g Total estimated asbestos concentration in FA and AF = 0.0445% w/w Organic fibre detected.^{M11}

Client Sample ID	Eurofins mgt Sample No.	Date Sampled	Sample Description	Result
RAQ046-0-1	15-Fe02805	Jan 30, 2015	Approximate Sample 661g Sample consisted of: Brown fine-grained clayey soil and rocks	ACM: Chrysotile, amosite and crocidolite asbestos detected in fibre cement fragments. Raw weight of ACM = 21.6942g Total estimated asbestos content in ACM = 3.2541g Total estimated asbestos concentration in ACM = 0.4926% w/w FA: Chrysotile, amosite and crocidolite asbestos detected in weathered fibre cement fragments. Chrysotile and amosite asbestos detected in insulation-like fragments. Approximate raw weight of FA = 1.5578g Estimated asbestos content in FA = 0.9347g AF: Chrysotile, amosite and crocidolite asbestos detected in the form of loose fibre bundles. Approximate raw weight of AF = 0.3187g Estimated asbestos content in AF = 0.3187g Total estimated asbestos content in FA and AF = 1.2534g Total estimated asbestos concentration in FA and AF = 0.1897% w/w Organic fibre detected.^{M11}

Client Sample ID	Eurofins mgt Sample No.	Date Sampled	Sample Description	Result
RAQ046-1-2	15-Fe02806	Jan 30, 2015	Approximate Sample 418g Sample consisted of: Brown fine-grained clayey soil and rocks	ACM: Chrysotile, amosite and crocidolite asbestos detected in fibre cement fragments. Raw weight of ACM = 10.1700g Total estimated asbestos content in ACM = 1.5255g Total estimated asbestos concentration in ACM = 0.3651% w/w FA: Chrysotile, amosite and crocidolite asbestos detected in weathered fibre cement fragments. Chrysotile and amosite asbestos detected in insulation-like fragments. Approximate raw weight of FA = 0.4309g Estimated asbestos content in FA = 0.2585g AF: Chrysotile, amosite and crocidolite asbestos detected in the form of loose fibre bundles. Approximate raw weight of AF = 0.2036g Estimated asbestos content in AF = 0.2036g Total estimated asbestos content in FA and AF = 0.4621g Total estimated asbestos concentration in FA and AF = 0.1106% w/w Organic fibre detected.^{M11}

Client Sample ID	Eurofins mgt Sample No.	Date Sampled	Sample Description	Result
RAQ047-0-1	15-Fe02807	Jan 30, 2015	Approximate Sample 627g Sample consisted of: Brown fine-grained clayey soil and rocks	ACM: Chrysotile, amosite and crocidolite asbestos detected in fibre cement fragments. Raw weight of ACM = 6.6539g Total estimated asbestos content in ACM = 0.9981g Total estimated asbestos concentration in ACM = 0.1592% w/w FA: Chrysotile, amosite and crocidolite asbestos detected in weathered fibre cement fragments. Chrysotile and amosite asbestos detected in insulation-like fragments. Approximate raw weight of FA = 5.1770g Estimated asbestos content in FA = 3.1062g AF: Chrysotile, amosite and crocidolite asbestos detected in fibre cement fragments and in the form of loose fibre bundles. Approximate raw weight of AF = 0.6021g Estimated asbestos content in AF = 0.4215g Total estimated asbestos content in FA and AF = 3.5277g Total estimated asbestos concentration in FA and AF = 0.5628% w/w Organic fibre detected.^{M11}

Client Sample ID	Eurofins mgt Sample No.	Date Sampled	Sample Description	Result
RAQ047-1-2	15-Fe02808	Jan 30, 2015	Approximate Sample 588g Sample consisted of: Brown fine-grained clayey soil and rocks	ACM: Chrysotile, amosite and crocidolite asbestos detected in fibre cement fragments. Raw weight of ACM = 24.6604g Total estimated asbestos content in ACM = 3.6991g Total estimated asbestos concentration in ACM = 0.6293% w/w FA: Chrysotile, amosite and crocidolite asbestos detected in weathered fibre cement fragments. Chrysotile and amosite asbestos detected in insulation-like fragments. Approximate raw weight of FA = 0.2400g Estimated asbestos content in FA = 0.1440g AF: Chrysotile, amosite and crocidolite asbestos detected in the form of loose fibre bundles. Approximate raw weight of AF = 0.2815g Estimated asbestos content in AF = 0.2815g Total estimated asbestos content in FA and AF = 0.4255g Total estimated asbestos concentration in FA and AF = 0.0724% w/w Organic fibre detected.^{M11}

Client Sample ID	Eurofins mgt Sample No.	Date Sampled	Sample Description	Result
RAQ048-0-1	15-Fe02809	Jan 30, 2015	Approximate Sample 573g Sample consisted of: Brown fine-grained clayey soil and rocks	ACM: Chrysotile, amosite and crocidolite asbestos detected in fibre cement fragments. Raw weight of ACM = 11.9801g Total estimated asbestos content in ACM = 1.7970g Total estimated asbestos concentration in ACM = 0.3138% w/w FA: Chrysotile, amosite and crocidolite asbestos detected in weathered fibre cement fragments. Chrysotile and amosite asbestos detected in insulation-like fragments. Approximate raw weight of FA = 3.6970g Estimated asbestos content in FA = 2.2182g AF: Chrysotile, amosite and crocidolite asbestos detected in the form of loose fibre bundles. Approximate raw weight of AF = 0.2840g Estimated asbestos content in AF = 0.2840g Total estimated asbestos content in FA and AF = 2.5022g Total estimated asbestos concentration in FA and AF = 0.4370% w/w Organic fibre detected.^{M11}

Client Sample ID	Eurofins mgt Sample No.	Date Sampled	Sample Description	Result
RAQ048-1-2	15-Fe02810	Jan 30, 2015	Approximate Sample 689g Sample consisted of: Brown fine-grained clayey soil and rocks	ACM: Chrysotile, amosite and crocidolite asbestos detected in fibre cement fragments. Raw weight of ACM = 20.3682g Total estimated asbestos content in ACM = 3.0552g Total estimated asbestos concentration in ACM = 0.4432% w/w FA: Chrysotile, amosite and crocidolite asbestos detected in weathered fibre cement fragments. Chrysotile and amosite asbestos detected in insulation-like fragments. Approximate raw weight of FA = 1.2561g Estimated asbestos content in FA = 0.7537g AF: Chrysotile, amosite and crocidolite asbestos detected in the form of loose fibre bundles. Approximate raw weight of AF = 0.3339g Estimated asbestos content in AF = 0.3339g Total estimated asbestos content in FA and AF = 1.0876g Total estimated asbestos concentration in FA and AF = 0.1578% w/w Organic fibre detected.^{M11}

Client Sample ID	Eurofins mgt Sample No.	Date Sampled	Sample Description	Result
RAQ049-0-1	15-Fe02811	Jan 30, 2015	Approximate Sample 611g Sample consisted of: Brown fine-grained clayey soil and rocks	ACM: Chrysotile, amosite and crocidolite asbestos detected in fibre cement fragments. Raw weight of ACM = 42.2642g Total estimated asbestos content in ACM = 6.3396g Total estimated asbestos concentration in ACM = 1.0376% w/w FA: Chrysotile, amosite and crocidolite asbestos detected in weathered fibre cement fragments. Chrysotile and amosite asbestos detected in insulation-like fragments. Approximate raw weight of FA = 1.0232g Estimated asbestos content in FA = 0.6139g AF: Chrysotile, amosite and crocidolite asbestos detected in the form of loose fibre bundles. Approximate raw weight of AF = 0.2839g Estimated asbestos content in AF = 0.2839g Total estimated asbestos content in FA and AF = 0.8978g Total estimated asbestos concentration in FA and AF = 0.1469% w/w Organic fibre detected.^{M11}
RAQ050-0-1	15-Fe02812	Jan 30, 2015	Approximate Sample 789g Sample consisted of: Brown fine-grained clayey soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No respirable fibres detected.^{M11}
RAQ050-1-2	15-Fe02813	Jan 30, 2015	Approximate Sample 728g Sample consisted of: Brown fine-grained clayey soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No respirable fibres detected.^{M11}

Client Sample ID	Eurofins mgt Sample No.	Date Sampled	Sample Description	Result
RAQ051-0-1	15-Fe02814	Jan 30, 2015	Approximate Sample 703g Sample consisted of: Brown fine-grained clayey soil and rocks	FA: Chrysotile, amosite and crocidolite asbestos detected in weathered fibre cement fragments. Approximate raw weight of FA = 0.2586g Estimated asbestos content in FA = 0.0776g AF: Chrysotile, amosite and crocidolite asbestos detected in the form of loose fibre bundles. Approximate raw weight of AF = 0.0281g Estimated asbestos content in AF = 0.0281g Total estimated asbestos content in FA and AF = 0.1057g Total estimated asbestos concentration in FA and AF = 0.0150% w/w Organic fibre detected.^{M11}
RAQ052-0-1	15-Fe02815	Jan 30, 2015	Approximate Sample 680g Sample consisted of: Brown fine-grained clayey soil and rocks	ACM: Chrysotile, amosite and crocidolite asbestos detected in fibre cement fragments. Raw weight of ACM = 0.3853g Total estimated asbestos content in ACM = 0.0578g Total estimated asbestos concentration in ACM = 0.0085% w/w* No asbestos detected at the reporting limit of 0.01% w/w. FA: Chrysotile, amosite and crocidolite asbestos detected in weathered fibre cement fragments. Approximate raw weight of FA = 0.3368g Estimated asbestos content in FA = 0.1684g AF: Chrysotile, amosite and crocidolite asbestos detected in the form of loose fibre bundles. Approximate raw weight of AF = 0.0103g Estimated asbestos content in AF = 0.0103g Total estimated asbestos content in FA and AF = 0.1787g Total estimated asbestos concentration in FA and AF = 0.0263% w/w Organic fibre detected.^{M11}

Client Sample ID	Eurofins mgt Sample No.	Date Sampled	Sample Description	Result
RAQ053-0-1	15-Fe02816	Jan 30, 2015	Approximate Sample 515g Sample consisted of: Brown fine-grained clayey soil and rocks	FA: Chrysotile, amosite and crocidolite asbestos detected in weathered fibre cement fragments. Approximate raw weight of FA = 0.1420g Estimated asbestos content in FA = 0.0710g AF: Chrysotile, amosite and crocidolite asbestos detected in the form of loose fibre bundles. Approximate raw weight of AF = 0.0020g Estimated asbestos content in AF = 0.0020g Total estimated asbestos content in FA and AF = 0.0730g Total estimated asbestos concentration in FA and AF = 0.0142% w/w Organic fibre detected.^{M11}
RAQ053-1-2	15-Fe02817	Jan 30, 2015	Approximate Sample 703g Sample consisted of: Brown fine-grained clayey soil and rocks	FA: Chrysotile, amosite and crocidolite asbestos detected in weathered fibre cement fragments. Amosite asbestos detected in insulation-like fragments. Approximate raw weight of FA = 0.0026g Estimated asbestos content in FA = 0.0018g AF: Chrysotile, amosite and crocidolite asbestos detected in the form of loose fibre bundles. Approximate raw weight of AF = 0.0005g Estimated asbestos content in AF = 0.0005g Total estimated asbestos content in FA and AF = 0.0023g Total estimated asbestos concentration in FA and AF = 0.0003% w/w* No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected.^{M11}

Client Sample ID	Eurofins mgt Sample No.	Date Sampled	Sample Description	Result
RAQ054-0-1	15-Fe02818	Jan 30, 2015	Approximate Sample 505g Sample consisted of: Brown fine-grained clayey soil and rocks	FA: Chrysotile, amosite and crocidolite asbestos detected in weathered fibre cement fragments. Approximate raw weight of FA = 0.0252g Estimated asbestos content in FA = 0.0151g AF: Chrysotile, amosite and crocidolite asbestos detected in the form of loose fibre bundles. Approximate raw weight of AF = 0.0056g Estimated asbestos content in AF = 0.0056g Total estimated asbestos content in FA and AF = 0.0207g Total estimated asbestos concentration in FA and AF = 0.0041% w/w* Organic fibre detected.^{M11}
RAQ054-1-2	15-Fe02819	Feb 03, 2015	Approximate Sample 633g Sample consisted of: Brown fine-grained clayey soil and rocks	FA: Chrysotile, amosite and crocidolite asbestos detected in weathered fibre cement fragments. Approximate raw weight of FA = 0.0209g Estimated asbestos content in FA = 0.0125g AF: Chrysotile and amosite asbestos detected in the form of loose fibre bundles. Approximate raw weight of AF = 0.0344g Estimated asbestos content in AF = 0.0344g Total estimated asbestos content in FA and AF = 0.0469g Total estimated asbestos concentration in FA and AF = 0.0074% w/w* Organic fibre detected.^{M11}
RAQ055-0-1	15-Fe02820	Feb 03, 2015	Approximate Sample 626g Sample consisted of: Brown fine-grained clayey soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No respirable fibres detected.^{M11}

Client Sample ID	Eurofins mgt Sample No.	Date Sampled	Sample Description	Result
RAQ055-1-2	15-Fe02821	Feb 03, 2015	Approximate Sample 776g Sample consisted of: Brown fine-grained clayey soil and rocks	FA: Chrysotile, amosite and crocidolite asbestos detected in weathered fibre cement fragments. Approximate raw weight of FA = 0.0170g Estimated asbestos content in FA = 0.0119g AF: Chrysotile, amosite and crocidolite asbestos detected in the form of loose fibre bundles. Approximate raw weight of AF = 0.0502g Estimated asbestos content in AF = 0.0502g Total estimated asbestos content in FA and AF = 0.0621g Total estimated asbestos concentration in FA and AF = 0.0080% w/w* Organic fibre detected. ^{M11}
RAQ056-0-1	15-Fe02822	Feb 04, 2015	Approximate Sample 735g Sample consisted of: Brown fine-grained clayey soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No respirable fibres detected. ^{M11}
RAQ057-0-1	15-Fe02823	Feb 04, 2015	Approximate Sample 1538g Sample consisted of: Brown fine-grained clayey soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No respirable fibres detected. ^{M11}
RAQ058-0-1	15-Fe02824	Feb 04, 2015	Approximate Sample 481g Sample consisted of: Brown fine-grained clayey soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No respirable fibres detected. ^{M11}
RAQ059-0-1	15-Fe02825	Feb 04, 2015	Approximate Sample 626g Sample consisted of: Brown fine-grained clayey soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No respirable fibres detected. ^{M11}
RAQ060-0-1	15-Fe02826	Feb 04, 2015	Approximate Sample 510g Sample consisted of: Brown fine-grained clayey soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No respirable fibres detected. ^{M11}
QC01	15-Fe02827	Feb 04, 2015	Approximate Sample 712g Sample consisted of: Brown fine-grained clayey soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No respirable fibres detected. ^{M11}
QC02	15-Fe02828	Feb 04, 2015	Approximate Sample 486g Sample consisted of: Brown fine-grained clayey soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No respirable fibres detected. ^{M11}

Sample History

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

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

Description	Testing Site	Extracted	Holding Time
Asbestos – LTM-ASB-8020	Sydney	Feb 05, 2015	Indefinite

Company Name: JBS & G Australia (NSW & WA) P/L
Address: Level 1, 50 Margaret St
Sydney
NSW 2000
Project Name: 50369

Order No.:
Report #: 446405
Phone: 02 8245 0300
Fax:

Received: Feb 4, 2015 5:25 PM
Due: Feb 25, 2015
Priority: 15 Day
Contact Name: Mitch Hodgins

Eurofins | mgt Client Manager: Charl Du Preez

Sample Detail					Asbestos - WA guidelines
Laboratory where analysis is conducted					
Melbourne Laboratory - NATA Site # 1254 & 14271					
Sydney Laboratory - NATA Site # 18217					X
Brisbane Laboratory - NATA Site # 20794					
External Laboratory					
Sample ID	Sample Date	Sampling Time	Matrix	LAB ID	
RAQ002-1-2	Jan 29, 2015		Soil	S15-Fe02692	X
RAQ002-2-3	Jan 29, 2015		Soil	S15-Fe02693	X
RAQ003-0-1	Jan 29, 2015		Soil	S15-Fe02694	X
RAQ003-1-2	Jan 29, 2015		Soil	S15-Fe02695	X
RAQ004-0-1	Jan 29, 2015		Soil	S15-Fe02696	X
RAQ004-1-2	Jan 29, 2015		Soil	S15-Fe02697	X
RAQ005-0-1	Jan 29, 2015		Soil	S15-Fe02698	X
RAQ006-0-1	Jan 29, 2015		Soil	S15-Fe02699	X
RAQ006-1-2	Jan 29, 2015		Soil	S15-Fe02700	X
RAQ007-0-1	Jan 29, 2015		Soil	S15-Fe02701	X

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Laboratory where analysis is conducted					
Melbourne Laboratory - NATA Site # 1254 & 14271					
Sydney Laboratory - NATA Site # 18217					X
Brisbane Laboratory - NATA Site # 20794					
External Laboratory					
RAQ008-0-1	Jan 29, 2015		Soil	S15-Fe02702	X
RAQ009-0-1	Jan 29, 2015		Soil	S15-Fe02703	X
RAQ009-1-2	Jan 29, 2015		Soil	S15-Fe02704	X
RAQ009-2-3	Jan 29, 2015		Soil	S15-Fe02705	X
RAQ010_0-1	Jan 29, 2015		Soil	S15-Fe02706	X
RAQ010-1-2	Jan 29, 2015		Soil	S15-Fe02707	X
RAQ010-2-3	Jan 29, 2015		Soil	S15-Fe02708	X
RAQ011-0-1	Jan 29, 2015		Soil	S15-Fe02709	X
RAQ011-1-2	Jan 29, 2015		Soil	S15-Fe02710	X
RAQ012-0-1	Jan 29, 2015		Soil	S15-Fe02711	X
RAQ012-1-2	Jan 29, 2015		Soil	S15-Fe02712	X

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Sydney Laboratory - NATA Site # 18217					X
Brisbane Laboratory - NATA Site # 20794					
External Laboratory					
RAQ012-2-3	Jan 29, 2015		Soil	S15-Fe02713	X
RAQ013-0-1	Jan 29, 2015		Soil	S15-Fe02714	X
RAQ014-0-1	Jan 29, 2015		Soil	S15-Fe02715	X
RAQ014-1-2	Jan 29, 2015		Soil	S15-Fe02716	X
RAQ014-2-3	Jan 29, 2015		Soil	S15-Fe02717	X
RAQ015-0-1	Jan 29, 2015		Soil	S15-Fe02718	X
RAQ015-1-2	Jan 29, 2015		Soil	S15-Fe02719	X
RAQ015-2-3	Jan 29, 2015		Soil	S15-Fe02720	X
RAQ016-0-1	Jan 29, 2015		Soil	S15-Fe02721	X
RAQ017-0-1	Jan 29, 2015		Soil	S15-Fe02722	X
RAQ018-0-1	Feb 03, 2015		Soil	S15-Fe02723	X

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Laboratory where analysis is conducted					
Melbourne Laboratory - NATA Site # 1254 & 14271					
Sydney Laboratory - NATA Site # 18217					X
Brisbane Laboratory - NATA Site # 20794					
External Laboratory					
RAQ019-0-1	Feb 03, 2015		Soil	S15-Fe02724	X
RAQ020-0-1	Feb 03, 2015		Soil	S15-Fe02725	X
RAQ021-0-1	Feb 03, 2015		Soil	S15-Fe02726	X
RAQ022-0-1	Feb 03, 2015		Soil	S15-Fe02727	X
RAQ023-0-1	Feb 03, 2015		Soil	S15-Fe02728	X
RAQ024-0-1	Feb 03, 2015		Soil	S15-Fe02729	X
RAQ025-0-1	Feb 03, 2015		Soil	S15-Fe02730	X
RAQ026-0-1	Feb 03, 2015		Soil	S15-Fe02731	X
RAQ027-0-1	Feb 03, 2015		Soil	S15-Fe02732	X
RAQ028-0-1	Feb 03, 2015		Soil	S15-Fe02733	X
RAQ029-0-1	Feb 03, 2015		Soil	S15-Fe02734	X

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Laboratory where analysis is conducted					
Melbourne Laboratory - NATA Site # 1254 & 14271					
Sydney Laboratory - NATA Site # 18217					X
Brisbane Laboratory - NATA Site # 20794					
External Laboratory					
RAQ030-0-1	Feb 03, 2015		Soil	S15-Fe02735	X
RAQ031-0-1	Feb 03, 2015		Soil	S15-Fe02736	X
RAQ032-0-1	Feb 03, 2015		Soil	S15-Fe02788	X
RAQ032-1-2	Feb 03, 2015		Soil	S15-Fe02789	X
RAQ033-0-1	Feb 03, 2015		Soil	S15-Fe02790	X
RAQ033-1-2	Feb 03, 2015		Soil	S15-Fe02791	X
RAQ034-0-1	Feb 03, 2015		Soil	S15-Fe02792	X
RAQ034-1-2	Feb 03, 2015		Soil	S15-Fe02793	X
RAQ035-0-1	Feb 03, 2015		Soil	S15-Fe02794	X
RAQ036-0-1	Jan 31, 2015		Soil	S15-Fe02795	X
RAQ037-0-1	Feb 02, 2015		Soil	S15-Fe02796	X

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Laboratory where analysis is conducted					
Melbourne Laboratory - NATA Site # 1254 & 14271					
Sydney Laboratory - NATA Site # 18217					X
Brisbane Laboratory - NATA Site # 20794					
External Laboratory					
RAQ038-0-1	Feb 02, 2015		Soil	S15-Fe02797	X
RAQ039-0-1	Feb 02, 2015		Soil	S15-Fe02798	X
RAQ040-0-1	Feb 02, 2015		Soil	S15-Fe02799	X
RAQ041-0-1	Feb 02, 2015		Soil	S15-Fe02800	X
RAQ042-0-1	Feb 02, 2015		Soil	S15-Fe02801	X
RAQ043-0-1	Feb 02, 2015		Soil	S15-Fe02802	X
RAQ044-0-1	Feb 02, 2015		Soil	S15-Fe02803	X
RAQ045-0-1	Jan 30, 2015		Soil	S15-Fe02804	X
RAQ046-0-1	Jan 30, 2015		Soil	S15-Fe02805	X
RAQ046-1-2	Jan 30, 2015		Soil	S15-Fe02806	X
RAQ047-0-1	Jan 30, 2015		Soil	S15-Fe02807	X

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Sample Detail					Asbestos - WA guidelines
Laboratory where analysis is conducted					
Melbourne Laboratory - NATA Site # 1254 & 14271					
Sydney Laboratory - NATA Site # 18217					X
Brisbane Laboratory - NATA Site # 20794					
External Laboratory					
RAQ047-1-2	Jan 30, 2015		Soil	S15-Fe02808	X
RAQ048-0-1	Jan 30, 2015		Soil	S15-Fe02809	X
RAQ048-1-2	Jan 30, 2015		Soil	S15-Fe02810	X
RAQ049-0-1	Jan 30, 2015		Soil	S15-Fe02811	X
RAQ050-0-1	Jan 30, 2015		Soil	S15-Fe02812	X
RAQ050-1-2	Jan 30, 2015		Soil	S15-Fe02813	X
RAQ051-0-1	Jan 30, 2015		Soil	S15-Fe02814	X
RAQ052-0-1	Jan 30, 2015		Soil	S15-Fe02815	X
RAQ053-0-1	Jan 30, 2015		Soil	S15-Fe02816	X
RAQ053-1-2	Jan 30, 2015		Soil	S15-Fe02817	X
RAQ054-0-1	Jan 30, 2015		Soil	S15-Fe02818	X

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Due: Feb 25, 2015
Priority: 15 Day
Contact Name: Mitch Hodgins

Eurofins | mgt Client Manager: Charl Du Preez

Sample Detail					Asbestos - WA guidelines
Laboratory where analysis is conducted					
Melbourne Laboratory - NATA Site # 1254 & 14271					
Sydney Laboratory - NATA Site # 18217					X
Brisbane Laboratory - NATA Site # 20794					
External Laboratory					
RAQ054-1-2	Feb 03, 2015		Soil	S15-Fe02819	X
RAQ055-0-1	Feb 03, 2015		Soil	S15-Fe02820	X
RAQ055-1-2	Feb 03, 2015		Soil	S15-Fe02821	X
RAQ056-0-1	Feb 04, 2015		Soil	S15-Fe02822	X
RAQ057-0-1	Feb 04, 2015		Soil	S15-Fe02823	X
RAQ058-0-1	Feb 04, 2015		Soil	S15-Fe02824	X
RAQ059-0-1	Feb 04, 2015		Soil	S15-Fe02825	X
RAQ060-0-1	Feb 04, 2015		Soil	S15-Fe02826	X
QC01	Feb 04, 2015		Soil	S15-Fe02827	X
QC02	Feb 04, 2015		Soil	S15-Fe02828	X

Eurofins | mgt Internal Quality Control Review and Glossary

General

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

Holding Times

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

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

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

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

UNITS

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

TERMS

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

Comments

Sample Integrity

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

Qualifier Codes/Comments

Code	Description
N/A	Not applicable
M11	NATA accreditation does not cover the performance of this service.

Authorised by:

Nibha Vaidya

Senior Analyst-Asbestos (NSW)



Glenn Jackson
National Laboratory Manager

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

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

Uncertainty data is available on request

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04526

JBS&G
#446405

PROJECT NO.: 50369					LABORATORY BATCH NO.:														
PROJECT NAME:					SAMPLERS: MMURRAY + N BROT														
SEND REPORT TO: MHODGINS					SEND INVOICE TO: ADMIN@JBSG.COM.AU					PHONE: SYDNEY 02 8245 0300 - PERTH 08 9488 0100					EMAIL: MHODGINS@JBSG.COM.AU				
DATE NEEDED BY: STANDARD TAT					QC LEVEL: NEPM (2013)														
COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:																			
A Warning: Some bags highly friable																			
SAMPLE ID		MATRIX	DATE	TIME	TYPE & PRESERVATIVE	pH	NOTES:												
RAQ002, 1-2		SOIL	29/1		BAG														
RAQ002, 2-3																			
RAQ003, 0-1																			
RAQ003, 1-2																			
RAQ004, 0-1																			
RAQ004, 1-2																			
RAQ005, 0-1																			
RAQ006, 0-1																			
RAQ006, 1-2																			
RAQ007, 0-1																			
RAQ008, 0-1																			
RAQ009, 0-1																			
RAQ009, 1-2																			
RAQ009, 2-3																			
RAQ010, 0-1																			
RAQ010, 1-2																			
RAQ010, 2-3																			
RAQ011, 0-1																			
RAQ011, 1-2																			
RELINQUISHED BY:					METHOD OF SHIPMENT:					RECEIVED BY:					FOR RECEIVING LAB USE ONLY:				
NAME: 4/2/15					DATE: MFL					NAME:					DATE:				
OF: JBS&G					TRANSPORT CO.					OF:					COOLER SEAL - Yes..... No Intact Broken				
NAME:					DATE:					NAME:					DATE:				
OF:					TRANSPORT CO.					OF:					COOLER SEAL - Yes..... No Intact Broken				
															COOLER TEMP deg C				

04 FEB 2015 17:25

Jasmine

04527

CHAIN OF CUSTODY



#446405

PROJECT NO.: 56369					LABORATORY BATCH NO.:																																																																																																																																																							
PROJECT NAME:					SAMPLERS: MM + NB																																																																																																																																																							
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<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:15%;">SAMPLE ID</th> <th style="width:10%;">MATRIX</th> <th style="width:10%;">DATE</th> <th style="width:10%;">TIME</th> <th style="width:25%;">TYPE & PRESERVATIVE</th> <th style="width:5%;">pH</th> <th style="width:15%;">ASAP (WA)</th> <th style="width:10%;">NOTES:</th> </tr> </thead> <tbody> <tr> <td>RAQ-12, 0-1</td> <td>MM/HS.1</td> <td>29/1</td> <td></td> <td>BAG</td> <td></td> <td rowspan="15" style="text-align: center; vertical-align: middle;">↓</td> <td></td> </tr> <tr><td>RAQ 12, 1-2</td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>RAQ 12, 2-3</td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>RAQ 13, 0-1</td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>RAQ 14, 0-1</td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>RAQ 14, 1-2</td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>RAQ 14, 2-3</td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>RAQ 15, 0-1</td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>RAQ 15, 1-2</td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>RAQ 15, 2-3</td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>RAQ 16, 0-1</td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>RAQ 17, 0-1</td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>RAQ 18, 0-1</td><td></td><td>3/2/15</td><td></td><td></td><td></td><td></td></tr> <tr><td>RAQ 19, 0-1</td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>RAQ 20, 0-1</td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>RAQ 21, 0-1</td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>RAQ 22, 0-1</td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>RAQ 23, 0-1</td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>RAQ 24, 0-1</td><td></td><td></td><td></td><td></td><td></td><td></td></tr> </tbody> </table>															SAMPLE ID	MATRIX	DATE	TIME	TYPE & PRESERVATIVE	pH	ASAP (WA)	NOTES:	RAQ-12, 0-1	MM/HS.1	29/1		BAG		↓		RAQ 12, 1-2							RAQ 12, 2-3							RAQ 13, 0-1							RAQ 14, 0-1							RAQ 14, 1-2							RAQ 14, 2-3							RAQ 15, 0-1							RAQ 15, 1-2							RAQ 15, 2-3							RAQ 16, 0-1							RAQ 17, 0-1							RAQ 18, 0-1		3/2/15					RAQ 19, 0-1							RAQ 20, 0-1							RAQ 21, 0-1							RAQ 22, 0-1							RAQ 23, 0-1							RAQ 24, 0-1						
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Container & Preservative Codes: P = Plastic; J = Soda Jar; B = Glass Bottle; N = Nitric Acid Presv.; C = Sodium Hydroxide Presv.; VC = Hydrochloric Acid Presv Vial; VS = Sulfuric Acid Presv Vial; S = Sulfuric Acid Presv; Z = Zinc Presv; E = EDTA Presv; ST = Sterile Bottle; O = Other

JMSD Form 013 - Chain of Custody - General

04 FEB 2015 17:25

Jasmine

04528

CHAIN OF CUSTODY



446405

PROJECT NO.: 50369						LABORATORY BATCH NO.:											
PROJECT NAME:						SAMPLERS: MM + NB											
SEND REPORT TO: M HODGINS						PHONE: SYDNEY 02 8245 0300 - PERTH 08 9488 0100 EMAIL: MHODGINS@JBS&G.COM.AU											
DATE NEEDED BY: STANDARD TAT						QC LEVEL: NEPM (2013)											
COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:																	
SAMPLE ID						MATRIX	DATE	TIME	TYPE & PRESERVATIVE	pH	NOTES:						
RAQ 25, 0-1						3/2/15	Soil		BAG								
RAQ 26, 0-1																	
RAQ 27, 0-1																	
RAQ 28, 0-1																	
RAQ 29, 0-1																	
RAQ 30, 0-1																	
RAQ 31, 0-1						3/2/15											
RAQ 32, 0-1						31/1/15											
RAQ 32, 1-2																	
RAQ 33, 0-1																	
RAQ 33, 1-2																	
RAQ 34, 0-1																	
RAQ 34, 1-2																	
RAQ 35, 0-1																	
RAQ 36, 0-1						31/1/15											
RAQ 37, 0-1						2/2/15											
RAQ 38, 0-1																	
RAQ 39, 0-1																	
RAQ 40, 0-1																	
RELINQUISHED BY:						METHOD OF SHIPMENT:				RECEIVED BY:				FOR RECEIVING LAB USE ONLY:			
NAME: MM DATE: 4/2/15						CONSIGNMENT NOTE NO.				NAME:				COOLER SEAL - Yes..... No Intact Broken			
OF: JBS&G						TRANSPORT CO.				DATE:				COOLER TEMP deg C			
NAME:						CONSIGNMENT NOTE NO.				NAME:				COOLER SEAL - Yes..... No Intact Broken			
DATE:						TRANSPORT CO.				DATE:				COOLER TEMP deg C			
OF:																	
Container & Preservative Codes: P = Plastic; J = Soil Jar; B = Glass Bottle; N = Nitric Acid Prsvd.; C = Sodium Hydroxide Prsvd; VC = Hydrochloric Acid Prsvd Vial; VS = Sulfuric Acid Prsvd Vial; S = Sulfuric Acid Prsvd; Z = Zinc Prsvd; E = EDTA Prsvd; ST = Sterile Bottle; O = Other																	

04 FEB 2015 17:25

04529

CHAIN OF CUSTODY



PROJECT NO.: 50369					LABORATORY BATCH NO.:					
PROJECT NAME:					SAMPLERS: MM + NB					
SEND REPORT TO: M HODGINS					SEND INVOICE TO: ADMIN@JBS6.COM.AU					
DATE NEEDED BY: STANDARD TAT					PHONE: SYDNEY 02 8245 0300 – PERTH 08 9488 0100 EMAIL: M.HODGINS@JBS6.COM.AU					
COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:					QC LEVEL: NEPM (2013)					
Warning: Some bags are highly friable ASBESTOS / WA										
SAMPLE ID	MATRIX	DATE	TIME	TYPE & PRESERVATIVE	pH					NOTES:
RAQ 41, 0-1	Soil	2/2/15		BAG						
RAQ 42, 0-1										
RAQ 43, 0-1										
RAQ 44, 0-1										
RAQ 45, 0-1		30/1/15								
RAQ 46, 0-1										
RAQ 46, 1-2										
RAQ 47, 0-1										
RAQ 47, 1-2										
RAQ 48, 0-1										
RAQ 48, 1-2										
RAQ 49, 0-1										
RAQ 50, 0-1										
RAQ 50, 1-2										
RAQ 51, 0-1										
RAQ 52, 0-1										
RAQ 53, 0-1										
RAQ 53, 1-2										
RAQ 54, 0-1										
RELINQUISHED BY:					METHOD OF SHIPMENT:					
NAME: MM DATE: 4/2/15					CONSIGNMENT NOTE NO.					
OF: JBS&G					TRANSPORT CO.					
NAME:					CONSIGNMENT NOTE NO.					
OF:					TRANSPORT CO.					
					RECEIVED BY:					
					NAME:					
					DATE:					
					OF:					
					NAME:					
					DATE:					
					OF:					
					FOR RECEIVING LAB USE ONLY:					
					COOLER SEAL – Yes..... No Intact Broken					
					COOLER TEMP deg C					
					COOLER SEAL – Yes..... No Intact Broken					
					COOLER TEMP deg C					

Container & Preservative Codes: P = Plastic; J = Soil Jar; B = Glass Bottle; N = Nitric Acid Prsvd.; C = Sodium Hydroxide Prsvd; VC = Hydrochloric Acid Prsvd Vial; VS = Sulfuric Acid Prsvd Vial; S = Sulfuric Acid Prsvd; Z = Zinc Prsvd; E = EDTA Prsvd; ST = Sterile Bottle; O = Other

IMSO Forms 013 – Chain of Custody – Generic

04 FEB 2015 17:25

Jbsmre

04530

CHAIN OF CUSTODY



#446905

PROJECT NO.: 50369					LABORATORY BATCH NO.:				
PROJECT NAME: 1					SAMPLERS: MM + NB				
SEND REPORT TO: M HODGINS					PHONE: SYDNEY 02 8245 0300 - PERTH 08 9488 0100				
DATE NEEDED BY: STANDARD TAT					EMAIL: M.HODGINS@JBSG.COM.AU				
COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:					QC LEVEL: NEPM (2013)				
SEND INVOICE TO: ADMIN@JBSG.COM.AU									
ASBESTOS									
RAQ 54, 1-2									
RAQ 55, 0-1									
RAQ 55, 1-2									
RAQ 56, 0-1									
RAQ 57, 0-1									
RAQ 58, 0-1									
RAQ 59, 0-1									
RAQ 60, 0-1									
QCO1									
QCO2									
SOIL									
SOIL									
BAG									
BAG									
DATE: 3/2/15									
DATE: 4/2/15									
TIME:									
TYPE & PRESERVATIVE									
pH									
NOTES:									
RECEIVED BY:					FOR RECEIVING LAB USE ONLY:				
NAME: MM					COOLER SEAL - Yes..... No Intact Broken				
DATE: 4/2/15					COOLER TEMP deg C				
OF: JBS&G					COOLER SEAL - Yes..... No Intact Broken				
NAME:					COOLER TEMP deg C				
DATE:									
OF:									
METHOD OF SHIPMENT:									
CONSIGNMENT NOTE NO.									
TRANSPORT CO.									
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TRANSPORT CO.									
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04 FEB 2015 17:25

U.S. Marine

Sample Receipt Advice

Company name: **JBS & G Australia (NSW & WA) P/L**

Contact name: **Mitch Hodgins**

Project name: **50369**

COC number: **04526-04530**

Turn around time: **5 Day**

Date/Time received: **Feb 4, 2015 5:25 PM**

Eurofins | mgt reference: **446405**

Sample information

- ☒ A detailed list of analytes logged into our LIMS, is included in the attached summary table.
- ☒ Sample Temperature of a random sample selected from the batch as recorded by Eurofins | mgt
Sample Receipt : 18 degrees Celsius.
- ☒ All samples have been received as described on the above COC.
- ☒ COC has been completed correctly.
- ☒ Attempt to chill was evident.
- ☒ Appropriately preserved sample containers have been used.
- ☒ All samples were received in good condition.
- ☒ Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.
- ☒ Appropriate sample containers have been used.
- ☒ Some samples have been subcontracted.
- N/A Custody Seals intact (if used).

Contact notes

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

Charl Du Preez on Phone : or by e.mail: charldupreez@eurofins.com.au

Results will be delivered electronically via e.mail to Mitch Hodgins - mhodgins@jbsg.com.au.

Certificate of Analysis



NATA Accredited
Accreditation Number 1261
Site Number 18217

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

JBS & G Australia (NSW & WA) P/L
Level 1, 50 Margaret St
Sydney
NSW 2000

Attention: Mitch Hodgins
Report 447132-V2-AID
Project Name 50369
Received Date Feb 11, 2015
Date Reported Feb 18, 2015

Methodology:

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

Project Name 50369
Project ID
Date Sampled Feb 05, 2015
Report 447132-V2-AID

Client Sample ID	Eurofins mgt Sample No.	Date Sampled	Sample Description	Result
RAQ061-0-1	15-Fe08272	Feb 05, 2015	Approximate Sample 778g Sample consisted of: Brown fine-grained soil and rocks	FA: Chrysotile, amosite and crocidolite asbestos detected in weathered fibre cement fragments. Raw weight of FA = 0.0510g Estimated asbestos content in FA = 0.0153g AF: Chrysotile, amosite and crocidolite asbestos detected in fibre cement fragments and in the form of loose fibre bundles. Approximate raw weight of AF = 0.1186g Estimated asbestos content in AF = 0.0356g Total estimated asbestos content in FA and AF = 0.0509g Total estimated asbestos concentration in FA and AF = 0.0065% w/w* Organic fibre detected. No respirable fibres detected. ^{M11}
RAQ062-0-1	15-Fe08273	Feb 05, 2015	Approximate Sample 774g Sample consisted of: Light brown fine-grained soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No respirable fibres detected. ^{M11}
RAQ063-0-1	15-Fe08274	Feb 05, 2015	Approximate Sample 734g Sample consisted of: Brown fine-grained soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No respirable fibres detected. ^{M11}
RAQ064-0-1	15-Fe08275	Feb 05, 2015	Approximate Sample 539g Sample consisted of: Brown fine-grained soil and rocks	FA: Chrysotile asbestos detected in weathered fibre cement fragments. Raw weight of FA = 0.0573g Estimated asbestos content in FA = 0.0229g Total estimated asbestos concentration in FA = 0.0043% w/w* Organic fibre detected. No respirable fibres detected. ^{M11}
RAQ065-0-1	15-Fe08276	Feb 05, 2015	Approximate Sample 682g Sample consisted of: Brown fine-grained soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No respirable fibres detected. ^{M11}

Client Sample ID	Eurofins mgt Sample No.	Date Sampled	Sample Description	Result
RAQ066-0-1	15-Fe08277	Feb 05, 2015	Approximate Sample 762g Sample consisted of: Brown fine-grained soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No respirable fibres detected. ^{M11}
RAQ067-0-1	15-Fe08278	Feb 05, 2015	Approximate Sample 611g Sample consisted of: Brown fine-grained soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No respirable fibres detected. ^{M11}
RAQ068-0-1	15-Fe08279	Feb 05, 2015	Approximate Sample 544g Sample consisted of: Brown fine-grained soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No respirable fibres detected. ^{M11}
RAQ069-0-1	15-Fe08280	Feb 05, 2015	Approximate Sample 584g Sample consisted of: Light brown fine-grained soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No respirable fibres detected. ^{M11}
RAQ070-0-1	15-Fe08281	Feb 05, 2015	Approximate Sample 552g Sample consisted of: Brown fine-grained soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No respirable fibres detected. ^{M11}
RAQ071-0-1	15-Fe08282	Feb 05, 2015	Approximate Sample 588g Sample consisted of: Brown fine-grained soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No respirable fibres detected. ^{M11}
RAQ072-0-1	15-Fe08283	Feb 05, 2015	Approximate Sample 604g Sample consisted of: Brown fine-grained soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No respirable fibres detected. ^{M11}

Client Sample ID	Eurofins mgt Sample No.	Date Sampled	Sample Description	Result
RAQ073-0-1	15-Fe08284	Feb 05, 2015	Approximate Sample 724g Sample consisted of: Brown fine-grained soil and rocks	ACM: Chrysotile, amosite and crocidolite asbestos detected in assorted fibre cement fragments. Raw weight of ACM = 5.4818g Total estimated asbestos content in ACM = 0.8223g Total estimated asbestos concentration in ACM = 0.1136% w/w FA: Chrysotile, amosite and crocidolite asbestos detected in weathered fibre cement fragments. Raw weight of FA = 0.3138g Estimated asbestos content in FA = 0.0941g AF: Chrysotile, amosite and crocidolite asbestos detected in the form of loose fibre bundles. Approximate raw weight of AF = 0.0126g Estimated asbestos content in AF = 0.0126g Total estimated asbestos content in FA and AF = 0.1067g Total estimated asbestos concentration in FA and AF = 0.0147% w/w Synthetic mineral fibre detected. Organic fibre detected. No respirable fibres detected.^{M11}
RAQ074-0-1	15-Fe08285	Feb 05, 2015	Approximate Sample 801g Sample consisted of: Brown fine-grained soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No respirable fibres detected.^{M11}
RAQ075-0-1	15-Fe08286	Feb 05, 2015	Approximate Sample 784g Sample consisted of: Brown fine-grained soil and rocks	FA: Chrysotile and amosite asbestos detected in weathered fibre cement fragments. Raw weight of FA = 0.0236g Estimated asbestos content in FA = 0.0094g AF: Chrysotile and amosite asbestos detected in the form of loose fibre bundles. Approximate raw weight of AF = 0.0012g Estimated asbestos content in AF = 0.0012g Total estimated asbestos content in FA and AF = 0.0106g Total estimated asbestos concentration in FA and AF = 0.0014% w/w* Organic fibre detected. No respirable fibres detected.^{M11}

Client Sample ID	Eurofins mgt Sample No.	Date Sampled	Sample Description	Result
RAQ075-1-2	15-Fe08287	Feb 05, 2015	Approximate Sample 849g Sample consisted of: Brown fine-grained soil and rocks	FA: Chrysotile and amosite asbestos detected in weathered fibre cement fragments. Raw weight of FA = 0.0842g Estimated asbestos content in FA = 0.0505g AF: Chrysotile and amosite asbestos detected in fibre cement fragments. Raw weight of AF = 0.1909g Estimated asbestos content in AF = 0.0286g Total estimated asbestos content in FA and AF = 0.0792g Total estimated asbestos concentration in FA and AF = 0.0093% w/w* Organic fibre detected. No respirable fibres detected.^{M11}
RAQ076-0-1	15-Fe08288	Feb 05, 2015	Approximate Sample 847g Sample consisted of: Brown fine-grained soil and rocks	FA: Chrysotile and amosite asbestos detected in weathered fibre cement fragments. Raw weight of FA = 0.0056g Estimated asbestos content in FA = 0.0039g Total estimated asbestos concentration in FA = 0.0005% w/w* No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No respirable fibres detected.^{M11}
RAQ076-1-2	15-Fe08289	Feb 05, 2015	Approximate Sample 709g Sample consisted of: Brown fine-grained soil and rocks	ACM: Chrysotile and amosite asbestos detected in fibre cement fragments. Raw weight of ACM = 0.2888 g Total estimated asbestos content in ACM = 0.1155g Total estimated asbestos concentration in ACM = 0.0163% w/w FA: Chrysotile and amosite asbestos detected in weathered fibre cement fragments. Raw weight of FA = 0.3084g Estimated asbestos content in FA = 0.1234g Total estimated asbestos concentration in FA = 0.0174% w/w Organic fibre detected. No respirable fibres detected.^{M11}

Client Sample ID	Eurofins mgt Sample No.	Date Sampled	Sample Description	Result
RAQ077-0-1	15-Fe08290	Feb 05, 2015	Approximate Sample 999g Sample consisted of: Brown fine-grained soil and rocks	ACM: Chrysotile, amosite and crocidolite asbestos detected in fibre cement fragments. Raw weight of ACM = 1.3200g Total estimated asbestos content in ACM = 0.1980g Total estimated asbestos concentration in ACM = 0.0198% w/w FA: Chrysotile, amosite and crocidolite asbestos detected in weathered fibre cement fragments. Raw weight of FA = 0.0623g Estimated asbestos content in FA = 0.0187g AF: Chrysotile, amosite and crocidolite asbestos detected in fibre cement fragments and in the form of loose fibre bundles. Approximate raw weight of AF = 0.0822g Estimated asbestos content in AF = 0.0411g Total estimated asbestos content in FA and AF = 0.0598g Total estimated asbestos concentration in FA and AF = 0.0060% w/w* Organic fibre detected. No respirable fibres detected.^{M11}

Client Sample ID	Eurofins mgt Sample No.	Date Sampled	Sample Description	Result
RAQ077-1-2	15-Fe08291	Feb 05, 2015	Approximate Sample 764g Sample consisted of: Brown fine-grained soil and rocks	ACM: Chrysotile, amosite and crocidolite asbestos detected in fibre cement fragments. Raw weight of ACM = 10.0447g Total estimated asbestos content in ACM = 1.5067g Total estimated asbestos concentration in ACM = 0.1972% w/w FA: Chrysotile, amosite and crocidolite asbestos detected in weathered fibre cement fragments. Raw weight of FA = 1.1196g Estimated asbestos content in FA = 0.6718g AF: Chrysotile, amosite and crocidolite asbestos detected in fibre cement fragments and in the form of loose fibre bundles. Approximate raw weight of AF = 1.4065g Estimated asbestos content in AF = 0.9846g Total estimated asbestos content in FA and AF = 1.6563g Total estimated asbestos concentration in FA and AF = 0.2167% w/w Organic fibre detected. Respirable fibres detected.^{M11}
RAQ078-0-1	15-Fe08292	Feb 05, 2015	Approximate Sample 759g Sample consisted of: Brown fine-grained soil and rocks	FA: Chrysotile, amosite and crocidolite asbestos detected in weathered fibre cement fragments. Raw weight of FA = 0.0400g Estimated asbestos content in FA = 0.0320g Total estimated asbestos concentration in FA = 0.0042% w/w* Organic fibre detected. No respirable fibres detected.^{M11}
RAQ079-0-1	15-Fe08293	Feb 05, 2015	Approximate Sample 980g Sample consisted of: Brown fine-grained soil and rocks	AF: Chrysotile asbestos detected in the form of loose fibre bundles. Approximate raw weight of AF = 0.0043g Estimated asbestos content in AF = 0.0043g Total estimated asbestos concentration in AF = 0.0004% w/w* No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No respirable fibres detected.^{M11}

Client Sample ID	Eurofins mgt Sample No.	Date Sampled	Sample Description	Result
RAQ079-1-2	15-Fe08294	Feb 05, 2015	Approximate Sample 717g Sample consisted of: Brown fine-grained soil and rocks	FA: Chrysotile, amosite and crocidolite asbestos detected in weathered fibre cement fragments. Raw weight of FA = 0.1314g Estimated asbestos content in FA = 0.0526g AF: Chrysotile, amosite and crocidolite asbestos detected in the form of loose fibre bundles. Approximate raw weight of AF = 0.0106g Estimated asbestos content in AF = 0.0106g Total estimated asbestos content in FA and AF = 0.0632g Total estimated asbestos concentration in FA and AF = 0.0088% w/w* Organic fibre detected. No respirable fibres detected. ^{M11}
RAQ080-0-1	15-Fe08295	Feb 05, 2015	Approximate Sample 883g Sample consisted of: Brown fine-grained soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No respirable fibres detected. ^{M11}
RAQ080-1-2	15-Fe08296	Feb 05, 2015	Approximate Sample 964g Sample consisted of: Brown fine-grained soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No respirable fibres detected. ^{M11}
RAQ081-0-1	15-Fe08297	Feb 05, 2015	Approximate Sample 626g Sample consisted of: Brown fine-grained soil and rocks	FA: Chrysotile, amosite and crocidolite asbestos detected in weathered fibre cement fragments. Raw weight of FA = 0.0872g Estimated asbestos content in FA = 0.0523g Total estimated asbestos concentration in FA = 0.0084% w/w* Organic fibre detected. No respirable fibres detected. ^{M11}
RAQ081-1-2	15-Fe08298	Feb 05, 2015	Approximate Sample 819g Sample consisted of: Brown fine-grained soil and rocks	AF: Chrysotile asbestos detected in the form of loose fibre bundles. Approximate raw weight of AF = 0.0022g Estimated asbestos content in AF = 0.0022g Total estimated asbestos concentration in AF = 0.0003% w/w* No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No respirable fibres detected. ^{M11}

Client Sample ID	Eurofins mgt Sample No.	Date Sampled	Sample Description	Result
RAQ082-0-1	15-Fe08299	Feb 05, 2015	Approximate Sample 805g Sample consisted of: Brown fine-grained soil and rocks	ACM: Chrysotile, amosite and crocidolite asbestos detected in fibre cement fragments. Raw weight of ACM = 0.6784g Total estimated asbestos content in ACM = 0.1018g Total estimated asbestos concentration in ACM = 0.0126% w/w FA: Chrysotile, amosite and crocidolite asbestos detected in weathered fibre cement fragments. Raw weight of FA = 0.1647g Estimated asbestos content in FA = 0.0494g AF: Chrysotile, amosite and crocidolite asbestos detected in fibre cement fragments and in the form of loose fibre bundles. Approximate raw weight of AF = 0.2268g Estimated asbestos content in AF = 0.0680g Total estimated asbestos content in FA and AF = 0.1175g Total estimated asbestos concentration in FA and AF = 0.0146% w/w Organic fibre detected. No respirable fibres detected.^{M11}
RAQ082-1-2	15-Fe08300	Feb 05, 2015	Approximate Sample 846g Sample consisted of: Brown fine-grained soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No respirable fibres detected.^{M11}
QA04	15-Fe08301	Feb 05, 2015	Approximate Sample 756g Sample consisted of: Brown fine-grained soil and rocks	FA: Chrysotile, amosite and crocidolite asbestos detected in weathered fibre cement debris. Raw weight of FA = 0.0084g Estimated asbestos content in FA = 0.0067g Total estimated asbestos concentration in FA = 0.0009% w/w* No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No respirable fibres detected.^{M11}
QA03	15-Fe08302	Feb 05, 2015	Approximate Sample 669g Sample consisted of: Brown fine-grained soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No respirable fibres detected.^{M11}

Sample History

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

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

Description	Testing Site	Extracted	Holding Time
Asbestos – LTM-ASB-8020	Sydney	Feb 16, 2015	Indefinite

Company Name: JBS & G Australia (NSW & WA) P/L
Address: Level 1, 50 Margaret St
Sydney
NSW 2000
Project Name: 50369

Order No.:
Report #: 447132
Phone: 02 8245 0300
Fax:

Received: Feb 11, 2015 5:08 PM
Due: Feb 18, 2015
Priority: 5 Day
Contact Name: Mitch Hodgins

Eurofins | mgt Client Manager: Charl Du Preez

Sample Detail					Asbestos - WA guidelines
Laboratory where analysis is conducted					
Melbourne Laboratory - NATA Site # 1254 & 14271					
Sydney Laboratory - NATA Site # 18217					X
Brisbane Laboratory - NATA Site # 20794					
External Laboratory					
Sample ID	Sample Date	Sampling Time	Matrix	LAB ID	
RAQ061-0-1	Feb 05, 2015		Soil	S15-Fe08272	X
RAQ062-0-1	Feb 05, 2015		Soil	S15-Fe08273	X
RAQ063-0-1	Feb 05, 2015		Soil	S15-Fe08274	X
RAQ064-0-1	Feb 05, 2015		Soil	S15-Fe08275	X
RAQ065-0-1	Feb 05, 2015		Soil	S15-Fe08276	X
RAQ066-0-1	Feb 05, 2015		Soil	S15-Fe08277	X
RAQ067-0-1	Feb 05, 2015		Soil	S15-Fe08278	X
RAQ068-0-1	Feb 05, 2015		Soil	S15-Fe08279	X
RAQ069-0-1	Feb 05, 2015		Soil	S15-Fe08280	X
RAQ070-0-1	Feb 05, 2015		Soil	S15-Fe08281	X

Company Name: JBS & G Australia (NSW & WA) P/L
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Laboratory where analysis is conducted					
Melbourne Laboratory - NATA Site # 1254 & 14271					
Sydney Laboratory - NATA Site # 18217					X
Brisbane Laboratory - NATA Site # 20794					
External Laboratory					
RAQ071-0-1	Feb 05, 2015		Soil	S15-Fe08282	X
RAQ072-0-1	Feb 05, 2015		Soil	S15-Fe08283	X
RAQ073-0-1	Feb 05, 2015		Soil	S15-Fe08284	X
RAQ074-0-1	Feb 05, 2015		Soil	S15-Fe08285	X
RAQ075-0-1	Feb 05, 2015		Soil	S15-Fe08286	X
RAQ075-1-2	Feb 05, 2015		Soil	S15-Fe08287	X
RAQ076-0-1	Feb 05, 2015		Soil	S15-Fe08288	X
RAQ076-1-2	Feb 05, 2015		Soil	S15-Fe08289	X
RAQ077-0-1	Feb 05, 2015		Soil	S15-Fe08290	X
RAQ077-1-2	Feb 05, 2015		Soil	S15-Fe08291	X
RAQ078-0-1	Feb 05, 2015		Soil	S15-Fe08292	X

Company Name: JBS & G Australia (NSW & WA) P/L
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Laboratory where analysis is conducted					
Melbourne Laboratory - NATA Site # 1254 & 14271					
Sydney Laboratory - NATA Site # 18217					X
Brisbane Laboratory - NATA Site # 20794					
External Laboratory					
RAQ079-0-1	Feb 05, 2015		Soil	S15-Fe08293	X
RAQ079-1-2	Feb 05, 2015		Soil	S15-Fe08294	X
RAQ080-0-1	Feb 05, 2015		Soil	S15-Fe08295	X
RAQ080-1-2	Feb 05, 2015		Soil	S15-Fe08296	X
RAQ081-0-1	Feb 05, 2015		Soil	S15-Fe08297	X
RAQ081-1-2	Feb 05, 2015		Soil	S15-Fe08298	X
RAQ082-0-1	Feb 05, 2015		Soil	S15-Fe08299	X
RAQ082-1-2	Feb 05, 2015		Soil	S15-Fe08300	X
QA04	Feb 05, 2015		Soil	S15-Fe08301	X
QA03	Feb 05, 2015		Soil	S15-Fe08302	X

Eurofins | mgt Internal Quality Control Review and Glossary

General

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

Holding Times

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

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

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

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

UNITS

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

TERMS

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

Comments

Report amended to reflect amended ID's.

Sample Integrity

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

Qualifier Codes/Comments

Code	Description
N/A	Not applicable
M11	NATA accreditation does not cover the performance of this service.

Authorised by:

Nibha Vaidya

Senior Analyst-Asbestos (NSW)



Glenn Jackson
National Laboratory Manager

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

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

Uncertainty data is available on request

Eurofins | mgt shall not be liable for loss, cost, damages or expenses incurred by the client, or any other person or company, resulting from the use of any information or interpretation given in this report. In no case shall Eurofins | mgt be liable for consequential damages including, but not limited to, lost profits, damages for failure to meet deadlines and lost production arising from this report. This document shall not be reproduced except in full and relates only to the items tested. Unless indicated otherwise, the tests were performed on the samples as received.

04851

CHAIN OF CUSTODY



PROJECT NO.: 50369					LABORATORY BATCH NO.:														
PROJECT NAME:					SAMPLERS: M MURRAY														
SEND REPORT TO: M HODGINS					SEND INVOICE TO: ADMIN@JBS6.COM.AU														
DATE NEEDED BY: STANDARD TAT					PHONE: SYDNEY 02 8245 0300 - PERTH 08 9488 0100 EMAIL: MHODGINS@JBS6.COM.AU														
COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:					QC LEVEL: NEPM (2013)														
* WARNING - Some highly friable samples																			
					Asbestos (WA)														
SAMPLE ID	MATRIX	DATE	TIME	TYPE & PRESERVATIVE	pH					NOTES:									
RAQ 61, 0-1	SOIL	5/2		BAG															
RAQ 62, 0-1																			
RAQ 63, 0-1																			
RAQ 64, 0-1																			
RAQ 65, 0-1																			
RAQ 66, 0-1																			
RAQ 67, 0-1																			
RAQ 68, 0-1																			
RAQ 69, 0-1																			
RAQ 70, 0-1																			
RAQ 71, 0-1																			
RAQ 72, 0-1																			
RAQ 73, 0-1		6/2																	
RAQ 74, 0-1																			
RAQ 75, 0-1																			
RAQ 75, 1-2																			
RAQ 76, 0-1																			
RAQ 76, 1-2																			
RAQ 77, 0-1																			
RELINQUISHED BY:					METHOD OF SHIPMENT:					RECEIVED BY:					FOR RECEIVING LAB USE ONLY:				
NAME: M Murray										NAME:					COOLER SEAL - Yes..... No Intact Broken				
DATE: 11/2/15										DATE:					COOLER TEMP deg C				
OF: JBS&G										OF:					COOLER SEAL - Yes..... No Intact Broken				
NAME:										NAME:					COOLER TEMP deg C				
DATE:										DATE:									
OF:										OF:									
CONTAINER & PRESERVATIVE CODES: P = Plastic; J = Soil Jar; B = Glass Bottle; N = Nitric Acid Prsvd.; C = Sodium Hydroxide Prsvd; VC = Hydrochloric Acid Prsvd Vial; VS = Sulfuric Acid Prsvd Vial; S = Sulfuric Acid Prsvd; Z = Zinc Prsvd; E = EDTA Prsvd; ST = Sterile Bottle; O = Other																			

IMSO Forms013 - Chain of Custody - Generic

11 FEB 2015 17:08

04853

CHAIN OF CUSTODY



PROJECT NO.: 50369						LABORATORY BATCH NO.:									
PROJECT NAME:						SAMPLERS: MMURRAY									
SEND REPORT TO: MHODGINS						PHONE: SYDNEY 02 8245 0300 – PERTH 08 9488 0100 EMAIL: MHODGINS@JBS&G.COM.AU									
DATE NEEDED BY: STANDARDTAL						QC LEVEL: NEPM (2013)									
COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL: WARNING - Some highly friable samples															
SAMPLE ID	MATRIX	DATE	TIME	TYPE & PRESERVATIVE	pH								NOTES:		
RAQ 78, 1-2	Soil C	7/2		BAG											
RAQ 78, 0-1															
RAQ 79, 0-1															
RAQ 79, 1-2															
RAQ 80, 0-1															
RAQ 80, 1-2															
RAQ 81, 0-1															
RAQ 81, 1-2															
RAQ 82, 0-1															
RAQ 82, 1-2															
QA04															
QA03															
RELINQUISHED BY:						METHOD OF SHIPMENT:						RECEIVED BY:		FOR RECEIVING LAB USE ONLY:	
NAME: MMURRAY DATE: 11/2/15						CONSIGNMENT NOTE NO.						NAME:		COOLER SEAL - Yes..... No Intact Broken	
OF: JBS&G						TRANSPORT CO.						DATE:		COOLER TEMP deg C	
NAME:						CONSIGNMENT NOTE NO.						NAME:		COOLER SEAL - Yes..... No Intact Broken	
DATE:						TRANSPORT CO.						DATE:		COOLER TEMP deg C	
OF:												OF:			
Container & Preservative Codes: P = Plastic; J = Soil Jar; B = Glass Bottle; N = Nitric Acid Prsvd.; C = Sodium Hydroxide Prsvd; VC = Hydrochloric Acid Prsvd Vial; VS = Sulfuric Acid Prsvd Vial; S = Sulfuric Acid Prsvd; Z = Zinc Prsvd; E = EDTA Prsvd; ST = Sterile Bottle; O = Other															

Sample Receipt Advice

Company name: **JBS & G Australia (NSW & WA) P/L**

Contact name: **Mitch Hodgins**

Project name: **50369**

COC number: **Not provided**

Turn around time: **5 Day**

Date/Time received: **Feb 11, 2015 5:08 PM**

Eurofins | mgt reference: **447132**

Sample information

- ☒ A detailed list of analytes logged into our LIMS, is included in the attached summary table.
- ☒ Sample Temperature of a random sample selected from the batch as recorded by Eurofins | mgt
Sample Receipt : 24 degrees Celsius.
- ☒ All samples have been received as described on the above COC.
- ☒ COC has been completed correctly.
- ☒ Attempt to chill was evident.
- ☒ Appropriately preserved sample containers have been used.
- ☒ All samples were received in good condition.
- ☒ Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.
- ☒ Appropriate sample containers have been used.
- ☒ Some samples have been subcontracted.
- N/A Custody Seals intact (if used).

Contact notes

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

Charl Du Preez on Phone : or by e.mail: charldupreez@eurofins.com.au

Results will be delivered electronically via e.mail to Mitch Hodgins - mhodgins@jbsg.com.au.

Certificate of Analysis



NATA Accredited
Accreditation Number 1261
Site Number 18217

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

JBS & G Australia (NSW & WA) P/L
Level 1, 50 Margaret St
Sydney
NSW 2000

Attention: Mitch Hodgins
Report 447713-V2-AID
Project Name
Project ID 50369
Received Date Feb 16, 2015
Date Reported Feb 24, 2015

Methodology:

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

Project Name
Project ID 50369
Date Sampled Feb 14, 2015
Report 447713-V2-AID

Client Sample ID	Eurofins mgt Sample No.	Date Sampled	Sample Description	Result
RAQ083-0-1	15-Fe12437	Feb 14, 2015	Approximate Sample 706g Sample consisted of: Beige fine-grained clayey soil	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No respirable fibres detected. ^{M11}
RAQ083-1-2	15-Fe12438	Feb 14, 2015	Approximate Sample 770g Sample consisted of: Brown fine-grained clayey soil and rocks	FA: Chrysotile, amosite and crocidolite asbestos detected in weathered fibre cement fragments. Raw weight of FA = 0.0018g Estimated asbestos content in FA = 0.0013g AF: Amosite asbestos detected in the form of loose fibre bundles. Approximate raw weight of AF = 0.0008g Estimated asbestos content in AF = 0.0008g Total estimated asbestos content in FA and AF = 0.0021g Total estimated asbestos concentration in FA and AF = 0.0003% w/w* No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No respirable fibres detected. ^{M11}

Client Sample ID	Eurofins mgt Sample No.	Date Sampled	Sample Description	Result
RAQ084-0-1	15-Fe12439	Feb 14, 2015	Approximate Sample 678g Sample consisted of: Brown fine-grained clayey soil and rocks	FA: Chrysotile, amosite and crocidolite asbestos detected in weathered fibre cement fragments. Raw weight of FA = 0.0611g Estimated asbestos content in FA = 0.0428g AF: Chrysotile, amosite and crocidolite asbestos detected in the form of loose fibre bundles. Approximate raw weight of AF = 0.0075g Estimated asbestos content in AF = 0.0075g Total estimated asbestos content in FA and AF = 0.0503g Total estimated asbestos concentration in FA and AF = 0.0074% w/w* Organic fibre detected. No respirable fibres detected.^{M11}
RAQ084-1-2	15-Fe12440	Feb 14, 2015	Approximate Sample 761g Sample consisted of: Beige fine-grained clayey soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No respirable fibres detected.^{M11}
RAQ085-0-1	15-Fe12441	Feb 14, 2015	Approximate Sample 792g Sample consisted of: Brown fine-grained clayey soil and rocks	FA: Chrysotile, amosite and crocidolite asbestos detected in weathered fibre cement fragments and in the form of matted fibre bundles. Amosite asbestos detected in insulation-like fragments. Approximate raw weight of FA = 0.7549g Estimated asbestos content in FA = 0.3020g AF: Chrysotile, amosite and crocidolite asbestos detected in fibre cement fragments and in the form of loose fibre bundles. Approximate raw weight of AF = 0.0140g Estimated asbestos content in AF = 0.0098g Total estimated asbestos content in FA and AF = 0.3118g Total estimated asbestos concentration in FA and AF = 0.0393% w/w Organic fibre detected. No respirable fibres detected.^{M11}

Client Sample ID	Eurofins mgt Sample No.	Date Sampled	Sample Description	Result
RAQ085-1-2	15-Fe12442	Feb 14, 2015	Approximate Sample 816g Sample consisted of: Brown fine-grained clayey soil and rocks	FA: Chrysotile, amosite and crocidolite asbestos detected in weathered fibre cement fragments and in the form of matted fibre bundles. Amosite asbestos detected in insulation-like fragments. Approximate raw weight of FA = 0.2034g Estimated asbestos content in FA = 0.1220g AF: Chrysotile, amosite and crocidolite asbestos detected in the form of loose fibre bundles. Approximate raw weight of AF = 0.1005g Estimated asbestos content in AF = 0.1005g Total estimated asbestos content in FA and AF = 0.2225g Total estimated asbestos concentration in FA and AF = 0.0273% w/w Organic fibre detected. No respirable fibres detected.^{M11}
RAQ086-0-1	15-Fe12443	Feb 14, 2015	Approximate Sample 805g Sample consisted of: Brown fine-grained clayey soil and rocks	AF: Chrysotile, amosite and crocidolite asbestos detected in the form of loose fibre bundles. Approximate raw weight of AF = 0.0151g Estimated asbestos content in AF = 0.0151g Total estimated asbestos concentration in AF = 0.0019% w/w* Organic fibre detected. No respirable fibres detected.^{M11}
RAQ087-0-1	15-Fe12444	Feb 14, 2015	Approximate Sample 735g Sample consisted of: Brown fine-grained clayey soil and rocks	FA: Chrysotile, amosite and crocidolite asbestos detected in weathered fibre cement fragments and embedded in powdery cement-like matrix distributed throughout the sample. Approximate raw weight of FA = 12.7014g Estimated asbestos content in FA = 3.8104g AF: Chrysotile, amosite and crocidolite asbestos detected in the form of loose fibre bundles. Approximate raw weight of AF = 0.0734g Estimated asbestos content in AF = 0.0734g Total estimated asbestos content in FA and AF = 3.8838g Total estimated asbestos concentration in FA and AF = 0.5287% w/w Organic fibre detected.^{M11}

Client Sample ID	Eurofins mgt Sample No.	Date Sampled	Sample Description	Result
RAQ088-0-1	15-Fe12445	Feb 14, 2015	Approximate Sample 649g Sample consisted of: Brown fine-grained clayey soil and rocks	FA: Chrysotile, amosite and crocidolite asbestos detected in weathered fibre cement fragments and embedded in powdery cement-like matrix. Approximate raw weight of FA = 1.2746g Estimated asbestos content in FA = 0.8922g AF: Chrysotile, amosite and crocidolite asbestos detected in the form of loose fibre bundles. Approximate raw weight of AF = 0.0502g Estimated asbestos content in AF = 0.0502g Total estimated asbestos content in FA and AF = 0.9424g Total estimated asbestos concentration in FA and AF = 0.1453% w/w Organic fibre detected.^{M11}
RAQ089-0-1	15-Fe12446	Feb 14, 2015	Approximate Sample 612g Sample consisted of: Brown fine-grained clayey soil and rocks	FA: Chrysotile, amosite and crocidolite asbestos detected in weathered fibre cement fragments and in the form of matted fibre bundles. Approximate raw weight of FA = 0.7501g Estimated asbestos content in FA = 0.5251g AF: Chrysotile, amosite and crocidolite asbestos detected in the form of loose fibre bundles. Approximate raw weight of AF = 0.0313g Estimated asbestos content in AF = 0.0313g Total estimated asbestos content in FA and AF = 0.5564g Total estimated asbestos concentration in FA and AF = 0.0909% w/w Organic fibre detected.^{M11}

Client Sample ID	Eurofins mgt Sample No.	Date Sampled	Sample Description	Result
RAQ090-0-1	15-Fe12447	Feb 14, 2015	Approximate Sample 475g Sample consisted of: Brown fine-grained clayey soil and rocks	FA: Chrysotile, amosite and crocidolite asbestos detected in weathered fibre cement fragments. Approximate raw weight of FA = 0.2014g Estimated asbestos content in FA = 0.1208g AF: Chrysotile, amosite and crocidolite asbestos detected in the form of loose fibre bundles. Approximate raw weight of AF = 0.0059g Estimated asbestos content in AF = 0.0059g Total estimated asbestos content in FA and AF = 0.1267g Total estimated asbestos concentration in FA and AF = 0.0267% w/w Organic fibre detected. No respirable fibres detected.^{M11}
RAQ091-0-1	15-Fe12448	Feb 14, 2015	Approximate Sample 689g Sample consisted of: Brown fine-grained clayey soil and rocks	AF: Chrysotile, amosite and crocidolite asbestos detected in the form of loose fibre bundles. Approximate raw weight of AF = 0.0127g Estimated asbestos content in AF = 0.0127g Total estimated asbestos concentration in AF = 0.0018% w/w* Organic fibre detected. No respirable fibres detected.^{M11}
RAQ092-0-1	15-Fe12449	Feb 14, 2015	Approximate Sample 621g Sample consisted of: Brown fine-grained clayey soil and rocks	FA: Chrysotile, amosite and crocidolite asbestos detected in weathered fibre cement fragments and in the form of matted fibre bundles. Approximate raw weight of FA = 0.2409g Estimated asbestos content in FA = 0.1686g AF: Chrysotile, amosite and crocidolite asbestos detected in the form of loose fibre bundles. Approximate raw weight of AF = 0.0223g Estimated asbestos content in AF = 0.0223g Total estimated asbestos content in FA and AF = 0.1909g Total estimated asbestos concentration in FA and AF = 0.0308% w/w Organic fibre detected. No respirable fibres detected.^{M11}

Client Sample ID	Eurofins mgt Sample No.	Date Sampled	Sample Description	Result
QC05	15-Fe12450	Feb 14, 2015	Approximate Sample 945g Sample consisted of: Beige fine-grained clayey soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No respirable fibres detected. ^{M11}
QC06	15-Fe12451	Feb 14, 2015	Approximate Sample 691g Sample consisted of: Brown fine-grained clayey soil and rocks	FA: Chrysotile, amosite and crocidolite asbestos detected in weathered fibre cement fragments and in the form of matted fibre bundles. Approximate raw weight of FA = 0.1830g Estimated asbestos content in FA = 0.1281g AF: Chrysotile, amosite and crocidolite asbestos detected in the form of loose fibre bundles. Approximate raw weight of AF = 0.6910g Estimated asbestos content in AF = 0.6910g Total estimated asbestos content in FA and AF = 0.8191g Total estimated asbestos concentration in FA and AF = 0.1185% w/w Organic fibre detected. ^{M11}

Sample History

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

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

Description	Testing Site	Extracted	Holding Time
Asbestos – LTM-ASB-8020	Sydney	Feb 18, 2015	Indefinite

Company Name: JBS & G Australia (NSW & WA) P/L
Address: Level 1, 50 Margaret St
Sydney
NSW 2000

Project Name:
Project ID: 50369

Order No.:
Report #: 447713
Phone: 02 8245 0300
Fax:

Received: Feb 16, 2015 5:12 PM
Due: Feb 23, 2015
Priority: 5 Day
Contact Name: Mitch Hodgins

Eurofins | mgt Client Manager: Charl Du Preez

Sample Detail					Asbestos - WA guidelines
Laboratory where analysis is conducted					
Melbourne Laboratory - NATA Site # 1254 & 14271					
Sydney Laboratory - NATA Site # 18217					X
Brisbane Laboratory - NATA Site # 20794					
External Laboratory					
Sample ID	Sample Date	Sampling Time	Matrix	LAB ID	
RAQ083-0-1	Feb 14, 2015		Soil	S15-Fe12437	X
RAQ083-1-2	Feb 14, 2015		Soil	S15-Fe12438	X
RAQ084-0-1	Feb 14, 2015		Soil	S15-Fe12439	X
RAQ084-1-2	Feb 14, 2015		Soil	S15-Fe12440	X
RAQ085-0-1	Feb 14, 2015		Soil	S15-Fe12441	X
RAQ085-1-2	Feb 14, 2015		Soil	S15-Fe12442	X
RAQ086-0-1	Feb 14, 2015		Soil	S15-Fe12443	X
RAQ087-0-1	Feb 14, 2015		Soil	S15-Fe12444	X
RAQ088-0-1	Feb 14, 2015		Soil	S15-Fe12445	X

Company Name: JBS & G Australia (NSW & WA) P/L
Address: Level 1, 50 Margaret St
Sydney
NSW 2000

Project Name:
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Sample Detail					Asbestos - WA guidelines
Laboratory where analysis is conducted					
Melbourne Laboratory - NATA Site # 1254 & 14271					
Sydney Laboratory - NATA Site # 18217					X
Brisbane Laboratory - NATA Site # 20794					
External Laboratory					
RAQ089-0-1	Feb 14, 2015		Soil	S15-Fe12446	X
RAQ090-0-1	Feb 14, 2015		Soil	S15-Fe12447	X
RAQ091-0-1	Feb 14, 2015		Soil	S15-Fe12448	X
RAQ092-0-1	Feb 14, 2015		Soil	S15-Fe12449	X
QC05	Feb 14, 2015		Soil	S15-Fe12450	X
QC06	Feb 14, 2015		Soil	S15-Fe12451	X

Eurofins | mgt Internal Quality Control Review and Glossary

General

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

Holding Times

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

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

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

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

UNITS

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

TERMS

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

Comments

Report amended to reflect amended sample ID's.

Sample Integrity

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

Qualifier Codes/Comments

Code	Description
N/A	Not applicable
M11	NATA accreditation does not cover the performance of this service.

Authorised by:

Nibha Vaidya

Senior Analyst-Asbestos (NSW)



Glenn Jackson
National Laboratory Manager

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

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

Uncertainty data is available on request

Eurofins | mgt shall not be liable for loss, cost, damages or expenses incurred by the client, or any other person or company, resulting from the use of any information or interpretation given in this report. In no case shall Eurofins | mgt be liable for consequential damages including, but not limited to, lost profits, damages for failure to meet deadlines and lost production arising from this report. This document shall not be reproduced except in full and relates only to the items tested. Unless indicated otherwise, the tests were performed on the samples as received.

04864

CHAIN OF CUSTODY



PROJECT NO.: S0369						LABORATORY BATCH NO.:									
PROJECT NAME:						SAMPLERS: MMURRAY									
SEND REPORT TO: MHODGINS						SEND INVOICE TO: ADMIN@JBS&G.com.au						PHONE: SYDNEY 02 8245 0300 – PERTH 08 9488 0100		EMAIL: MHODGINS@JBS&G.COM.AU	
DATE NEEDED BY: STANDARD TAT						QC LEVEL: NEPM (2013)									
COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL: * WARNING - Potential Friable samples															
SAMPLE ID	MATRIX	DATE	TIME	TYPE & PRESERVATIVE	pH								NOTES:		
RAQ 83, 0-1	soil	14/2		BAG											
RAQ 83, 1-2															
RAQ 84, 0-1															
RAQ 84, 1-2															
RAQ 85, 0-1															
RAQ 85, 1-2															
RAQ 86, 0-1															
RAQ 87, 0-1															
RAQ 88, 0-1															
RAQ 89, 0-1															
RAQ 90, 0-1															
RAQ 91, 0-1															
RAQ 92, 0-1															
QC05															
QC06															
RELINQUISHED BY: MMURRAY DATE: 16/2				METHOD OF SHIPMENT:				RECEIVED BY:				FOR RECEIVING LAB USE ONLY:			
NAME: MMURRAY				CONSIGNMENT NOTE NO.				NAME:				COOLER SEAL – Yes..... No Intact Broken			
OF: JBS&G				TRANSPORT CO.				DATE:				COOLER TEMP deg C			
NAME:				CONSIGNMENT NOTE NO.				NAME: DATE:				COOLER SEAL – Yes..... No Intact Broken			
OF:				TRANSPORT CO.				OF:				COOLER TEMP deg C			
Container & Preservative Codes: P = Plastic; J = Soil Jar; B = Glass Bottle; N = Nitric Acid Prsvd.; C = Sodium Hydroxide Prsvd; VC = Hydrochloric Acid Prsvd Vial; VS = Sulfuric Acid Prsvd Vial; S = Sulfuric Acid Prsvd; Z = Zinc Prsvd; E = EDTA Prsvd; ST = Sterile Bottle; O = Other															

16 FEB 2015 17:12

Sample Receipt Advice

Company name: **JBS & G Australia (NSW & WA) P/L**

Contact name: Mitch Hodgins

Project ID: 50369

COC number: Not provided

Turn around time: 5 Day

Date/Time received: Feb 16, 2015 5:12 PM

Eurofins | mgt reference: **447713**

Sample information

- ☒ A detailed list of analytes logged into our LIMS, is included in the attached summary table.
- ☒ Sample Temperature of a random sample selected from the batch as recorded by Eurofins | mgt
Sample Receipt : 20 degrees Celsius.
- ☒ All samples have been received as described on the above COC.
- ☒ COC has been completed correctly.
- ☒ Attempt to chill was evident.
- ☒ Appropriately preserved sample containers have been used.
- ☒ All samples were received in good condition.
- ☒ Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.
- ☒ Appropriate sample containers have been used.
- ☒ Some samples have been subcontracted.
- N/A Custody Seals intact (if used).

Contact notes

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

Charl Du Preez on Phone : or by e.mail: charldupreez@eurofins.com.au

Results will be delivered electronically via e.mail to Mitch Hodgins - mhodgins@jbsg.com.au.

Certificate of Analysis



NATA Accredited
Accreditation Number 1261
Site Number 18217

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

JBS & G Australia (NSW & WA) P/L
Level 1, 50 Margaret St
Sydney
NSW 2000

Attention: Mitch Hodgins
Report 455074-AID
Project Name WHR DATA GAP
Project ID 50369
Received Date Apr 23, 2015
Date Reported Apr 30, 2015

Methodology:

Asbestos ID Conducted in accordance with the Australian Standard AS 4964 – 2004: Method for the Qualitative Identification of Asbestos in Bulk Samples and in-house Method LTM-ASB-8020 by polarised light microscopy (PLM) and dispersion staining (DS) techniques. Bulk samples include building materials, soils and ores.

Subsampling Soil Samples The whole sample submitted is first dried and then sieved through a 10mm sieve followed by a 2mm sieve. All fibrous matter viz greater than 10mm, greater than 2mm as well as the material passing through the 2mm sieve are retained and analysed for the presence of asbestos. If the sub 2mm fraction is greater than approximately 30 to 60g then a sub-sampling routine based on ISO 3082:2009(E) Iron ores - Sampling and Sample preparation procedures is employed. Depending on the nature and size of the soil sample, the sub-2 mm residue material may need to be sub-sampled for trace analysis in accordance with AS 4964-2004.

Bonded asbestos-containing material (ACM) The material is first examined and any fibres isolated and where required interfering organic fibres or matter may be removed by treating the sample for several hours at a temperature not exceeding $400 \pm 30^{\circ}\text{C}$. The resultant material is then ground and examined in accordance with AS 4964-2004.

Limit of Reporting The nominal detection limit of the AS4964 method is around 0.01%. The examination of large sample sizes (at least 500 ml is recommended) may improve the likelihood of identifying asbestos material in the greater than 2 mm fraction. The NEPM screening level of 0.001% w/w asbestos in soil for FA and AF (i.e. non-bonded/friable asbestos) only applies where the FA and AF are able to be quantified by gravimetric procedures. This screening level is not applicable to free fibres. NOTE: NATA News, September 2011 – page 34, states, "Weighing of fibres is problematic and can lead to loss of fibres and potential exposure for laboratory analysts. To request laboratories to report information which is outside the scope of AS 4964-2004 and the scope of their accreditation is misleading and is most unwise" therefore such values reported are outside the scope of Eurofins | mgt NATA accreditation as designated by an asterisk.

Project Name WHR DATA GAP
Project ID 50369
Date Sampled Apr 17, 2015 to Apr 18, 2015
Report 455074-AID

Client Sample ID	Eurofins mgt Sample No.	Date Sampled	Sample Description	Result
RAQ 110 1-2	15-Ap17560	Apr 17, 2015	Approximate Sample 601g Sample consisted of: Brown fine-grained soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No respirable fibres detected. ^{M11}
RAQ 116 0-1	15-Ap17566	Apr 17, 2015	Approximate Sample 504g Sample consisted of: Brownish grey fine-grained soil and rocks	ACM: Chrysotile, amosite and crocidolite asbestos detected in assorted fibre cement fragments. Raw weight of ACM = 7.7929g Total estimated asbestos content in ACM = 1.1689g Total estimated asbestos concentration in ACM = 0.2319% w/w FA: Chrysotile and amosite asbestos detected in weathered fibre cement fragments. Amosite asbestos detected in matted insulation-like fragments. Approximate raw weight of FA = 0.3151g Estimated asbestos content in FA = 0.1576g AF: Chrysotile, amosite and crocidolite asbestos detected in the form of loose fibre bundles. Approximate raw weight of AF = 1.5150g Estimated asbestos content in AF = 1.5150g Total estimated asbestos content in FA and AF = 1.6726g Total estimated asbestos concentration in FA and AF = 0.3317% w/w Unknown mineral fibres detected in the form of loose fibre bundles; the fibres detected may or may not be asbestos fibres. To confirm the identities, another independent analytical technique may be required. Approximate raw weight of unknown mineral fibres = 0.0048g Organic fibre detected. ^{M11}

Client Sample ID	Eurofins mgt Sample No.	Date Sampled	Sample Description	Result
RAQ 116 1-2	15-Ap17567	Apr 17, 2015	Approximate Sample 524g Sample consisted of: Brownish grey fine-grained soil and rocks	ACM: Chrysotile, amosite and crocidolite asbestos detected in assorted fibre cement fragments. Raw weight of ACM = 28.8045g Total estimated asbestos content in ACM = 4.3207g Total estimated asbestos concentration in ACM = 0.8240% w/w AF: Chrysotile and amosite asbestos detected in fibre cement fragments. Chrysotile, amosite and crocidolite asbestos detected in the form of loose fibre bundles. Approximate raw weight of AF = 1.4257g Estimated asbestos content in AF = 0.6416g Total estimated asbestos concentration in AF = 0.1224%w/w. Organic fibre detected. ^{M11}
RAQ 116 2-3	15-Ap17568	Apr 17, 2015	Approximate Sample 409g Sample consisted of: Brownish grey fine-grained soil and rocks	ACM: Chrysotile and amosite asbestos detected in a fibre cement fragment. Raw weight of ACM = 0.7718g Total estimated asbestos content in ACM = 0.1158g Total estimated asbestos concentration in ACM = 0.0283% w/w AF: Chrysotile and crocidolite asbestos detected in the form of loose fibre bundles. Approximate raw weight of AF = 0.0089g Estimated asbestos content in AF = 0.0089g* Total estimated asbestos concentration in AF = 0.0022%w/w.* Organic fibre detected. ^{M11}
RAQ 117 0-1	15-Ap17570	Apr 17, 2015	Approximate Sample 1102g Sample consisted of: Brownish grey fine-grained soil and rocks	FA: Chrysotile asbestos detected in weathered fibre cement debris. Raw weight of FA = 0.0030g Estimated asbestos content in FA = 0.0024g Total estimated asbestos concentration in FA = 0.0002% w/w* No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. ^{M11}
RAQ 117 1-2	15-Ap17571	Apr 17, 2015	Approximate Sample 969g Sample consisted of: Brownish grey fine-grained soil and rocks	FA: Chrysotile and amosite asbestos detected in weathered fibre cement fragments. Raw weight of FA = 0.1264g Estimated asbestos content in FA = 0.0885g Total estimated asbestos concentration in FA = 0.0091% w/w* Organic fibre detected. ^{M11}

Client Sample ID	Eurofins mgt Sample No.	Date Sampled	Sample Description	Result
RAQ 117 2-3	15-Ap17572	Apr 17, 2015	Approximate Sample 941g Sample consisted of: Brownish grey fine-grained soil and rocks	AF: Chrysotile asbestos detected in the form of loose fibre bundles. Approximate raw weight of AF = 0.0005g Estimated asbestos content in AF = 0.0005g Total estimated asbestos concentration in AF = 0.0001% w/w* No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. ^{M11}
RAQ 118 0-1	15-Ap17574	Apr 17, 2015	Approximate Sample 1102g Sample consisted of: Brownish grey fine-grained soil, rocks and bitumen	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No respirable fibres detected. ^{M11}
RAQ 118 1-2	15-Ap17575	Apr 17, 2015	Approximate Sample 794g Sample consisted of: Brownish grey fine-grained soil and rocks	ACM: Chrysotile, amosite and crocidolite asbestos detected in fibre cement fragments. Raw weight of ACM = 2.6493g Total estimated asbestos content in ACM = 0.3974g Total estimated asbestos concentration in ACM = 0.0500% w/w FA: Chrysotile, amosite and crocidolite asbestos detected in weathered fibre cement fragments. Raw weight of FA = 0.0505g Estimated asbestos content in FA = 0.0354g AF: Chrysotile, amosite and crocidolite asbestos detected in the form of loose fibre bundles. Approximate raw weight of AF = 0.0165g Estimated asbestos content in AF = 0.0165g Total estimated asbestos content in FA and AF = 0.0519g Total estimated asbestos concentration in FA and AF = 0.0065% w/w* Organic fibre detected. ^{M11}
RAQ 118 2-2.7	15-Ap17576	Apr 17, 2015	Approximate Sample 802g Sample consisted of: Brownish grey fine-grained soil and rocks	AF: Chrysotile, amosite and crocidolite asbestos detected in the form of loose fibre bundles. Approximate raw weight of AF = 0.0051g Estimated asbestos content in AF = 0.0051g Total estimated asbestos concentration in AF = 0.0006% w/w* No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. ^{M11}

Client Sample ID	Eurofins mgt Sample No.	Date Sampled	Sample Description	Result
RAQ 119 0-1	15-Ap17577	Apr 18, 2015	Approximate Sample 951g Sample consisted of: Brownish grey fine-grained soil and rocks	FA: Chrysotile, amosite and crocidolite asbestos detected in weathered fibre cement fragments. Raw weight of FA = 0.0110g Estimated asbestos content in FA = 0.0077g AF: Chrysotile asbestos detected in fibre cement fragments. Chrysotile, amosite and crocidolite asbestos detected in the form of loose fibre bundles. Approximate raw weight of AF = 0.5020g Estimated asbestos content in AF = 0.1004g Total estimated asbestos content in FA and AF = 0.1081g Total estimated asbestos concentration in FA and AF = 0.0114% w/w Organic fibre detected. ^{M11}
RAQ 119 1-2	15-Ap17578	Apr 18, 2015	Approximate Sample 899g Sample consisted of: Brownish grey fine-grained soil and rocks	FA: Chrysotile, amosite and crocidolite asbestos detected in weathered fibre cement debris. Raw weight of FA = 0.0071g Estimated asbestos content in FA = 0.0057g Total estimated asbestos concentration in FA = 0.0006% w/w* No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. ^{M11}
RAQ 119 2-3	15-Ap17579	Apr 18, 2015	Approximate Sample 836g Sample consisted of: Grey fine-grained soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No respirable fibres detected. ^{M11}
RAQ 120 0-1	15-Ap17581	Apr 18, 2015	Approximate Sample 868g Sample consisted of: Brownish grey fine-grained soil and rocks	AF: Chrysotile, amosite and crocidolite asbestos detected in fibre cement fragments. Raw weight of AF = 0.1215g Estimated asbestos content in AF = 0.0365g Total estimated asbestos concentration in AF = 0.0042% w/w* Organic fibre detected. ^{M11}
RAQ 120 1-2	15-Ap17582	Apr 18, 2015	Approximate Sample 597g Sample consisted of: Grey fine-grained soil and rocks	AF: Chrysotile, amosite and crocidolite asbestos detected in the form of loose fibre bundles. Approximate raw weight of AF = 0.0046g Estimated asbestos content in AF = 0.0046g Total estimated asbestos concentration in AF = 0.0008% w/w* No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. ^{M11}

Client Sample ID	Eurofins mgt Sample No.	Date Sampled	Sample Description	Result
RAQ 120 2-3	15-Ap17583	Apr 18, 2015	Approximate Sample 716g Sample consisted of: Brownish grey fine-grained soil and rocks	AF: Chrysotile, amosite and crocidolite asbestos detected in the form of loose fibre bundles. Approximate raw weight of AF = 0.0478g Estimated asbestos content in AF = 0.0478g Total estimated asbestos concentration in AF = 0.0067% w/w* Organic fibre detected. ^{M11}
RAQ 121 0-1	15-Ap17584	Apr 18, 2015	Approximate Sample 731g Sample consisted of: Brownish grey fine-grained soil and rocks	FA: Chrysotile, amosite and crocidolite asbestos detected in weathered fibre cement fragments. Raw weight of FA = 0.1346g Estimated asbestos content in FA = 0.0942g AF: Chrysotile, amosite and crocidolite asbestos detected in the form of loose fibre bundles. Approximate raw weight of AF = 0.0665g Estimated asbestos content in AF = 0.0665g Total estimated asbestos content in FA and AF = 0.1607g Total estimated asbestos concentration in FA and AF = 0.0220% w/w Organic fibre detected. ^{M11}
RAQ 121 1-2	15-Ap17585	Apr 18, 2015	Approximate Sample 706g Sample consisted of: Brownish grey fine-grained soil and rocks	FA: Chrysotile, amosite and crocidolite asbestos detected in weathered fibre cement fragments. Raw weight of FA = 0.1977g Estimated asbestos content in FA = 0.1384g AF: Chrysotile, amosite and crocidolite asbestos detected in the form of loose fibre bundles. Approximate raw weight of AF = 0.0811g Estimated asbestos content in AF = 0.0811g Total estimated asbestos content in FA and AF = 0.2195g Total estimated asbestos concentration in FA and AF = 0.0311% w/w Organic fibre detected. ^{M11}

Client Sample ID	Eurofins mgt Sample No.	Date Sampled	Sample Description	Result
RAQ 121 2-3	15-Ap17586	Apr 18, 2015	Approximate Sample 795g Sample consisted of: Brownish grey fine-grained soil and rocks	FA: Chrysotile, amosite and crocidolite asbestos detected in weathered fibre cement fragments. Raw weight of FA = 0.1215g Estimated asbestos content in FA = 0.0851g AF: Chrysotile, amosite and crocidolite asbestos detected in the form of loose fibre bundles. Approximate raw weight of AF = 0.0691g Estimated asbestos content in AF = 0.0691g Total estimated asbestos content in FA and AF = 0.1542g Total estimated asbestos concentration in FA and AF = 0.0194% w/w Organic fibre detected.^{M11}
RAQ 122 0-1	15-Ap17588	Apr 18, 2015	Approximate Sample 782g Sample consisted of: Brownish grey fine-grained soil and rocks	FA: Chrysotile and amosite asbestos detected in weathered fibre cement fragments. Raw weight of FA = 0.7743g Estimated asbestos content in FA = 0.4646g AF: Chrysotile and amosite asbestos detected in the form of loose fibre bundles. Approximate raw weight of AF = 0.0112g Estimated asbestos content in AF = 0.0112g Total estimated asbestos content in FA and AF = 0.4758g Total estimated asbestos concentration in FA and AF = 0.0608% w/w Organic fibre detected.^{M11}

Client Sample ID	Eurofins mgt Sample No.	Date Sampled	Sample Description	Result
RAQ 122 1-2	15-Ap17589	Apr 18, 2015	Approximate Sample 815g Sample consisted of: Brownish grey fine-grained soil and rocks	FA: Chrysotile, amosite and crocidolite asbestos detected in weathered fibre cement fragments. Raw weight of FA = 0.0653g Estimated asbestos content in FA = 0.0522g AF: Chrysotile, amosite and crocidolite asbestos detected in the form of loose fibre bundles. Approximate raw weight of AF = 0.0084g Estimated asbestos content in AF = 0.0084g Total estimated asbestos content in FA and AF = 0.0606g Total estimated asbestos concentration in FA and AF = 0.0074% w/w* Organic fibre detected.^{M11}
RAQ 122 2-2.5	15-Ap17590	Apr 18, 2015	Approximate Sample 812g Sample consisted of: Brownish grey fine-grained soil and rocks	ACM: Chrysotile and amosite asbestos detected in fibre cement fragments. Raw weight of ACM = 0.5216g Total estimated asbestos content in ACM = 0.0782g Total estimated asbestos concentration in ACM = 0.0096% w/w* No asbestos detected at the reporting limit of 0.01% w/w. FA: Chrysotile and amosite asbestos detected in weathered fibre cement fragments. Raw weight of FA = 0.2687g Estimated asbestos content in FA = 0.1881g AF: Chrysotile and amosite asbestos detected in fibre cement fragments. Chrysotile, amosite and crocidolite asbestos detected in the form of loose fibre bundles. Approximate raw weight of AF = 0.1260g Estimated asbestos content in AF = 0.0252g Total estimated asbestos content in FA and AF = 0.2133g Total estimated asbestos concentration in FA and AF = 0.0263% w/w Organic fibre detected.^{M11}
RAQ 123 0-0.8	15-Ap17591	Apr 18, 2015	Approximate Sample 925g Sample consisted of: Brownish grey fine-grained soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No respirable fibres detected.^{M11}

Client Sample ID	Eurofins mgt Sample No.	Date Sampled	Sample Description	Result
RAQ 124 0-0.5	15-Ap17592	Apr 18, 2015	Approximate Sample 923g Sample consisted of: Brownish grey fine-grained soil and rocks	FA: Chrysotile, amosite and crocidolite asbestos detected in weathered fibre cement fragments. Raw weight of FA = 0.2400g Estimated asbestos content in FA = 0.0960g AF: Chrysotile, amosite and crocidolite asbestos detected in the form of loose fibre bundles. Approximate raw weight of AF = 0.0038g Estimated asbestos content in AF = 0.0038g Total estimated asbestos content in FA and AF = 0.0998g Total estimated asbestos concentration in FA and AF = 0.0108% w/w Organic fibre detected.^{M11}
RAQ 125 0-0.9	15-Ap17593	Apr 18, 2015	Approximate Sample 753g Sample consisted of: Brownish grey fine-grained soil and rocks	FA: Chrysotile, amosite and crocidolite asbestos detected in weathered fibre cement fragments. Raw weight of FA = 0.1533g Estimated asbestos content in FA = 0.1150g AF: Chrysotile, amosite and crocidolite asbestos detected in the form of loose fibre bundles. Approximate raw weight of AF = 0.0049g Estimated asbestos content in AF = 0.0049g Total estimated asbestos content in FA and AF = 0.1199g Total estimated asbestos concentration in FA and AF = 0.0159% w/w Organic fibre detected.^{M11}
RAQ 126 0-0.8	15-Ap17594	Apr 18, 2015	Approximate Sample 668g Sample consisted of: Brownish grey fine-grained soil and rocks	AF: Chrysotile, amosite and crocidolite asbestos detected in the form of loose fibre bundles. Approximate raw weight of AF = 0.0098g Estimated asbestos content in AF = 0.0098g Total estimated asbestos concentration in AF = 0.0015% w/w* Organic fibre detected.^{M11}

Sample History

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

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

Description	Testing Site	Extracted	Holding Time
Asbestos – LTM-ASB-8020	Sydney	Apr 24, 2015	Indefinite

Company Name: JBS & G Australia (NSW & WA) P/L
Address: Level 1, 50 Margaret St
Sydney
NSW 2000
Project Name: WHR DATA GAP
Project ID: 50369

Order No.:
Report #: 455074
Phone: 02 8245 0300
Fax:

Received: Apr 23, 2015 5:29 PM
Due: Apr 30, 2015
Priority: 5 Day
Contact Name: Mitch Hodgins

Eurofins | mgt Client Manager: Charl Du Preez

Sample Detail					Asbestos - WA guidelines	HOLD
Laboratory where analysis is conducted						
Melbourne Laboratory - NATA Site # 1254 & 14271						
Sydney Laboratory - NATA Site # 18217					X	X
Brisbane Laboratory - NATA Site # 20794						
External Laboratory						
Sample ID	Sample Date	Sampling Time	Matrix	LAB ID		
RAQ 110 0-1	Apr 17, 2015		Soil	S15-Ap17559		X
RAQ 110 1-2	Apr 17, 2015		Soil	S15-Ap17560	X	
RAQ 111 0-1	Apr 17, 2015		Soil	S15-Ap17561		X
RAQ 112 0-0.8	Apr 17, 2015		Soil	S15-Ap17562		X
RAQ 113 0-0.6	Apr 17, 2015		Soil	S15-Ap17563		X
RAQ 114 0-0.6	Apr 17, 2015		Soil	S15-Ap17564		X
RAQ 115 0-0.3	Apr 17, 2015		Soil	S15-Ap17565		X
RAQ 116 0-1	Apr 17, 2015		Soil	S15-Ap17566	X	
RAQ 116 1-2	Apr 17, 2015		Soil	S15-Ap17567	X	

Company Name: JBS & G Australia (NSW & WA) P/L
Address: Level 1, 50 Margaret St
Sydney
NSW 2000
Project Name: WHR DATA GAP
Project ID: 50369

Order No.:
Report #: 455074
Phone: 02 8245 0300
Fax:

Received: Apr 23, 2015 5:29 PM
Due: Apr 30, 2015
Priority: 5 Day
Contact Name: Mitch Hodgins

Eurofins | mgt Client Manager: Charl Du Preez

Sample Detail					Asbestos - WA guidelines	HOLD
Laboratory where analysis is conducted						
Melbourne Laboratory - NATA Site # 1254 & 14271						
Sydney Laboratory - NATA Site # 18217					X	X
Brisbane Laboratory - NATA Site # 20794						
External Laboratory						
RAQ 116 2-3	Apr 17, 2015		Soil	S15-Ap17568	X	
RAQ 116 3-3.6	Apr 17, 2015		Soil	S15-Ap17569		X
RAQ 117 0-1	Apr 17, 2015		Soil	S15-Ap17570	X	
RAQ 117 1-2	Apr 17, 2015		Soil	S15-Ap17571	X	
RAQ 117 2-3	Apr 17, 2015		Soil	S15-Ap17572	X	
RAQ 117 3-3.4	Apr 17, 2015		Soil	S15-Ap17573		X
RAQ 118 0-1	Apr 17, 2015		Soil	S15-Ap17574	X	
RAQ 118 1-2	Apr 17, 2015		Soil	S15-Ap17575	X	
RAQ 118 2-2.7	Apr 17, 2015		Soil	S15-Ap17576	X	
RAQ 119 0-1	Apr 18, 2015		Soil	S15-Ap17577	X	

Company Name: JBS & G Australia (NSW & WA) P/L
Address: Level 1, 50 Margaret St
Sydney
NSW 2000
Project Name: WHR DATA GAP
Project ID: 50369

Order No.:
Report #: 455074
Phone: 02 8245 0300
Fax:

Received: Apr 23, 2015 5:29 PM
Due: Apr 30, 2015
Priority: 5 Day
Contact Name: Mitch Hodgins

Eurofins | mgt Client Manager: Charl Du Preez

Sample Detail					Asbestos - WA guidelines	HOLD
Laboratory where analysis is conducted						
Melbourne Laboratory - NATA Site # 1254 & 14271						
Sydney Laboratory - NATA Site # 18217					X	X
Brisbane Laboratory - NATA Site # 20794						
External Laboratory						
RAQ 119 1-2	Apr 18, 2015		Soil	S15-Ap17578	X	
RAQ 119 2-3	Apr 18, 2015		Soil	S15-Ap17579	X	
RAQ 119 3-3.8	Apr 18, 2015		Soil	S15-Ap17580		X
RAQ 120 0-1	Apr 18, 2015		Soil	S15-Ap17581	X	
RAQ 120 1-2	Apr 18, 2015		Soil	S15-Ap17582	X	
RAQ 120 2-3	Apr 18, 2015		Soil	S15-Ap17583	X	
RAQ 121 0-1	Apr 18, 2015		Soil	S15-Ap17584	X	
RAQ 121 1-2	Apr 18, 2015		Soil	S15-Ap17585	X	
RAQ 121 2-3	Apr 18, 2015		Soil	S15-Ap17586	X	
RAQ 121 3-3.5	Apr 18, 2015		Soil	S15-Ap17587		X

Company Name: JBS & G Australia (NSW & WA) P/L
Address: Level 1, 50 Margaret St
Sydney
NSW 2000
Project Name: WHR DATA GAP
Project ID: 50369

Order No.:
Report #: 455074
Phone: 02 8245 0300
Fax:

Received: Apr 23, 2015 5:29 PM
Due: Apr 30, 2015
Priority: 5 Day
Contact Name: Mitch Hodgins

Eurofins | mgt Client Manager: Charl Du Preez

Sample Detail					Asbestos - WA guidelines	HOLD
Laboratory where analysis is conducted						
Melbourne Laboratory - NATA Site # 1254 & 14271						
Sydney Laboratory - NATA Site # 18217					X	X
Brisbane Laboratory - NATA Site # 20794						
External Laboratory						
RAQ 122 0-1	Apr 18, 2015		Soil	S15-Ap17588	X	
RAQ 122 1-2	Apr 18, 2015		Soil	S15-Ap17589	X	
RAQ 122 2-2.5	Apr 18, 2015		Soil	S15-Ap17590	X	
RAQ 123 0-0.8	Apr 18, 2015		Soil	S15-Ap17591	X	
RAQ 124 0-0.5	Apr 18, 2015		Soil	S15-Ap17592	X	
RAQ 125 0-0.9	Apr 18, 2015		Soil	S15-Ap17593	X	
RAQ 126 0-0.8	Apr 18, 2015		Soil	S15-Ap17594	X	

Eurofins | mgt Internal Quality Control Review and Glossary

General

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

Holding Times

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

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

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

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

UNITS

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

TERMS

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

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	N/A
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
N/A	Not applicable
M11	NATA accreditation does not cover the performance of this service.

Authorised by:

Nibha Vaidya

Senior Analyst-Asbestos (NSW)



Glenn Jackson
National Laboratory Manager

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

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

Uncertainty data is available on request

Eurofins | mgt shall not be liable for loss, cost, damages or expenses incurred by the client, or any other person or company, resulting from the use of any information or interpretation given in this report. In no case shall Eurofins | mgt be liable for consequential damages including, but not limited to, lost profits, damages for failure to meet deadlines and lost production arising from this report. This document shall not be reproduced except in full and relates only to the items tested. Unless indicated otherwise, the tests were performed on the samples as received.

Sample Receipt Advice

Company name: **JBS & G Australia (NSW & WA) P/L**

Contact name: Mitch Hodgins

Project name: WHR DATA GAP

Project ID: 50369

COC number: 04966-67

Turn around time: 5 Day

Date/Time received: Apr 23, 2015 5:29 PM

Eurofins | mgt reference: **455074**

Sample information

- ☒ A detailed list of analytes logged into our LIMS, is included in the attached summary table.
- ☒ Sample Temperature of a random sample selected from the batch as recorded by Eurofins | mgt
Sample Receipt : 4.2 degrees Celsius.
- ☒ All samples have been received as described on the above COC.
- ☒ COC has been completed correctly.
- ☒ Attempt to chill was evident.
- ☒ Appropriately preserved sample containers have been used.
- ☒ All samples were received in good condition.
- ☒ Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.
- ☒ Appropriate sample containers have been used.
- ☒ Some samples have been subcontracted.
- N/A Custody Seals intact (if used).

Contact notes

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

Charl Du Preez on Phone : or by e.mail: charldupreez@eurofins.com.au

Results will be delivered electronically via e.mail to Mitch Hodgins - mhodgins@jbsg.com.au.

Certificate of Analysis



NATA Accredited
Accreditation Number 1261
Site Number 18217

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

JBS & G Australia (NSW & WA) P/L
Level 1, 50 Margaret St
Sydney
NSW 2000

Attention: Mitch Hodgins
Report 455493-AID
Project Name WHR - DATA CAP
Project ID 50369
Received Date Apr 28, 2015
Date Reported May 01, 2015

Methodology:

Asbestos ID Conducted in accordance with the Australian Standard AS 4964 – 2004: Method for the Qualitative Identification of Asbestos in Bulk Samples and in-house Method LTM-ASB-8020 by polarised light microscopy (PLM) and dispersion staining (DS) techniques. Bulk samples include building materials, soils and ores.

Subsampling Soil Samples The whole sample submitted is first dried and then sieved through a 10mm sieve followed by a 2mm sieve. All fibrous matter viz greater than 10mm, greater than 2mm as well as the material passing through the 2mm sieve are retained and analysed for the presence of asbestos. If the sub 2mm fraction is greater than approximately 30 to 60g then a sub-sampling routine based on ISO 3082:2009(E) Iron ores - Sampling and Sample preparation procedures is employed. Depending on the nature and size of the soil sample, the sub-2 mm residue material may need to be sub-sampled for trace analysis in accordance with AS 4964-2004.

Bonded asbestos-containing material (ACM) The material is first examined and any fibres isolated and where required interfering organic fibres or matter may be removed by treating the sample for several hours at a temperature not exceeding $400 \pm 30^{\circ}\text{C}$. The resultant material is then ground and examined in accordance with AS 4964-2004.

Limit of Reporting The nominal detection limit of the AS4964 method is around 0.01%. The examination of large sample sizes (at least 500 ml is recommended) may improve the likelihood of identifying asbestos material in the greater than 2 mm fraction. The NEPM screening level of 0.001% w/w asbestos in soil for FA and AF (i.e. non-bonded/friable asbestos) only applies where the FA and AF are able to be quantified by gravimetric procedures. This screening level is not applicable to free fibres. NOTE: NATA News, September 2011 – page 34, states, "Weighing of fibres is problematic and can lead to loss of fibres and potential exposure for laboratory analysts. To request laboratories to report information which is outside the scope of AS 4964-2004 and the scope of their accreditation is misleading and is most unwise" therefore such values reported are outside the scope of Eurofins | mgt NATA accreditation as designated by an asterisk.

Project Name WHR - DATA CAP
Project ID 50369
Date Sampled Apr 24, 2015
Report 455493-AID

Client Sample ID	Eurofins mgt Sample No.	Date Sampled	Sample Description	Result
RAQ127_0-1	15-Ap21156	Apr 24, 2015	Approximate Sample 630g Sample consisted of: Dark brown fine-grained soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No respirable fibres detected. ^{M11}
RAQ128_0-0.5	15-Ap21157	Apr 24, 2015	Approximate Sample 538g Sample consisted of: Dark brown fine-grained soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No respirable fibres detected. ^{M11}
RAQ129_0-0.-7	15-Ap21158	Apr 24, 2015	Approximate Sample 714g Sample consisted of: Dark brown fine-grained soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No respirable fibres detected. ^{M11}

Sample History

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

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

Description	Testing Site	Extracted	Holding Time
Asbestos – LTM-ASB-8020	Sydney	Apr 28, 2015	Indefinite

Company Name: JBS & G Australia (NSW & WA) P/L
Address: Level 1, 50 Margaret St
Sydney
NSW 2000
Project Name: WHR - DATA CAP
Project ID: 50369

Order No.:
Report #: 455493
Phone: 02 8245 0300
Fax:

Received: Apr 28, 2015 12:50 PM
Due: May 1, 2015
Priority: 3 Day
Contact Name: Mitch Hodgins

Eurofins | mgt Client Manager: Charl Du Preez

Sample Detail					Asbestos - WA guidelines	HOLD	Polycyclic Aromatic Hydrocarbons	Metals M8	BTEX	Total Recoverable Hydrocarbons	Moisture Set
Laboratory where analysis is conducted											
Melbourne Laboratory - NATA Site # 1254 & 14271											
Sydney Laboratory - NATA Site # 18217					X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794											
External Laboratory											
Sample ID	Sample Date	Sampling Time	Matrix	LAB ID							
RAQ127_0-0.1	Apr 24, 2015		Soil	S15-Ap21124		X					
RAQ127_0.3-0.5	Apr 24, 2015		Soil	S15-Ap21125		X					
RAQ127_0.7-0.9	Apr 24, 2015		Soil	S15-Ap21126			X	X	X	X	X
RAQ127_1-1.2	Apr 24, 2015		Soil	S15-Ap21127		X					
RAQ127_5.5-5.7	Apr 24, 2015		Soil	S15-Ap21128			X	X	X	X	X
RAQ127_6.5-6.7	Apr 24, 2015		Soil	S15-Ap21129		X					

Company Name: JBS & G Australia (NSW & WA) P/L
Address: Level 1, 50 Margaret St
Sydney
NSW 2000
Project Name: WHR - DATA CAP
Project ID: 50369

Order No.:
Report #: 455493
Phone: 02 8245 0300
Fax:

Received: Apr 28, 2015 12:50 PM
Due: May 1, 2015
Priority: 3 Day
Contact Name: Mitch Hodgins

Eurofins | mgt Client Manager: Charl Du Preez

Sample Detail					Asbestos - WA guidelines	HOLD	Polycyclic Aromatic Hydrocarbons	Metals M8	BTEX	Total Recoverable Hydrocarbons	Moisture Set
Laboratory where analysis is conducted											
Melbourne Laboratory - NATA Site # 1254 & 14271											
Sydney Laboratory - NATA Site # 18217					X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794											
External Laboratory											
RAQ127_7.5-7.7	Apr 24, 2015		Soil	S15-Ap21130		X					
RAQ127_8.4-8.6	Apr 24, 2015		Soil	S15-Ap21131		X					
RAQ128_0.1-0.3	Apr 24, 2015		Soil	S15-Ap21132		X					
RAQ128_0.3-0.5	Apr 24, 2015		Soil	S15-Ap21133		X					
RAQ128_0.5-0.7	Apr 24, 2015		Soil	S15-Ap21134		X					
RAQ128_1.3-1.5	Apr 24, 2015		Soil	S15-Ap21135		X					

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Laboratory where analysis is conducted											
Melbourne Laboratory - NATA Site # 1254 & 14271											
Sydney Laboratory - NATA Site # 18217					X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794											
External Laboratory											
RAQ128_2.5-2.7	Apr 24, 2015		Soil	S15-Ap21136			X	X	X	X	X
RAQ128_3.6-3.8	Apr 24, 2015		Soil	S15-Ap21137		X					
RAQ128_4.2-4.3	Apr 24, 2015		Soil	S15-Ap21138		X					
RAQ128_5.7-5.9	Apr 24, 2015		Soil	S15-Ap21139		X					
RAQ128_6.5-6.7	Apr 24, 2015		Soil	S15-Ap21140			X	X	X	X	X
RAQ128_7.0-7.2	Apr 24, 2015		Soil	S15-Ap21141		X					

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Laboratory where analysis is conducted											
Melbourne Laboratory - NATA Site # 1254 & 14271											
Sydney Laboratory - NATA Site # 18217					X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794											
External Laboratory											
RAQ129_0-0.1	Apr 24, 2015		Soil	S15-Ap21142		X					
RAQ129_0.3-0.5	Apr 24, 2015		Soil	S15-Ap21143		X					
RAQ129_0.7-0.9	Apr 24, 2015		Soil	S15-Ap21144		X					
RAQ129_1.5-1.7	Apr 24, 2015		Soil	S15-Ap21145			X	X	X	X	X
RAQ129_2.3-2.5	Apr 24, 2015		Soil	S15-Ap21146		X					
RAQ129_3.3-3.5	Apr 24, 2015		Soil	S15-Ap21147			X	X	X	X	X
RAQ129_4.7-	Apr 24, 2015		Soil	S15-Ap21148		X					

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Laboratory where analysis is conducted											
Melbourne Laboratory - NATA Site # 1254 & 14271											
Sydney Laboratory - NATA Site # 18217					X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794											
External Laboratory											
4.9											
RAQ129_5.5-5.7	Apr 24, 2015		Soil	S15-Ap21149		X					
RAQ129_6.3-6.5	Apr 24, 2015		Soil	S15-Ap21150		X					
QC08	Apr 24, 2015		Soil	S15-Ap21151			X	X	X	X	X
QC09	Apr 24, 2015		Soil	S15-Ap21152			X	X	X	X	X
RINSATE	Apr 24, 2015		Water	S15-Ap21153			X	X	X	X	
TRIP SPIKE	Apr 24, 2015		Water	S15-Ap21154					X		
TRIP BLANK	Apr 24, 2015		Water	S15-Ap21155					X		
RAQ127_0-1	Apr 24, 2015		Soil	S15-Ap21156	X						

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Laboratory where analysis is conducted											
Melbourne Laboratory - NATA Site # 1254 & 14271											
Sydney Laboratory - NATA Site # 18217					X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794											
External Laboratory											
RAQ128_0-0.5	Apr 24, 2015		Soil	S15-Ap21157	X						
RAQ129_0-0.-7	Apr 24, 2015		Soil	S15-Ap21158	X						

Eurofins | mgt Internal Quality Control Review and Glossary

General

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

Holding Times

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

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

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

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

UNITS

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

TERMS

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

Comments

Sample Integrity

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

Qualifier Codes/Comments

Code	Description
N/A	Not applicable
M11	NATA accreditation does not cover the performance of this service.

Authorised by:

Nibha Vaidya

Senior Analyst-Asbestos (NSW)



Glenn Jackson
National Laboratory Manager

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

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

Uncertainty data is available on request

Eurofins | mgt shall not be liable for loss, cost, damages or expenses incurred by the client, or any other person or company, resulting from the use of any information or interpretation given in this report. In no case shall Eurofins | mgt be liable for consequential damages including, but not limited to, lost profits, damages for failure to meet deadlines and lost production arising from this report. This document shall not be reproduced except in full and relates only to the items tested. Unless indicated otherwise, the tests were performed on the samples as received.

04972

1 of 2

CHAIN OF CUSTODY



#485493

PROJECT NO.: 50369						LABORATORY BATCH NO.:																	
PROJECT NAME: HR - Denta Gap						SAMPLERS: MM																	
SEND REPORT TO: MHODGINS						SEND INVOICE TO: ADMIN@JBS&G.COM.AU						PHONE: SYDNEY 02 8245 0300 -- PERTH 08 9488 0100 EMAIL: MHODGINS@JBS&G.COM.AU											
DATE NEEDED BY: STANDARD TAT 3 day TAT						QC LEVEL: NEPM (2013)																	
COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:																							
SAMPLE ID		MATRIX	DATE	TIME	TYPE & PRESERVATIVE	pH	JS2	Phenols	8 Metals	PAHs	TRH/BTE						NOTES:						
RAQ 127, 0-0.1		Soil	24/4		JAR																		
RAQ 127, 0.3-0.5																	wells						
RAQ 127, 0.7-0.9																							
RAQ 127, 1-1.2																							
RAQ 127, 5.5-5.7																							
RAQ 127, 6.5-6.7																							
RAQ 127, 7.5-7.7																							
RAQ 127, 8.4-8.6																							
RAQ 128, 0.1-0.3																							
RAQ 128, 0.3-0.5																							
RAQ 128, 0.5-0.7																							
RAQ 128, 1.3-1.5																							
RAQ 128, 2.5-2.7																							
RAQ 128, 3.6-3.8																							
RAQ 128, 4.2-4.3																							
RAQ 128, 5.7-5.9																							
RAQ 128, 6.5-6.7																							
RAQ 128, 7.0-7.2																							
RELINQUISHED BY:						METHOD OF SHIPMENT:						RECEIVED BY:						FOR RECEIVING LAB USE ONLY					
NAME: M/M DATE: 24/4						CONSIGNMENT NOTE NO.						NAME: Jasmine DATE: 25/4/15 12:50pm						COOLER SEAL - Yes..... No Intact Broken					
OF: JBS&G						TRANSPORT CO.						OF: 25/4/15						COOLER TEMP deg C					
NAME: DATE:						CONSIGNMENT NOTE NO.						NAME: DATE:						COOLER SEAL - Yes..... No Intact Broken					
OF:						TRANSPORT CO.						OF:						COOLER TEMP deg C					

Container & Preservative Codes: P = Plastic; J = Soil Jar; B = Glass Bottle; N = Nitric Acid Prsrd.; C = Sodium Hydroxide Prsrd; VC = Hydrochloric Acid Prsrd Vial; VS = Sulfuric Acid Prsrd Vial; S = Sulfuric Acid Prsrd; Z = Zinc Prsrd; E = EDTA Prsrd; ST = Sterile Bottle; O = Other

IMSO Forms013 - Chain of Custody - Generic

04973

2 of 2

CHAIN OF CUSTODY



PROJECT NO.: 50369						LABORATORY BATCH NO.:																																																																																																																																																																																																																																																																																																																																																																																				
PROJECT NAME: WTR - Data Lab						SAMPLERS: MMURRAY																																																																																																																																																																																																																																																																																																																																																																																				
SEND REPORT TO: M HODGINS						SEND INVOICE TO: ADMIN@JBS6.COM.AU						PHONE: SYDNEY 02 8245 0300 - PERTH 08 9488 0100						EMAIL: M.HODGINS@JBS6.COM.AU																																																																																																																																																																																																																																																																																																																																																																								
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Container & Preservative Codes: P = Plastic; J = Soil Jar; B = Glass Bottle; N = Nitric Acid Prsrd.; C = Sodium Hydroxide Prsrd; VC = Hydrochloric Acid Prsrd Vial; VS = Sulfuric Acid Prsrd Vial; S = Sulfuric Acid Prsrd; Z = Zinc Prsrd; E = EDTA Prsrd, ST = Sterile Bottle; O = Other

IMSO Forms 013 - Chain of Custody - Generic

Sample Receipt Advice

Company name: **JBS & G Australia (NSW & WA) P/L**
Contact name: **Mitch Hodgins**
Project name: **WHR - DATA CAP**
Project ID: **50369**
COC number: **04972-73**
Turn around time: **3 Day**
Date/Time received: **Apr 28, 2015 12:50 PM**
Eurofins | mgt reference: **455493**

Sample information

- ☒ A detailed list of analytes logged into our LIMS, is included in the attached summary table.
 - ☒ Sample Temperature of a random sample selected from the batch as recorded by Eurofins | mgt
Sample Receipt : 13.5 degrees Celsius.
 - ☒ All samples have been received as described on the above COC.
 - ☒ COC has been completed correctly.
 - ☒ Attempt to chill was evident.
 - ☒ Appropriately preserved sample containers have been used.
 - ☒ All samples were received in good condition.
 - ☒ Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.
 - ☒ Appropriate sample containers have been used.
 - ☒ Sample containers for volatile analysis received with zero headspace.
 - ☒ 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:

Charl Du Preez on Phone : or by e.mail: charldupreez@eurofins.com.au

Results will be delivered electronically via e.mail to Mitch Hodgins - mhodgins@jbsg.com.au.

Certificate of Analysis



NATA Accredited
Accreditation Number 1261
Site Number 18217

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

JBS & G Australia (NSW & WA) P/L
Level 1, 50 Margaret St
Sydney
NSW 2000

Attention: Mitch Hodgins
Report 455496-AID
Project Name WHR - DATA CAP
Project ID 50369
Received Date May 04, 2015
Date Reported May 07, 2015

Methodology:

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

Project Name WHR - DATA CAP
Project ID 50369
Date Sampled Apr 24, 2015
Report 455496-AID

Client Sample ID	Eurofins mgt Sample No.	Date Sampled	Sample Description	Result
RAQ93_0-1	15-Ap21159	Apr 24, 2015	Approximate Sample 555g Sample consisted of: Brownish grey fine-grained soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No respirable fibres detected. ^{M11}
RAQ93_1-2	15-Ap21160	Apr 24, 2015	Approximate Sample 662g Sample consisted of: Brownish grey fine-grained soil and rocks	ACM: Chrysotile and amosite asbestos detected in a fibre cement fragment. Raw weight of ACM = 0.9208g Total estimated asbestos content in ACM = 0.1381g Total estimated asbestos concentration in ACM = 0.0209% w/w Organic fibre detected. ^{M11}
RAQ94_0-1	15-Ap21161	Apr 24, 2015	Approximate Sample 790g Sample consisted of: Brownish grey fine-grained soil and rocks	AF: Chrysotile asbestos detected in the form of loose fibre bundles. Approximate raw weight of AF = 0.0047g Estimated asbestos content in AF = 0.0047g Total estimated asbestos concentration in AF = 0.0006% w/w* No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. ^{M11}
RAQ94_1-2	15-Ap21162	Apr 24, 2015	Approximate Sample 567g Sample consisted of: Brownish grey fine-grained soil and rocks	AF: Chrysotile asbestos detected in the form of loose fibre bundles. Approximate raw weight of AF = 0.0004g Estimated asbestos content in AF = 0.0004g Total estimated asbestos concentration in AF = 0.0001% w/w* No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. ^{M11}
RAQ95_0-1	15-Ap21163	Apr 24, 2015	Approximate Sample 603g Sample consisted of: Brownish grey fine-grained soil and rocks	AF: Chrysotile, amosite and crocidolite asbestos detected in a fibre cement fragment. Raw weight of AF = 0.0972g Estimated asbestos content in AF = 0.0389g Total estimated asbestos concentration in AF = 0.0064% w/w* Organic fibre detected. ^{M11}

Client Sample ID	Eurofins mgt Sample No.	Date Sampled	Sample Description	Result
RAQ96_0-1	15-Ap21164	Apr 24, 2015	Approximate Sample 873g Sample consisted of: Brownish grey fine-grained soil and rocks	FA: Chrysotile, amosite and crocidolite asbestos detected in assorted weathered fibre cement fragments. Approximate raw weight of FA = 0.0265g Estimated asbestos content in FA = 0.0159g AF: Chrysotile and amosite asbestos detected in fibre cement fragments and in the form of loose fibre bundles. Approximate raw weight of AF = 0.2203g Estimated asbestos content in AF = 0.0881g Total estimated asbestos content in FA and AF = 0.1040g Total estimated asbestos concentration in FA and AF = 0.0119% w/w Organic fibre detected.^{M11}
RAQ96_1-1.5	15-Ap21165	Apr 24, 2015	Approximate Sample 497g Sample consisted of: Brownish grey fine-grained soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No respirable fibres detected.^{M11}
RAQ97_0-0.8	15-Ap21166	Apr 24, 2015	Approximate Sample 636g Sample consisted of: Brownish grey fine-grained soil and rocks	FA: Chrysotile, amosite and crocidolite asbestos detected in assorted weathered fibre cement fragments. Approximate raw weight of FA = 0.0096g Estimated asbestos content in FA = 0.0067g AF: Chrysotile and amosite asbestos detected in the form of loose fibre bundles. Approximate raw weight of AF = 0.0028g Estimated asbestos content in AF = 0.0028g Total estimated asbestos content in FA and AF = 0.0095g Total estimated asbestos concentration in FA and AF = 0.0015% w/w* Organic fibre detected.^{M11}
RAQ98_0-1	15-Ap21167	Apr 24, 2015	Approximate Sample 753g Sample consisted of: Brownish grey fine-grained soil and rocks	AF: Chrysotile, amosite and crocidolite asbestos detected in the form of loose fibre bundles. Approximate raw weight of AF = 0.0061g Estimated asbestos content in AF = 0.0061g Total estimated asbestos concentration in AF = 0.0008% w/w* No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected.^{M11}

Client Sample ID	Eurofins mgt Sample No.	Date Sampled	Sample Description	Result
RAQ99_0-1	15-Ap21168	Apr 24, 2015	Approximate Sample 674g Sample consisted of: Brownish grey fine-grained soil and rocks	AF: Chrysotile, amosite and crocidolite asbestos detected in the form of loose fibre bundles. Approximate raw weight of AF = 0.0018g Estimated asbestos content in AF = 0.0018g Total estimated asbestos concentration in AF = 0.0003% w/w* No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. ^{M11}

Sample History

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

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

Description	Testing Site	Extracted	Holding Time
Asbestos – LTM-ASB-8020	Sydney	May 05, 2015	Indefinite

Company Name: JBS & G Australia (NSW & WA) P/L
Address: Level 1, 50 Margaret St
Sydney
NSW 2000
Project Name: WHR - DATA CAP
Project ID: 50369

Order No.:
Report #: 455496
Phone: 02 8245 0300
Fax:

Received: May 4, 2015 5:15 PM
Due: May 7, 2015
Priority: 3 Day
Contact Name: Mitch Hodgins

Eurofins | mgt Client Manager: Charl Du Preez

Sample Detail					Asbestos - WA guidelines
Laboratory where analysis is conducted					
Melbourne Laboratory - NATA Site # 1254 & 14271					
Sydney Laboratory - NATA Site # 18217					X
Brisbane Laboratory - NATA Site # 20794					
External Laboratory					
Sample ID	Sample Date	Sampling Time	Matrix	LAB ID	
RAQ93_0-1	Apr 24, 2015		Soil	S15-Ap21159	X
RAQ93_1-2	Apr 24, 2015		Soil	S15-Ap21160	X
RAQ94_0-1	Apr 24, 2015		Soil	S15-Ap21161	X
RAQ94_1-2	Apr 24, 2015		Soil	S15-Ap21162	X
RAQ95_0-1	Apr 24, 2015		Soil	S15-Ap21163	X
RAQ96_0-1	Apr 24, 2015		Soil	S15-Ap21164	X
RAQ96_1-1.5	Apr 24, 2015		Soil	S15-Ap21165	X
RAQ97_0-0.8	Apr 24, 2015		Soil	S15-Ap21166	X
RAQ98_0-1	Apr 24, 2015		Soil	S15-Ap21167	X

Company Name: JBS & G Australia (NSW & WA) P/L
Address: Level 1, 50 Margaret St
Sydney
NSW 2000
Project Name: WHR - DATA CAP
Project ID: 50369

Order No.:
Report #: 455496
Phone: 02 8245 0300
Fax:

Received: May 4, 2015 5:15 PM
Due: May 7, 2015
Priority: 3 Day
Contact Name: Mitch Hodgins

Eurofins | mgt Client Manager: Charl Du Preez

Sample Detail					Asbestos - WA guidelines
Laboratory where analysis is conducted					
Melbourne Laboratory - NATA Site # 1254 & 14271					
Sydney Laboratory - NATA Site # 18217					X
Brisbane Laboratory - NATA Site # 20794					
External Laboratory					
RAQ99_0-1	Apr 24, 2015		Soil	S15-Ap21168	X

Eurofins | mgt Internal Quality Control Review and Glossary

General

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

Holding Times

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

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

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

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

UNITS

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

TERMS

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

Comments

Sample Integrity

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

Qualifier Codes/Comments

Code	Description
N/A	Not applicable
M11	NATA accreditation does not cover the performance of this service.

Authorised by:

Nibha Vaidya

Senior Analyst-Asbestos (NSW)



Glenn Jackson
National Laboratory Manager

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

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

Uncertainty data is available on request

Eurofins | mgt shall not be liable for loss, cost, damages or expenses incurred by the client, or any other person or company, resulting from the use of any information or interpretation given in this report. In no case shall Eurofins | mgt be liable for consequential damages including, but not limited to, lost profits, damages for failure to meet deadlines and lost production arising from this report. This document shall not be reproduced except in full and relates only to the items tested. Unless indicated otherwise, the tests were performed on the samples as received.

1 of 1

IMSO FormsO13 - Chain of Custody - Generic

Sample Receipt Advice

Company name: **JBS & G Australia (NSW & WA) P/L**
Contact name: Mitch Hodgins
Project name: WHR - DATA CAP
Project ID: 50369
COC number: 04975
Turn around time: 3 Day
Date/Time received: May 4, 2015 5:15 PM
Eurofins | mgt reference: **455496**

Sample information

- ☒ A detailed list of analytes logged into our LIMS, is included in the attached summary table.
- ☒ Sample Temperature of a random sample selected from the batch as recorded by Eurofins | mgt
Sample Receipt : 13 degrees Celsius.
- ☒ All samples have been received as described on the above COC.
- ☒ COC has been completed correctly.
- ☒ Attempt to chill was evident.
- ☒ Appropriately preserved sample containers have been used.
- ☒ All samples were received in good condition.
- ☒ Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.
- ☒ Appropriate sample containers have been used.
- ☒ Some samples have been subcontracted.
- N/A Custody Seals intact (if used).

Contact notes

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

Charl Du Preez on Phone : or by e.mail: charldupreez@eurofins.com.au

Results will be delivered electronically via e.mail to Mitch Hodgins - mhodgins@jbsg.com.au.

Certificate of Analysis



NATA Accredited
Accreditation Number 1261
Site Number 18217

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

JBS & G Australia (NSW & WA) P/L
Level 1, 50 Margaret St
Sydney
NSW 2000

Attention: Mitch Hodgins
Report 456247-V2-AID
Project Name WHR-V009
Project ID 50369
Received Date May 04, 2015
Date Reported May 06, 2015

Methodology:

Asbestos ID Conducted in accordance with the Australian Standard AS 4964 – 2004: Method for the Qualitative Identification of Asbestos in Bulk Samples and in-house Method LTM-ASB-8020 by polarised light microscopy (PLM) and dispersion staining (DS) techniques. Bulk samples include building materials, soils and ores.

Subsampling Soil Samples The whole sample submitted is first dried and then sieved through a 10mm sieve followed by a 2mm sieve. All fibrous matter viz greater than 10mm, greater than 2mm as well as the material passing through the 2mm sieve are retained and analysed for the presence of asbestos. If the sub 2mm fraction is greater than approximately 30 to 60g then a sub-sampling routine based on ISO 3082:2009(E) Iron ores - Sampling and Sample preparation procedures is employed. Depending on the nature and size of the soil sample, the sub-2 mm residue material may need to be sub-sampled for trace analysis in accordance with AS 4964-2004.

Bonded asbestos-containing material (ACM) The material is first examined and any fibres isolated and where required interfering organic fibres or matter may be removed by treating the sample for several hours at a temperature not exceeding $400 \pm 30^{\circ}\text{C}$. The resultant material is then ground and examined in accordance with AS 4964-2004.

Limit of Reporting The nominal detection limit of the AS4964 method is around 0.01%. The examination of large sample sizes (at least 500 ml is recommended) may improve the likelihood of identifying asbestos material in the greater than 2 mm fraction. The NEPM screening level of 0.001% w/w asbestos in soil for FA and AF (i.e. non-bonded/friable asbestos) only applies where the FA and AF are able to be quantified by gravimetric procedures. This screening level is not applicable to free fibres. NOTE: NATA News, September 2011 – page 34, states, "Weighing of fibres is problematic and can lead to loss of fibres and potential exposure for laboratory analysts. To request laboratories to report information which is outside the scope of AS 4964-2004 and the scope of their accreditation is misleading and is most unwise" therefore such values reported are outside the scope of Eurofins | mgt NATA accreditation as designated by an asterisk.

Project Name WHR-V009
Project ID 50369
Date Sampled May 02, 2015
Report 456247-V2-AID

Client Sample ID	Eurofins mgt Sample No.	Date Sampled	Sample Description	Result
RAQ73 1-2	15-My02966	May 02, 2015	Approximate Sample 850g Sample consisted of: Greyish brown fine-grained soil and rocks	AF: Chrysotile and amosite asbestos detected in the form of loose fibre bundles. Approximate raw weight of AF = 0.0052g Estimated asbestos content in AF = 0.0052g Total estimated asbestos concentration in AF = 0.0006% w/w* No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. ^{M11}
RAQ73 2-3	15-My02967	May 02, 2015	Approximate Sample 733g Sample consisted of: Greyish brown fine-grained soil and rocks	AF: Chrysotile and amosite asbestos detected in the form of loose fibre bundles. Approximate raw weight of AF = 0.0008g Estimated asbestos content in AF = 0.0008g Total estimated asbestos concentration in AF = 0.0001% w/w* No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. ^{M11}
RAQ74 1-2	15-My02969	May 02, 2015	Approximate Sample 764g Sample consisted of: Brownish grey fine-grained soil and rocks	AF: Chrysotile and amosite asbestos detected in the form of loose fibre bundles. Approximate raw weight of AF = 0.0012g Estimated asbestos content in AF = 0.0012g Total estimated asbestos concentration in AF = 0.0002% w/w* No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. ^{M11}
RAQ74 2-3	15-My02970	May 02, 2015	Approximate Sample 660g Sample consisted of: Brownish grey fine-grained soil and rocks	AF: Chrysotile, amosite and crocidolite asbestos detected in the form of loose fibre bundles. Approximate raw weight of AF = 0.0022g Estimated asbestos content in AF = 0.0022g Total estimated asbestos concentration in AF = 0.0003% w/w* No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. ^{M11}

Client Sample ID	Eurofins mgt Sample No.	Date Sampled	Sample Description	Result
RAQ75 2-3	15-My02973	May 02, 2015	Approximate Sample 594g Sample consisted of: Greyish brown fine-grained soil and rocks	ACM: Chrysotile, amosite and crocidolite asbestos detected in fibre cement fragments. Raw weight of ACM = 28.5600g Total estimated asbestos content in ACM = 4.2840g Total estimated asbestos concentration in ACM = 0.7211% w/w FA: Chrysotile, amosite and crocidolite asbestos detected in weathered fibre cement fragments. Approximate raw weight of FA = 13.7960g Estimated asbestos content in FA = 9.6572g AF: Chrysotile, amosite and crocidolite asbestos detected in fibre cement fragments and in the form of loose fibre bundles. Approximate raw weight of AF = 8.0120g Estimated asbestos content in AF = 3.6054g Total estimated asbestos content in FA and AF = 13.2626g Total estimated asbestos concentration in FA and AF = 2.2324% w/w Organic fibre detected.^{M11}
RAQ76 2-3	15-My02975	May 02, 2015	Approximate Sample 568g Sample consisted of: Greyish brown fine-grained soil and rocks	ACM: Chrysotile, amosite and crocidolite asbestos detected in fibre cement fragments. Raw weight of ACM = 2.8107g Total estimated asbestos content in ACM = 0.4216g Total estimated asbestos concentration in ACM = 0.0742% w/w FA: Chrysotile, amosite and crocidolite asbestos detected in weathered fibre cement fragments. Approximate raw weight of FA = 1.3784g Estimated asbestos content in FA = 0.8270g AF: Chrysotile, amosite and crocidolite asbestos detected in fibre cement fragments and in the form of loose fibre bundles. Approximate raw weight of AF = 0.4224g Estimated asbestos content in AF = 0.3802g Total estimated asbestos content in FA and AF = 1.2072g Total estimated asbestos concentration in FA and AF = 0.2126% w/w Organic fibre detected.^{M11}

Client Sample ID	Eurofins mgt Sample No.	Date Sampled	Sample Description	Result
RAQ77 2-3	15-My02978	May 02, 2015	Approximate Sample 640g Sample consisted of: Greyish brown fine-grained soil and rocks	ACM: Chrysotile, amosite and crocidolite asbestos detected in fibre cement fragments. Raw weight of ACM = 1.4576g Total estimated asbestos content in ACM = 0.2186g Total estimated asbestos concentration in ACM = 0.0341% w/w FA: Chrysotile, amosite and crocidolite asbestos detected in weathered fibre cement fragments. Approximate raw weight of FA = 0.3816g Estimated asbestos content in FA = 0.2290g AF: Chrysotile, amosite and crocidolite asbestos detected in fibre cement fragments and in the form of loose fibre bundles. Approximate raw weight of AF = 0.1688g Estimated asbestos content in AF = 0.0506g Total estimated asbestos content in FA and AF = 0.2796g Total estimated asbestos concentration in FA and AF = 0.0437% w/w Organic fibre detected.^{M11}
RAQ78 1-2	15-My02980	May 02, 2015	Approximate Sample 709g Sample consisted of: Greyish brown fine-grained soil and rocks	FA: Chrysotile and amosite asbestos detected in weathered fibre cement fragments. Raw weight of FA = 0.0023g Estimated asbestos content in FA = 0.0016g Total estimated asbestos concentration in FA = 0.0002% w/w* No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected.^{M11}
RAQ78 2-2.2	15-My02981	May 02, 2015	Approximate Sample 613g Sample consisted of: Brownish orange fine-grained soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No respirable fibres detected.^{M11}

Client Sample ID	Eurofins mgt Sample No.	Date Sampled	Sample Description	Result
RAQ79 2-2.4	15-My02982	May 02, 2015	Approximate Sample 655g Sample consisted of: Greyish brown fine-grained soil and rocks	FA: Chrysotile, amosite and crocidolite asbestos detected in weathered matted fibre cement fragments. Approximate raw weight of FA = 0.0042g Estimated asbestos content in FA = 0.0038g AF: Chrysotile and amosite asbestos detected in the form of loose fibre bundles. Approximate raw weight of AF = 0.0063g Estimated asbestos content in AF = 0.0063g Total estimated asbestos content in FA and AF = 0.0101g Total estimated asbestos concentration in FA and AF = 0.0015% w/w* Organic fibre detected.^{M11}
RAQ80 2-2.5	15-My02983	May 02, 2015	Approximate Sample 791g Sample consisted of: Greyish brown fine-grained soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No respirable fibres detected.^{M11}
RAQ81 2-2.7	15-My02984	May 02, 2015	Approximate Sample 681g Sample consisted of: Greyish brown fine-grained soil and rocks	ACM: Chrysotile, amosite and crocidolite asbestos detected in fibre cement fragments. Raw weight of ACM = 0.7713g Total estimated asbestos content in ACM = 0.1157g Total estimated asbestos concentration in ACM = 0.0170% w/w FA: Chrysotile, amosite and crocidolite asbestos detected in weathered fibre cement fragments. Approximate raw weight of FA = 0.4738g Estimated asbestos content in FA = 0.2843g AF: Chrysotile, amosite and crocidolite asbestos detected in the form of loose fibre bundles. Approximate raw weight of AF = 0.0048g Estimated asbestos content in AF = 0.0048g Total estimated asbestos content in FA and AF = 0.2891g Total estimated asbestos concentration in FA and AF = 0.0424% w/w Organic fibre detected.^{M11}

Client Sample ID	Eurofins mgt Sample No.	Date Sampled	Sample Description	Result
RAQ82 2-2.8	15-My02986	May 02, 2015	Approximate Sample 688g Sample consisted of: Greyish brown fine-grained soil and rocks	ACM: Chrysotile, amosite and crocidolite asbestos detected in fibre cement fragments. Raw weight of ACM = 15.2600g Total estimated asbestos content in ACM = 2.2890g Total estimated asbestos concentration in ACM = 0.3325% w/w FA: Chrysotile, amosite and crocidolite asbestos detected in weathered fibre cement fragments. Approximate raw weight of FA = 4.1200g Estimated asbestos content in FA = 2.4720g AF: Chrysotile, amosite and crocidolite asbestos detected in fibre cement fragments and in the form of loose fibre bundles. Approximate raw weight of AF = 3.1414g Estimated asbestos content in AF = 1.2566g Total estimated asbestos content in FA and AF = 3.7286g Total estimated asbestos concentration in FA and AF = 0.5416% w/w Organic fibre detected.^{M11}
QC019	15-My02987	May 02, 2015	Approximate Sample 679g Sample consisted of: Greyish brown fine-grained soil and rocks	ACM: Chrysotile, amosite and crocidolite asbestos detected in fibre cement fragments. Raw weight of ACM = 0.9648g Total estimated asbestos content in ACM = 0.1447g Total estimated asbestos concentration in ACM = 0.0213% w/w FA: Chrysotile, amosite and crocidolite asbestos detected in weathered fibre cement fragments. Approximate raw weight of FA = 1.9246g Estimated asbestos content in FA = 1.1548g AF: Chrysotile, amosite and crocidolite asbestos detected in fibre cement fragments and in the form of loose fibre bundles. Approximate raw weight of AF = 0.3895g Estimated asbestos content in AF = 0.0779g Total estimated asbestos content in FA and AF = 1.2327g Total estimated asbestos concentration in FA and AF = 0.1816% w/w Organic fibre detected.^{M11}

Sample History

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

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

Description	Testing Site	Extracted	Holding Time
Asbestos – LTM-ASB-8020	Sydney	May 05, 2015	Indefinite

Company Name: JBS & G Australia (NSW & WA) P/L
Address: Level 1, 50 Margaret St
Sydney
NSW 2000
Project Name: WHR-V009
Project ID: 50369

Order No.:
Report #: 456247
Phone: 02 8245 0300
Fax:

Received: May 4, 2015 6:15 PM
Due: May 6, 2015
Priority: 2 Day
Contact Name: Mitch Hodgins

Eurofins | mgt Client Manager: Charl Du Preez

Sample Detail					Asbestos - WA guidelines	HOLD
Laboratory where analysis is conducted						
Melbourne Laboratory - NATA Site # 1254 & 14271						
Sydney Laboratory - NATA Site # 18217					X	X
Brisbane Laboratory - NATA Site # 20794						
External Laboratory						
Sample ID	Sample Date	Sampling Time	Matrix	LAB ID		
RAQ73 1-2	May 02, 2015		Soil	S15-My02966	X	
RAQ73 2-3	May 02, 2015		Soil	S15-My02967	X	
RAQ73 3-4	May 02, 2015		Soil	S15-My02968		X
RAQ74 1-2	May 02, 2015		Soil	S15-My02969	X	
RAQ74 2-3	May 02, 2015		Soil	S15-My02970	X	
RAQ74 3-4	May 02, 2015		Soil	S15-My02971		X
RAQ74 4-5	May 02, 2015		Soil	S15-My02972		X
RAQ75 2-3	May 02, 2015		Soil	S15-My02973	X	
RAQ75 3-4	May 02, 2015		Soil	S15-My02974		X

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Laboratory where analysis is conducted						
Melbourne Laboratory - NATA Site # 1254 & 14271						
Sydney Laboratory - NATA Site # 18217					X	X
Brisbane Laboratory - NATA Site # 20794						
External Laboratory						
RAQ76 2-3	May 02, 2015		Soil	S15-My02975	X	
RAQ76 3-4	May 02, 2015		Soil	S15-My02976		X
RAQ76 4-4.2	May 02, 2015		Soil	S15-My02977		X
RAQ77 2-3	May 02, 2015		Soil	S15-My02978	X	
RAQ77 3-4	May 02, 2015		Soil	S15-My02979		X
RAQ78 1-2	May 02, 2015		Soil	S15-My02980	X	
RAQ78 2-2.2	May 02, 2015		Soil	S15-My02981	X	
RAQ79 2-2.4	May 02, 2015		Soil	S15-My02982	X	
RAQ80 2-2.5	May 02, 2015		Soil	S15-My02983	X	
RAQ81 2-2.7	May 02, 2015		Soil	S15-My02984	X	

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Laboratory where analysis is conducted						
Melbourne Laboratory - NATA Site # 1254 & 14271						
Sydney Laboratory - NATA Site # 18217					X	X
Brisbane Laboratory - NATA Site # 20794						
External Laboratory						
RAQ81 2.7-3.0	May 02, 2015		Soil	S15-My02985		X
RAQ82 2-2.8	May 02, 2015		Soil	S15-My02986	X	
QC019	May 02, 2015		Soil	S15-My02987	X	
RAQ73 0-1	May 02, 2015		Soil	S15-My03741		X
RAQ74 0-1	May 02, 2015		Soil	S15-My03742		X
RAQ75 0-1	May 02, 2015		Soil	S15-My03743		X
RAQ75 1-2	May 02, 2015		Soil	S15-My03744		X
RAQ76 0-1	May 02, 2015		Soil	S15-My03745		X
RAQ76 1-2	May 02, 2015		Soil	S15-My03746		X
RAQ77 0-1	May 02, 2015		Soil	S15-My03747		X

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Sample Detail					Asbestos - WA guidelines	HOLD
Laboratory where analysis is conducted						
Melbourne Laboratory - NATA Site # 1254 & 14271						
Sydney Laboratory - NATA Site # 18217					X	X
Brisbane Laboratory - NATA Site # 20794						
External Laboratory						
RAQ77 1-2	May 02, 2015		Soil	S15-My03748		X
RAQ78 0-1	May 02, 2015		Soil	S15-My03749		X
RAQ79 0-1	May 02, 2015		Soil	S15-My03750		X
RAQ79 1-2	May 02, 2015		Soil	S15-My03751		X
RAQ80 0-1	May 02, 2015		Soil	S15-My03752		X
RAQ80 1-2	May 02, 2015		Soil	S15-My03753		X
RAQ81 0-1	May 02, 2015		Soil	S15-My03754		X
RAQ81 1-2	May 02, 2015		Soil	S15-My03755		X
RAQ82 0-1	May 02, 2015		Soil	S15-My03756		X
QC17	May 02, 2015		Soil	S15-My03757		X

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Sample Detail					Asbestos - WA guidelines	HOLD
Laboratory where analysis is conducted						
Melbourne Laboratory - NATA Site # 1254 & 14271						
Sydney Laboratory - NATA Site # 18217					X	X
Brisbane Laboratory - NATA Site # 20794						
External Laboratory						
QC18	May 02, 2015		Soil	S15-My03758		X
QC20	May 02, 2015		Soil	S15-My03759		X
RAQ82 1-2	May 02, 2015		Soil	S15-My03826		X

Eurofins | mgt Internal Quality Control Review and Glossary

General

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

Holding Times

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

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

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

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

UNITS

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

TERMS

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

Comments

Report amended to reflect correction to RAQ 75 2-3 ACM weight.

Sample Integrity

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

Qualifier Codes/Comments

Code	Description
N/A	Not applicable
M11	NATA accreditation does not cover the performance of this service.

Authorised by:

Nibha Vaidya

Senior Analyst-Asbestos (NSW)



Glenn Jackson
National Laboratory Manager

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

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

Uncertainty data is available on request

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Eurofins 1 of 2

CHAIN OF CUSTODY



PROJECT NO.: 50369					LABORATORY BATCH NO.:																																																																																																																																																																																																																																																																																																																																																																																																																																																		
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SEND REPORT TO: MHODGINS					SEND INVOICE TO: ADMIN@JBSG.COM.AU					PHONE: SYDNEY 02 8245 0300 - PERTH 08 9488 0100										EMAIL:																																																																																																																																																																																																																																																																																																																																																																																																																																			
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2-2.5</td><td></td><td></td><td></td><td></td><td></td><td></td><td>XX</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>RAQ 81, 2-2.7</td><td></td><td></td><td></td><td></td><td></td><td></td><td>XX</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> </tbody> </table>																				SAMPLE ID	MATRIX	DATE	TIME	TYPE & PRESERVATIVE	pH	ASBESTOS (M)	HOLD													NOTES:	RAQ 73, 1-2	SOIL	2/5		BAB		XX															RAQ 73, 2-3						XX															RAQ 73, 3-4							X														RAQ 74, 1-2						XX															RAQ 74, 2-3						XX															RAQ 74, 3-4							XX														RAQ 74, 4-5							XX														RAQ 75, 2-3							XX														RAQ 75, 3-4								X													RAQ 76, 2-3							X														RAQ 76, 3-4								XX													RAQ 76, 4-4.2								XX													RAQ 76, 2-3							X														RAQ 77, 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Cooler & Preservative Codes: P = Plastic; J = Soil Jar; B = Glass Bottle; N = Nitric Acid Prsvd; C = Sodium Hydroxide Prsvd; VC = Hydrochloric Acid Prsvd Vial; VS = Sulfuric Acid Prsvd Vial; S = Sulfuric Acid Prsvd; Z = Zinc Prsvd; E = EDTA Prsvd; ST = Sterile Bottle; O = Other																																																																																																																																																																																																																																																																																																																																																																																																																																																							

2 of 2

[illegible]

Sample Receipt 1 Syd

From: Mitchell Hodgins <MHodgins@jbsg.com.au>
Sent: Tuesday, 5 May 2015 12:22 PM
To: Sample Receipt 1 Syd; Enquiries Syd; Charl DuPreez
Cc: EnviroSampleNSW
Subject: RE: 50369 4/5/2015

Place all on hold for now.

From: Sample Receipt 1 Syd [mailto:sample_syd_1@eurofins.com.au]
Sent: Tuesday, 5 May 2015 12:14 PM
To: Mitchell Hodgins; Enquiries Syd; Charl DuPreez
Cc: EnviroSampleNSW
Subject: RE: 50369 4/5/2015

Hi Mitch,

There were extra samples received for WHR-V009 50369 these are:

RAQ73 0-1
RAQ74 0-1
RAQ75 0-1
RAQ75 1-2
RAQ76 0-1
RAQ76 1-2
RAQ77 0-1
RAQ77 1-2
RAQ78 0-1
RAQ79 0-1
RAQ79 1-2
RAQ80 0-1
RAQ80 1-2
RAQ81 0-1
RAQ81 1-2
RAQ82 0-1
QC17
QC18
QC20

ChL # 456247

Would you like the above samples place on hold in report 456247?

Thank you
Ellen

Sample Receipt 1 Syd
Phone : +61 2 9900 8400
Email : sample_syd_1@eurofins.com.au

To facilitate the use of ESdat's new LSPECS software, all ESdat files will now be accompanied by a Header file.

Eurofins now supports ESdat Online! Produce Exceedances Tables, check QA and overlay on Google Maps – all online, through a browser.

Try two Eurofins reports for free. Simply send an email indicating which two Eurofins reports you would like to trial to info@esdat.net and cc your Eurofins contact.

You will receive a login and a link, it's that easy!

Sample Receipt Advice

Company name: **JBS & G Australia (NSW & WA) P/L**
Contact name: **Mitch Hodgins**
Project name: **WHR-V009**
Project ID: **50369**
COC number: **Not provided**
Turn around time: **2 Day**
Date/Time received: **May 4, 2015 6:15 PM**
Eurofins | mgt reference: **456247**

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).

Notes

Sample RAQ80 2-2.5 was received analysis conducted| Extra samples received placed on hold as requested

Contact notes

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

Charl Du Preez on Phone : or by e.mail: charldupreez@eurofins.com.au

Results will be delivered electronically via e.mail to Mitch Hodgins - mhodgins@jbsg.com.au.

Certificate of Analysis



NATA Accredited
Accreditation Number 1261
Site Number 18217

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

JBS & G Australia (NSW & WA) P/L
Level 1, 50 Margaret St
Sydney
NSW 2000

Attention: Mitch Hodgins
Report 456250-AID
Project Name WHR - DATA GAP
Project ID 50369
Received Date May 04, 2015
Date Reported May 06, 2015

Methodology:

Asbestos ID Conducted in accordance with the Australian Standard AS 4964 – 2004: Method for the Qualitative Identification of Asbestos in Bulk Samples and in-house Method LTM-ASB-8020 by polarised light microscopy (PLM) and dispersion staining (DS) techniques. Bulk samples include building materials, soils and ores.

Subsampling Soil Samples The whole sample submitted is first dried and then sieved through a 10mm sieve followed by a 2mm sieve. All fibrous matter viz greater than 10mm, greater than 2mm as well as the material passing through the 2mm sieve are retained and analysed for the presence of asbestos. If the sub 2mm fraction is greater than approximately 30 to 60g then a sub-sampling routine based on ISO 3082:2009(E) Iron ores - Sampling and Sample preparation procedures is employed. Depending on the nature and size of the soil sample, the sub-2 mm residue material may need to be sub-sampled for trace analysis in accordance with AS 4964-2004.

Bonded asbestos-containing material (ACM) The material is first examined and any fibres isolated and where required interfering organic fibres or matter may be removed by treating the sample for several hours at a temperature not exceeding $400 \pm 30^{\circ}\text{C}$. The resultant material is then ground and examined in accordance with AS 4964-2004.

Limit of Reporting The nominal detection limit of the AS4964 method is around 0.01%. The examination of large sample sizes (at least 500 ml is recommended) may improve the likelihood of identifying asbestos material in the greater than 2 mm fraction. The NEPM screening level of 0.001% w/w asbestos in soil for FA and AF (i.e. non-bonded/friable asbestos) only applies where the FA and AF are able to be quantified by gravimetric procedures. This screening level is not applicable to free fibres. NOTE: NATA News, September 2011 – page 34, states, "Weighing of fibres is problematic and can lead to loss of fibres and potential exposure for laboratory analysts. To request laboratories to report information which is outside the scope of AS 4964-2004 and the scope of their accreditation is misleading and is most unwise" therefore such values reported are outside the scope of Eurofins | mgt NATA accreditation as designated by an asterisk.

Project Name WHR - DATA GAP
Project ID 50369
Date Sampled Apr 29, 2015
Report 456250-AID

Client Sample ID	Eurofins mgt Sample No.	Date Sampled	Sample Description	Result
RAQ130 0-1	15-My02989	Apr 29, 2015	Approximate Sample 477g Sample consisted of: Greyish brown fine-grained soil and rocks	FA: Chrysotile and amosite asbestos detected in a weathered fibre cement fragment. Approximate raw weight of FA = 0.0054g Estimated asbestos content in FA = 0.0032g Total estimated asbestos concentration in FA = 0.0007% w/w* No asbestos detected at the reporting limit of 0.002% w/w.* Organic fibre detected. ^{M11}
RAQ130 1-2	15-My02990	Apr 29, 2015	Approximate Sample 653g Sample consisted of: Greyish brown fine-grained soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No respirable fibres detected. ^{M11}
RAQ130 2-3	15-My02991	Apr 29, 2015	Approximate Sample 665g Sample consisted of: Greyish brown fine-grained soil and rocks	AF: Chrysotile asbestos detected in the form of loose fibre bundles. Approximate raw weight of AF = 0.0037g Estimated asbestos content in AF = 0.0037g Total estimated asbestos concentration in AF = 0.0006% w/w* No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. ^{M11}
RAQ131 0-1	15-My02993	Apr 29, 2015	Approximate Sample 789g Sample consisted of: Greyish brown fine-grained soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No respirable fibres detected. ^{M11}
RAQ131 1-2	15-My02994	Apr 29, 2015	Approximate Sample 787g Sample consisted of: Greyish brown fine-grained soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No respirable fibres detected. ^{M11}
RAQ131 2-3	15-My02995	Apr 29, 2015	Approximate Sample 705g Sample consisted of: Greyish brown fine-grained soil and rocks	FA: Chrysotile asbestos detected in weathered fibre cement fragments. Approximate raw weight of FA = 0.2006g Estimated asbestos content in FA = 0.0602g Total estimated asbestos concentration in FA = 0.0085% w/w* Organic fibre detected. ^{M11}

Client Sample ID	Eurofins mgt Sample No.	Date Sampled	Sample Description	Result
RAQ132 0-1	15-My02998	Apr 29, 2015	Approximate Sample 661g Sample consisted of: Greyish brown fine-grained soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No respirable fibres detected. ^{M11}
RAQ132 1-2	15-My02999	Apr 29, 2015	Approximate Sample 614g Sample consisted of: Greyish brown fine-grained soil and rocks	AF: Chrysotile asbestos detected in the form of loose fibre bundles. Approximate raw weight of AF = 0.0003g Estimated asbestos content in AF = 0.0003g Total estimated asbestos concentration in AF = 0.0000% w/w* No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. ^{M11}
RAQ132 2-3	15-My03000	Apr 29, 2015	Approximate Sample 577g Sample consisted of: Greyish brown fine-grained soil and rocks	AF: Chrysotile and amosite asbestos detected in a fibre cement fragment. Approximate raw weight of AF = 0.0395g Estimated asbestos content in AF = 0.0059g Total estimated asbestos concentration in AF = 0.0010% w/w* Organic fibre detected. ^{M11}
RAQ133 0-1	15-My03002	Apr 29, 2015	Approximate Sample 645g Sample consisted of: Greyish brown fine-grained soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No respirable fibres detected. ^{M11}
RAQ133 1-2	15-My03003	Apr 29, 2015	Approximate Sample 635g Sample consisted of: Greyish brown fine-grained soil and rocks	FA: Chrysotile asbestos detected in weathered fibre cement fragments. Approximate raw weight of FA = 0.0031g Estimated asbestos content in FA = 0.0025g AF: Chrysotile and amosite asbestos detected in the form of loose fibre bundles. Approximate raw weight of AF = 0.0016g Estimated asbestos content in AF = 0.0016g Total estimated asbestos content in FA and AF = 0.0041g Total estimated asbestos concentration in FA and AF = 0.0006% w/w* No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. ^{M11}

Client Sample ID	Eurofins mgt Sample No.	Date Sampled	Sample Description	Result
RAQ133 2-3	15-My03004	Apr 29, 2015	Approximate Sample 635g Sample consisted of: Greyish brown fine-grained soil and rocks	ACM: Chrysotile asbestos detected in fibre cement fragments. Raw weight of ACM = 4.7420g Total estimated asbestos content in ACM = 0.7113g Total estimated asbestos concentration in ACM = 0.1121% w/w AF: Chrysotile asbestos detected in the form of loose fibre bundles. Approximate raw weight of AF = 0.0006g Estimated asbestos content in AF = 0.0006g Total estimated asbestos concentration in AF = 0.0001% w/w* No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. ^{M11}
RAQ134 0-1	15-My03006	Apr 29, 2015	Approximate Sample 561g Sample consisted of: Greyish brown fine-grained soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No respirable fibres detected. ^{M11}
RAQ134 1-2	15-My03007	Apr 29, 2015	Approximate Sample 635g Sample consisted of: Greyish brown fine-grained soil and rocks	FA: Chrysotile asbestos detected in weathered fibre cement fragments. Raw weight of FA = 0.0996g Estimated asbestos content in FA = 0.0299g Total estimated asbestos concentration in FA = 0.0047% w/w* Organic fibre detected. ^{M11}
RAQ134 2-2.7	15-My03008	Apr 29, 2015	Approximate Sample 600g Sample consisted of: Greyish brown fine-grained soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No respirable fibres detected. ^{M11}

Sample History

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

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

Description	Testing Site	Extracted	Holding Time
Asbestos – LTM-ASB-8020	Sydney	May 05, 2015	Indefinite

Company Name: JBS & G Australia (NSW & WA) P/L
Address: Level 1, 50 Margaret St
Sydney
NSW 2000
Project Name: WHR - DATA GAP
Project ID: 50369

Order No.:
Report #: 456250
Phone: 02 8245 0300
Fax:

Received: May 4, 2015 6:15 PM
Due: May 6, 2015
Priority: 2 Day
Contact Name: Mitch Hodgins

Eurofins | mgt Client Manager: Charl Du Preez

Sample Detail					Asbestos - WA guidelines	HOLD
Laboratory where analysis is conducted						
Melbourne Laboratory - NATA Site # 1254 & 14271						
Sydney Laboratory - NATA Site # 18217					X	X
Brisbane Laboratory - NATA Site # 20794						
External Laboratory						
Sample ID	Sample Date	Sampling Time	Matrix	LAB ID		
RAQ130 0-1	Apr 29, 2015		Soil	S15-My02989	X	
RAQ130 1-2	Apr 29, 2015		Soil	S15-My02990	X	
RAQ130 2-3	Apr 29, 2015		Soil	S15-My02991	X	
RAQ130 3-3.2	Apr 29, 2015		Soil	S15-My02992		X
RAQ131 0-1	Apr 29, 2015		Soil	S15-My02993	X	
RAQ131 1-2	Apr 29, 2015		Soil	S15-My02994	X	
RAQ131 2-3	Apr 29, 2015		Soil	S15-My02995	X	
RAQ131 3-4	Apr 29, 2015		Soil	S15-My02996		X
RAQ131 4-4.2	Apr 29, 2015		Soil	S15-My02997		X

Company Name: JBS & G Australia (NSW & WA) P/L
Address: Level 1, 50 Margaret St
Sydney
NSW 2000
Project Name: WHR - DATA GAP
Project ID: 50369

Order No.:
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Phone: 02 8245 0300
Fax:

Received: May 4, 2015 6:15 PM
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Priority: 2 Day
Contact Name: Mitch Hodgins

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Sample Detail					Asbestos - WA guidelines	HOLD
Laboratory where analysis is conducted						
Melbourne Laboratory - NATA Site # 1254 & 14271						
Sydney Laboratory - NATA Site # 18217					X	X
Brisbane Laboratory - NATA Site # 20794						
External Laboratory						
RAQ132 0-1	Apr 29, 2015		Soil	S15-My02998	X	
RAQ132 1-2	Apr 29, 2015		Soil	S15-My02999	X	
RAQ132 2-3	Apr 29, 2015		Soil	S15-My03000	X	
RAQ132 3-3.5	Apr 29, 2015		Soil	S15-My03001		X
RAQ133 0-1	Apr 29, 2015		Soil	S15-My03002	X	
RAQ133 1-2	Apr 29, 2015		Soil	S15-My03003	X	
RAQ133 2-3	Apr 29, 2015		Soil	S15-My03004	X	
RAQ133 3-3.3	Apr 29, 2015		Soil	S15-My03005		X
RAQ134 0-1	Apr 29, 2015		Soil	S15-My03006	X	
RAQ134 1-2	Apr 29, 2015		Soil	S15-My03007	X	

Company Name: JBS & G Australia (NSW & WA) P/L
Address: Level 1, 50 Margaret St
Sydney
NSW 2000
Project Name: WHR - DATA GAP
Project ID: 50369

Order No.:
Report #: 456250
Phone: 02 8245 0300
Fax:

Received: May 4, 2015 6:15 PM
Due: May 6, 2015
Priority: 2 Day
Contact Name: Mitch Hodgins

Eurofins | mgt Client Manager: Charl Du Preez

Sample Detail					Asbestos - WA guidelines	HOLD
Laboratory where analysis is conducted						
Melbourne Laboratory - NATA Site # 1254 & 14271						
Sydney Laboratory - NATA Site # 18217					X	X
Brisbane Laboratory - NATA Site # 20794						
External Laboratory						
RAQ134 2-2.7	Apr 29, 2015		Soil	S15-My03008	X	

Eurofins | mgt Internal Quality Control Review and Glossary

General

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

Holding Times

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

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

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

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

UNITS

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

TERMS

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

Comments

The LORs have been raised as there was insufficient sample provided for analysis.

Sample Integrity

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

Qualifier Codes/Comments

Code	Description
N/A	Not applicable
M11	NATA accreditation does not cover the performance of this service.

Authorised by:

Nibha Vaidya

Senior Analyst-Asbestos (NSW)



Glenn Jackson
National Laboratory Manager

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

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

Uncertainty data is available on request

Eurofins | mgt shall not be liable for loss, cost, damages or expenses incurred by the client, or any other person or company, resulting from the use of any information or interpretation given in this report. In no case shall Eurofins | mgt be liable for consequential damages including, but not limited to, lost profits, damages for failure to meet deadlines and lost production arising from this report. This document shall not be reproduced except in full and relates only to the items tested. Unless indicated otherwise, the tests were performed on the samples as received.

Eurofas 2-2

JMSO Forms013 - Chain of Custody - Generic

Sample Receipt Advice

Company name: **JBS & G Australia (NSW & WA) P/L**
Contact name: Mitch Hodgins
Project name: WHR - DATA GAP
Project ID: 50369
COC number: Not provided
Turn around time: 2 Day
Date/Time received: May 4, 2015 6:15 PM
Eurofins | mgt reference: **456250**

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).

Notes

RAQ130 3-3.2 labelled as RAQ130 3-4 as per COC

Contact notes

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

Charl Du Preez on Phone : or by e.mail: charldupreez@eurofins.com.au

Results will be delivered electronically via e.mail to Mitch Hodgins - mhodgins@jbsg.com.au.

Certificate of Analysis



NATA Accredited
Accreditation Number 1261
Site Number 18217

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

JBS & G Australia (NSW & WA) P/L
Level 1, 50 Margaret St
Sydney
NSW 2000

Attention: Mitch Hodgins
Report 456254-AID
Project Name WHR - V009
Project ID 50369
Received Date May 04, 2015
Date Reported May 06, 2015

Methodology:

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

Project Name WHR - V009
Project ID 50369
Date Sampled Apr 28, 2015
Report 456254-AID

Client Sample ID	Eurofins mgt Sample No.	Date Sampled	Sample Description	Result
AQ01 1-2	15-My03023	Apr 28, 2015	Approximate Sample 747g Sample consisted of: Greyish brown fine-grained soil and rocks	FA: Chrysotile, amosite and crocidolite asbestos detected in weathered fibre cement fragments. Approximate raw weight of FA = 0.0305g Estimated asbestos content in FA = 0.0122g AF: Chrysotile, amosite and crocidolite asbestos detected in the form of loose fibre bundles. Approximate raw weight of AF = 0.0062g Estimated asbestos content in AF = 0.0062g Total estimated asbestos content in FA and AF = 0.0184g Total estimated asbestos concentration in FA and AF = 0.0025% w/w* Organic fibre detected.^{M11}
AQ01 2-3	15-My03024	Apr 28, 2015	Approximate Sample 740g Sample consisted of: Greyish brown fine-grained soil and rocks	ACM: Chrysotile and amosite asbestos detected in a fibre cement fragment. Raw weight of ACM = 9.7600g Total estimated asbestos content in ACM = 1.9520g Total estimated asbestos concentration in ACM = 0.2637% w/w AF: Chrysotile and amosite asbestos detected in the form of loose fibre bundles. Approximate raw weight of AF = 0.0012g Estimated asbestos content in AF = 0.0012g Total estimated asbestos concentration in AF = 0.0002% w/w* No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected.^{M11}

Client Sample ID	Eurofins mgt Sample No.	Date Sampled	Sample Description	Result
AQ02 1-2	15-My03026	Apr 28, 2015	Approximate Sample 704g Sample consisted of: Greyish brown fine-grained soil and rocks	AF: Chrysotile, amosite and crocidolite asbestos detected in the form of loose fibre bundles. Approximate raw weight of AF = 0.0010g Estimated asbestos content in AF = 0.0010g Total estimated asbestos concentration in AF = 0.0001% w/w* No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. ^{M11}
AQ02 2-3	15-My03027	Apr 28, 2015	Approximate Sample 772g Sample consisted of: Greyish brown fine-grained soil and rocks	AF: Chrysotile asbestos detected in the form of loose fibre bundles. Approximate raw weight of AF = 0.0016g Estimated asbestos content in AF = 0.0016g Total estimated asbestos concentration in AF = 0.0002% w/w* No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. ^{M11}
AQ03 1-2	15-My03029	Apr 28, 2015	Approximate Sample 773g Sample consisted of: Brownish grey fine-grained soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No respirable fibres detected. ^{M11}
AQ04 2-3	15-My03030	Apr 28, 2015	Approximate Sample 751g Sample consisted of: Greyish brown fine-grained soil and rocks	FA: Chrysotile and amosite asbestos detected in weathered fibre cement debris. Approximate raw weight of FA = 0.0026g Estimated asbestos content in FA = 0.0021g AF: Chrysotile and amosite asbestos detected in the form of loose fibre bundles. Approximate raw weight of AF = 0.0004g Estimated asbestos content in AF = 0.0004g Total estimated asbestos content in FA and AF = 0.0025g Total estimated asbestos concentration in FA and AF = 0.0003% w/w* No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. ^{M11}

Client Sample ID	Eurofins mgt Sample No.	Date Sampled	Sample Description	Result
AQ05 1-1.5	15-My03032	Apr 28, 2015	Approximate Sample 836g Sample consisted of: Brownish grey fine-grained soil and rocks	FA: Chrysotile, amosite and crocidolite asbestos detected in weathered fibre cement fragments. Approximate raw weight of FA = 0.0058g Estimated asbestos content in FA = 0.0035g AF: Chrysotile asbestos detected in the form of loose fibre bundles. Approximate raw weight of AF = 0.0006g Estimated asbestos content in AF = 0.0006g Total estimated asbestos content in FA and AF = 0.0041g Total estimated asbestos concentration in FA and AF = 0.0005% w/w* No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. ^{M11}
AQ05 2-3	15-My03033	Apr 28, 2015	Approximate Sample 680g Sample consisted of: Greyish brown fine-grained soil and rocks	AF: Chrysotile asbestos detected in the form of loose fibre bundles. Approximate raw weight of AF = 0.0028g Estimated asbestos content in AF = 0.0028g Total estimated asbestos concentration in AF = 0.0004% w/w* No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. ^{M11}
AQ07 1-2	15-My03035	Apr 28, 2015	Approximate Sample 757g Sample consisted of: Brownish grey fine-grained soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No respirable fibres detected. ^{M11}
AQ07 2-3	15-My03036	Apr 28, 2015	Approximate Sample 984g Sample consisted of: Greyish brown fine-grained soil and rocks	FA: Chrysotile, amosite and crocidolite asbestos detected in weathered matted fibre cement fragments. Approximate raw weight of FA = 0.0379g Estimated asbestos content in FA = 0.0303g AF: Chrysotile, amosite and crocidolite asbestos detected in the form of loose fibre bundles. Approximate raw weight of AF = 0.0122g Estimated asbestos content in AF = 0.0122g Total estimated asbestos content in FA and AF = 0.0425g Total estimated asbestos concentration in FA and AF = 0.0043% w/w* Organic fibre detected. ^{M11}

Client Sample ID	Eurofins mgt Sample No.	Date Sampled	Sample Description	Result
AQ08 1-2	15-My03038	Apr 28, 2015	Approximate Sample 1029g Sample consisted of: Greyish brown fine-grained soil and rocks	AF: Chrysotile, amosite and crocidolite asbestos detected in the form of loose fibre bundles. Approximate raw weight of AF = 0.0069g Estimated asbestos content in AF = 0.0069g Total estimated asbestos concentration in AF = 0.0007% w/w* No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. ^{M11}
AQ08 2-2.9	15-My03039	Apr 28, 2015	Approximate Sample 829g Sample consisted of: Greyish brown fine-grained soil, rocks and bitumen	ACM: Chrysotile, amosite and crocidolite asbestos detected in a fibre cement fragment. Raw weight of ACM = 2.6600g Total estimated asbestos content in ACM = 0.3990g Total estimated asbestos concentration in ACM = 0.0481% w/w Organic fibre detected. ^{M11}
AQ14 1-2	15-My03040	Apr 28, 2015	Approximate Sample 909g Sample consisted of: Greyish brown fine-grained soil and rocks	AF: Chrysotile and amosite asbestos detected in the form of loose fibre bundles. Approximate raw weight of AF = 0.0011g Estimated asbestos content in AF = 0.0011g Total estimated asbestos concentration in AF = 0.0001% w/w* No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. ^{M11}
AQ14 2-3	15-My03041	Apr 28, 2015	Approximate Sample 731g Sample consisted of: Greyish brown fine-grained soil and rocks	AF: Amosite asbestos detected in the form of loose fibre bundles. Approximate raw weight of AF = 0.0048g Estimated asbestos content in AF = 0.0048g Total estimated asbestos concentration in AF = 0.0007% w/w* No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. ^{M11}
AQ16 1-1.7	15-My03043	Apr 28, 2015	Approximate Sample 610g Sample consisted of: Greyish brown fine-grained soil and rocks	AF: Chrysotile asbestos detected in the form of loose fibre bundles. Approximate raw weight of AF = 0.0031g Estimated asbestos content in AF = 0.0031g Total estimated asbestos concentration in AF = 0.0005% w/w* No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. ^{M11}

Client Sample ID	Eurofins mgt Sample No.	Date Sampled	Sample Description	Result
AQ16 2-3	15-My03044	Apr 28, 2015	Approximate Sample 643g Sample consisted of: Greyish brown fine-grained soil and rocks	AF: Chrysotile asbestos detected in the form of loose fibre bundles. Approximate raw weight of AF = 0.0002g Estimated asbestos content in AF = 0.0002g Total estimated asbestos concentration in AF = 0.00003% w/w* No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. ^{M11}
AQ17 1-2	15-My03046	Apr 28, 2015	Approximate Sample 670g Sample consisted of: Greyish brown fine-grained soil and rocks	AF: Chrysotile asbestos detected in the form of loose fibre bundles. Approximate raw weight of AF = 0.0003g Estimated asbestos content in AF = 0.0003g Total estimated asbestos concentration in AF = 0.00004% w/w* No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. ^{M11}
AQ17 2-3	15-My03047	Apr 28, 2015	Approximate Sample 693g Sample consisted of: Greyish brown fine-grained soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No respirable fibres detected. ^{M11}
AQ18 1-2	15-My03049	Apr 28, 2015	Approximate Sample 689g Sample consisted of: Greyish brown fine-grained soil and rocks	AF: Chrysotile asbestos detected in the form of loose fibre bundles. Approximate raw weight of AF = 0.0037g Estimated asbestos content in AF = 0.0037g Total estimated asbestos concentration in AF = 0.0005% w/w* No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. ^{M11}
AQ18 2-3	15-My03050	Apr 28, 2015	Approximate Sample 779g Sample consisted of: Greyish brown fine-grained soil and rocks	AF: Chrysotile asbestos detected in the form of loose fibre bundles. Approximate raw weight of AF = 0.0030g Estimated asbestos content in AF = 0.0030g Total estimated asbestos concentration in AF = 0.0004% w/w* No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. ^{M11}
AQ19 1-2	15-My03052	Apr 28, 2015	Approximate Sample 739g Sample consisted of: Greyish brown fine-grained soil and rocks	FA: Chrysotile, amosite and crocidolite asbestos detected in weathered fibre cement debris. Approximate raw weight of FA = 0.0120g Estimated asbestos content in FA = 0.0084g Total estimated asbestos concentration in FA = 0.0011% w/w* Organic fibre detected. ^{M11}
AQ19 2-3	15-My03053	Apr 28, 2015	Approximate Sample 847g Sample consisted of: Greyish brown fine-grained soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No respirable fibres detected. ^{M11}

Client Sample ID	Eurofins mgt Sample No.	Date Sampled	Sample Description	Result
AQ15 1-2	15-My03054	Apr 28, 2015	Approximate Sample 629g Sample consisted of: Greyish brown fine-grained soil and rocks	AF: Chrysotile asbestos detected in a fibre cement fragment. Raw weight of AF = 0.0364g Estimated asbestos content in AF = 0.0055g Total estimated asbestos concentration in AF = 0.0009% w/w* No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. ^{M11}
AQ15 2-3	15-My03055	Apr 28, 2015	Approximate Sample 643g Sample consisted of: Greyish brown fine-grained soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No respirable fibres detected. ^{M11}
AQ24 1-1.6	15-My03057	Apr 28, 2015	Approximate Sample 530g Sample consisted of: Greyish brown fine-grained soil and rocks	FA: Chrysotile, amosite and crocidolite asbestos detected in weathered matted fibre cement debris. Approximate raw weight of FA = 0.0102g Estimated asbestos content in FA = 0.0082g Total estimated asbestos concentration in FA = 0.0015% w/w* Organic fibre detected. ^{M11}
AQ24 2-3	15-My03058	Apr 28, 2015	Approximate Sample 715g Sample consisted of: Greyish brown fine-grained soil and rocks	ACM: Chrysotile asbestos detected in fibre cement fragments. Raw weight of ACM = 1.7030g Total estimated asbestos content in ACM = 0.2555g Total estimated asbestos concentration in ACM = 0.0357% w/w Organic fibre detected. ^{M11}
AQ25 1-2	15-My03061	Apr 28, 2015	Approximate Sample 843g Sample consisted of: Greyish brown fine-grained soil and rocks	FA: Chrysotile, amosite and crocidolite asbestos detected in weathered matted fibre cement debris. Approximate raw weight of FA = 0.0107g Estimated asbestos content in FA = 0.0086g Total estimated asbestos concentration in FA = 0.0010% w/w* Organic fibre detected. ^{M11}

Client Sample ID	Eurofins mgt Sample No.	Date Sampled	Sample Description	Result
AQ25 2-2.7	15-My03062	Apr 28, 2015	Approximate Sample 818g Sample consisted of: Greyish brown fine-grained soil and rocks	FA: Chrysotile and amosite asbestos detected in weathered fibre cement fragments. Approximate raw weight of FA = 0.0056g Estimated asbestos content in FA = 0.0045g AF: Chrysotile and amosite asbestos detected in the form of loose fibre bundles. Approximate raw weight of AF = 0.0016g Estimated asbestos content in AF = 0.0016g Total estimated asbestos content in FA and AF = 0.0061g Total estimated asbestos concentration in FA and AF = 0.0007% w/w* No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected.^{M11}
AQ26 1-1.6	15-My03064	Apr 28, 2015	Approximate Sample 709g Sample consisted of: Greyish brown fine-grained soil and rocks	FA: Chrysotile and amosite asbestos detected in weathered fibre cement fragments. Approximate raw weight of FA = 1.9513g Estimated asbestos content in FA = 0.9757g AF: Chrysotile and amosite asbestos detected in the form of loose fibre bundles. Approximate raw weight of AF = 0.0008g Estimated asbestos content in AF = 0.0008g Total estimated asbestos content in FA and AF = 0.9765g Total estimated asbestos concentration in FA and AF = 0.1377% w/w Organic fibre detected.^{M11}
AQ26 2-2.9	15-My03065	Apr 28, 2015	Approximate Sample 610g Sample consisted of: Greyish brown fine-grained soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No respirable fibres detected.^{M11}
AQ31 1-1.5	15-My03067	Apr 28, 2015	Approximate Sample 562g Sample consisted of: Greyish brown fine-grained soil and rocks	AF: Chrysotile asbestos detected in the form of loose fibre bundles. Approximate raw weight of AF = 0.0036g Estimated asbestos content in AF = 0.0036g Total estimated asbestos concentration in AF = 0.0006% w/w* No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected.^{M11}

Client Sample ID	Eurofins mgt Sample No.	Date Sampled	Sample Description	Result
AQ33 1-2	15-My03068	Apr 28, 2015	Approximate Sample 779g Sample consisted of: Greyish brown fine-grained soil and rocks	AF: Chrysotile, amosite and crocidolite asbestos detected in the form of loose fibre bundles. Approximate raw weight of AF = 0.0064g Estimated asbestos content in AF = 0.0064g Total estimated asbestos concentration in AF = 0.0008% w/w* No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. ^{M11}
AQ36 1-2	15-My03069	Apr 28, 2015	Approximate Sample 909g Sample consisted of: Greyish brown fine-grained soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No respirable fibres detected. ^{M11}
AQ36 2-3	15-My03070	Apr 28, 2015	Approximate Sample 837g Sample consisted of: Pinkish brown fine-grained soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No respirable fibres detected. ^{M11}
AQ37 1-2	15-My03071	Apr 28, 2015	Approximate Sample 734g Sample consisted of: Greyish brown fine-grained soil and rocks	AF: Chrysotile and amosite asbestos detected in the form of loose fibre bundles. Approximate raw weight of AF = 0.0071g Estimated asbestos content in AF = 0.0071g Total estimated asbestos concentration in AF = 0.0010% w/w* No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. ^{M11}
AQ37 2-3	15-My03072	Apr 28, 2015	Approximate Sample 859g Sample consisted of: Greyish brown fine-grained soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No respirable fibres detected. ^{M11}
AQ48 1-1.8	15-My03075	Apr 28, 2015	Approximate Sample 574g Sample consisted of: Greyish brown fine-grained soil and rocks	AF: Chrysotile asbestos detected in the form of loose fibre bundles. Approximate raw weight of AF = 0.0005g Estimated asbestos content in AF = 0.0005g Total estimated asbestos concentration in AF = 0.0001% w/w* No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. ^{M11}

Client Sample ID	Eurofins mgt Sample No.	Date Sampled	Sample Description	Result
AQ50 1-2	15-My03076	Apr 28, 2015	Approximate Sample 536g Sample consisted of: Pinkish brown fine-grained soil and rocks	ACM: Chrysotile, amosite and crocidolite asbestos detected in fibre cement fragments. Raw weight of ACM = 2.2313g Total estimated asbestos content in ACM = 0.3347g Total estimated asbestos concentration in ACM = 0.0625% w/w FA: Chrysotile, amosite and crocidolite asbestos detected in weathered fibre cement fragments. Approximate raw weight of FA = 0.3912g Estimated asbestos content in FA = 0.1565g AF: Chrysotile, amosite and crocidolite asbestos detected in the form of loose fibre bundles. Approximate raw weight of AF = 0.0078g Estimated asbestos content in AF = 0.0078g Total estimated asbestos content in FA and AF = 0.1643g Total estimated asbestos concentration in FA and AF = 0.0307% w/w Organic fibre detected.^{M11}
AQ50 2-3	15-My03077	Apr 28, 2015	Approximate Sample 429g Sample consisted of: Greyish brown fine-grained soil and rocks	No asbestos detected at the reporting limit of 0.002% w/w.* Organic fibre detected. No respirable fibres detected.^{M11}
AQ61 1-2	15-My03079	Apr 28, 2015	Approximate Sample 863g Sample consisted of: Greyish brown fine-grained soil and rocks	FA: Chrysotile, amosite and crocidolite asbestos detected in weathered fibre cement fragments. Approximate raw weight of FA = 1.1739g Estimated asbestos content in FA = 0.5870g AF: Chrysotile and amosite asbestos detected in the form of loose fibre bundles. Approximate raw weight of AF = 0.0124g Estimated asbestos content in AF = 0.0124g Total estimated asbestos content in FA and AF = 0.5994g Total estimated asbestos concentration in FA and AF = 0.0695% w/w Organic fibre detected.^{M11}

Client Sample ID	Eurofins mgt Sample No.	Date Sampled	Sample Description	Result
AQ61 2-3	15-My03080	Apr 28, 2015	Approximate Sample 822g Sample consisted of: Greyish brown fine-grained soil and rocks	ACM: Chrysotile, amosite and crocidolite asbestos detected in fibre cement fragments. Raw weight of ACM = 2.1300g Total estimated asbestos content in ACM = 0.3195g Total estimated asbestos concentration in ACM = 0.0389% w/w FA: Chrysotile, amosite and crocidolite asbestos detected in assorted weathered fibre cement fragments. Approximate raw weight of FA = 0.0925g Estimated asbestos content in FA = 0.0370g AF: Chrysotile and amosite asbestos detected in fibre cement fragments. Chrysotile, amosite and crocidolite asbestos detected in the form of loose fibre bundles. Approximate raw weight of AF = 0.2750g Estimated asbestos content in AF = 0.0550g Total estimated asbestos content in FA and AF = 0.0920g Total estimated asbestos concentration in FA and AF = 0.0112% w/w Organic fibre detected.^{M11}
AQ64 1-2	15-My03081	Apr 28, 2015	Approximate Sample 804g Sample consisted of: Greyish brown fine-grained soil and rocks	FA: Chrysotile, amosite and crocidolite asbestos detected in weathered fibre cement fragments. Approximate raw weight of FA = 1.4737g Estimated asbestos content in FA = 0.5895g AF: Chrysotile, amosite and crocidolite asbestos detected in the form of loose fibre bundles. Approximate raw weight of AF = 0.0103g Estimated asbestos content in AF = 0.0103g Total estimated asbestos content in FA and AF = 0.5998g Total estimated asbestos concentration in FA and AF = 0.0746% w/w Organic fibre detected.^{M11}

Client Sample ID	Eurofins mgt Sample No.	Date Sampled	Sample Description	Result
AQ65 1-2	15-My03083	Apr 28, 2015	Approximate Sample 938g Sample consisted of: Greyish brown fine-grained soil and rocks	AF: Chrysotile asbestos detected in the form of loose fibre bundles. Approximate raw weight of AF = 0.0005g Estimated asbestos content in AF = 0.0005g Total estimated asbestos concentration in AF = 0.0001% w/w* No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. ^{M11}
AQ65 2-2.7	15-My03084	Apr 28, 2015	Approximate Sample 878g Sample consisted of: Greyish brown fine-grained soil and rocks	FA: Chrysotile, amosite and crocidolite asbestos detected in weathered fibre cement fragments. Approximate raw weight of FA = 0.0815g Estimated asbestos content in FA = 0.0489g AF: Chrysotile, amosite and crocidolite asbestos detected in the form of loose fibre bundles. Approximate raw weight of AF = 0.0024g Estimated asbestos content in AF = 0.0024g Total estimated asbestos content in FA and AF = 0.0513g Total estimated asbestos concentration in FA and AF = 0.0058% w/w* Organic fibre detected. ^{M11}
AQ66 1-2	15-My03085	Apr 28, 2015	Approximate Sample 878g Sample consisted of: Greyish brown fine-grained soil and rocks	FA: Chrysotile, amosite and crocidolite asbestos detected in weathered fibre cement debris. Approximate raw weight of FA = 0.0068g Estimated asbestos content in FA = 0.0054g AF: Chrysotile and amosite asbestos detected in the form of loose fibre bundles. Approximate raw weight of AF = 0.0008g Estimated asbestos content in AF = 0.0008g Total estimated asbestos content in FA and AF = 0.0062g Total estimated asbestos concentration in FA and AF = 0.0007% w/w* No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. ^{M11}

Client Sample ID	Eurofins mgt Sample No.	Date Sampled	Sample Description	Result
AQ66 2-3	15-My03086	Apr 28, 2015	Approximate Sample 858g Sample consisted of: Greyish brown fine-grained soil and rocks	AF: Chrysotile asbestos detected in the form of loose fibre bundles. Approximate raw weight of AF = 0.0018g Estimated asbestos content in AF = 0.0018g Total estimated asbestos concentration in AF = 0.0002% w/w* No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. ^{M11}
AQ67 1-1.3	15-My03087	Apr 28, 2015	Approximate Sample 800g Sample consisted of: Greyish brown fine-grained soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No respirable fibres detected. ^{M11}
AQ68 1-1.5	15-My03088	Apr 28, 2015	Approximate Sample 742g Sample consisted of: Greyish brown fine-grained soil and rocks	ACM: Chrysotile and amosite asbestos detected in a fibre cement fragment. Raw weight of ACM = 3.9300g Total estimated asbestos content in ACM = 0.5895g Total estimated asbestos concentration in ACM = 0.0795% w/w AF: Chrysotile asbestos detected in the form of loose fibre bundles. Approximate raw weight of AF = 0.0006g Estimated asbestos content in AF = 0.0006g Total estimated asbestos concentration in AF = 0.0001% w/w* No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. ^{M11}
AQ69 1-1.6	15-My03089	Apr 28, 2015	Approximate Sample 753g Sample consisted of: Greyish brown fine-grained soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No respirable fibres detected. ^{M11}
AQ72 1-2	15-My03091	Apr 28, 2015	Approximate Sample 765g Sample consisted of: Greyish brown fine-grained soil and rocks	AF: Chrysotile asbestos detected in the form of loose fibre bundles. Approximate raw weight of AF = 0.0002g Estimated asbestos content in AF = 0.0002g Total estimated asbestos concentration in AF = 0.00003% w/w* No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. ^{M11}
AQ72 2-3	15-My03092	Apr 28, 2015	Approximate Sample 868g Sample consisted of: Greyish brown fine-grained soil and rocks	AF: Chrysotile and crocidolite asbestos detected in the form of loose fibre bundles. Approximate raw weight of AF = 0.0046g Estimated asbestos content in AF = 0.0046g Total estimated asbestos concentration in AF = 0.0005% w/w* No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. ^{M11}

Sample History

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

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

Description	Testing Site	Extracted	Holding Time
Asbestos – LTM-ASB-8020	Sydney	May 05, 2015	Indefinite

Company Name: JBS & G Australia (NSW & WA) P/L
Address: Level 1, 50 Margaret St
Sydney
NSW 2000
Project Name: WHR - V009
Project ID: 50369

Order No.:
Report #: 456254
Phone: 02 8245 0300
Fax:

Received: May 4, 2015 6:15 PM
Due: May 6, 2015
Priority: 2 Day
Contact Name: Mitch Hodgins

Eurofins | mgt Client Manager: Charl Du Preez

Sample Detail					Asbestos - WA guidelines	CANCELLED	HOLD
Laboratory where analysis is conducted							
Melbourne Laboratory - NATA Site # 1254 & 14271							
Sydney Laboratory - NATA Site # 18217					X	X	X
Brisbane Laboratory - NATA Site # 20794							
External Laboratory							
Sample ID	Sample Date	Sampling Time	Matrix	LAB ID			
AQ01 1-2	Apr 28, 2015		Soil	S15-My03023	X		
AQ01 2-3	Apr 28, 2015		Soil	S15-My03024	X		
AQ01 3-3.4	Apr 28, 2015		Soil	S15-My03025			X
AQ02 1-2	Apr 28, 2015		Soil	S15-My03026	X		
AQ02 2-3	Apr 28, 2015		Soil	S15-My03027	X		
AQ02 3-3.5	Apr 28, 2015		Soil	S15-My03028		X	
AQ03 1-2	Apr 28, 2015		Soil	S15-My03029	X		
AQ04 2-3	Apr 28, 2015		Soil	S15-My03030	X		
AQ04 3-3.5	Apr 28, 2015		Soil	S15-My03031			X

Company Name: JBS & G Australia (NSW & WA) P/L
Address: Level 1, 50 Margaret St
Sydney
NSW 2000
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Sample Detail					Asbestos - WA guidelines	CANCELLED	HOLD
Laboratory where analysis is conducted							
Melbourne Laboratory - NATA Site # 1254 & 14271							
Sydney Laboratory - NATA Site # 18217					X	X	X
Brisbane Laboratory - NATA Site # 20794							
External Laboratory							
AQ05 1-1.5	Apr 28, 2015		Soil	S15-My03032	X		
AQ05 2-3	Apr 28, 2015		Soil	S15-My03033	X		
AQ05 3-3.4	Apr 28, 2015		Soil	S15-My03034			X
AQ07 1-2	Apr 28, 2015		Soil	S15-My03035	X		
AQ07 2-3	Apr 28, 2015		Soil	S15-My03036	X		
AQ07 3-3.4	Apr 28, 2015		Soil	S15-My03037			X
AQ08 1-2	Apr 28, 2015		Soil	S15-My03038	X		
AQ08 2-2.9	Apr 28, 2015		Soil	S15-My03039	X		
AQ14 1-2	Apr 28, 2015		Soil	S15-My03040	X		
AQ14 2-3	Apr 28, 2015		Soil	S15-My03041	X		

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NSW 2000
Project Name: WHR - V009
Project ID: 50369

Order No.:
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Phone: 02 8245 0300
Fax:

Received: May 4, 2015 6:15 PM
Due: May 6, 2015
Priority: 2 Day
Contact Name: Mitch Hodgins

Eurofins | mgt Client Manager: Charl Du Preez

Sample Detail					Asbestos - WA guidelines	CANCELLED	HOLD
Laboratory where analysis is conducted							
Melbourne Laboratory - NATA Site # 1254 & 14271							
Sydney Laboratory - NATA Site # 18217					X	X	X
Brisbane Laboratory - NATA Site # 20794							
External Laboratory							
AQ14 3-3.3	Apr 28, 2015		Soil	S15-My03042			X
AQ16 1-1.7	Apr 28, 2015		Soil	S15-My03043	X		
AQ16 2-3	Apr 28, 2015		Soil	S15-My03044	X		
AQ16 3-3.2	Apr 28, 2015		Soil	S15-My03045			X
AQ17 1-2	Apr 28, 2015		Soil	S15-My03046	X		
AQ17 2-3	Apr 28, 2015		Soil	S15-My03047	X		
AQ17 3-3.2	Apr 28, 2015		Soil	S15-My03048			X
AQ18 1-2	Apr 28, 2015		Soil	S15-My03049	X		
AQ18 2-3	Apr 28, 2015		Soil	S15-My03050	X		
AQ18 3-3.2	Apr 28, 2015		Soil	S15-My03051			X

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Laboratory where analysis is conducted							
Melbourne Laboratory - NATA Site # 1254 & 14271							
Sydney Laboratory - NATA Site # 18217					X	X	X
Brisbane Laboratory - NATA Site # 20794							
External Laboratory							
AQ19 1-2	Apr 28, 2015		Soil	S15-My03052	X		
AQ19 2-3	Apr 28, 2015		Soil	S15-My03053	X		
AQ15 1-2	Apr 28, 2015		Soil	S15-My03054	X		
AQ15 2-3	Apr 28, 2015		Soil	S15-My03055	X		
AQ15 3-3.5	Apr 28, 2015		Soil	S15-My03056			X
AQ24 1-1.6	Apr 28, 2015		Soil	S15-My03057	X		
AQ24 2-3	Apr 28, 2015		Soil	S15-My03058	X		
AQ24 3-3.2	Apr 28, 2015		Soil	S15-My03059			X
AQ24 3-3.4(N)	Apr 28, 2015		Soil	S15-My03060			X
AQ25 1-2	Apr 28, 2015		Soil	S15-My03061	X		

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Laboratory where analysis is conducted							
Melbourne Laboratory - NATA Site # 1254 & 14271							
Sydney Laboratory - NATA Site # 18217					X	X	X
Brisbane Laboratory - NATA Site # 20794							
External Laboratory							
AQ25 2-2.7	Apr 28, 2015		Soil	S15-My03062	X		
AQ25 2.7-3.3	Apr 28, 2015		Soil	S15-My03063			X
AQ26 1-1.6	Apr 28, 2015		Soil	S15-My03064	X		
AQ26 2-2.9	Apr 28, 2015		Soil	S15-My03065	X		
AQ26 2.9-3.0(N)	Apr 28, 2015		Soil	S15-My03066			X
AQ31 1-1.5	Apr 28, 2015		Soil	S15-My03067	X		
AQ33 1-2	Apr 28, 2015		Soil	S15-My03068	X		
AQ36 1-2	Apr 28, 2015		Soil	S15-My03069	X		
AQ36 2-3	Apr 28, 2015		Soil	S15-My03070	X		
AQ37 1-2	Apr 28, 2015		Soil	S15-My03071	X		

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Laboratory where analysis is conducted							
Melbourne Laboratory - NATA Site # 1254 & 14271							
Sydney Laboratory - NATA Site # 18217					X	X	X
Brisbane Laboratory - NATA Site # 20794							
External Laboratory							
AQ37 2-3	Apr 28, 2015		Soil	S15-My03072	X		
AQ37 3-3.5	Apr 28, 2015		Soil	S15-My03073			X
AQ38 0-0.2	Apr 28, 2015		Soil	S15-My03074			X
AQ48 1-1.8	Apr 28, 2015		Soil	S15-My03075	X		
AQ50 1-2	Apr 28, 2015		Soil	S15-My03076	X		
AQ50 2-3	Apr 28, 2015		Soil	S15-My03077	X		
AQ50 3-3.2(N)	Apr 28, 2015		Soil	S15-My03078			X
AQ61 1-2	Apr 28, 2015		Soil	S15-My03079	X		
AQ61 2-3	Apr 28, 2015		Soil	S15-My03080	X		
AQ64 1-2	Apr 28, 2015		Soil	S15-My03081	X		

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Sample Detail					Asbestos - WA guidelines	CANCELLED	HOLD
Laboratory where analysis is conducted							
Melbourne Laboratory - NATA Site # 1254 & 14271							
Sydney Laboratory - NATA Site # 18217					X	X	X
Brisbane Laboratory - NATA Site # 20794							
External Laboratory							
AQ64 2-2.5(N)	Apr 28, 2015		Soil	S15-My03082			X
AQ65 1-2	Apr 28, 2015		Soil	S15-My03083	X		
AQ65 2-2.7	Apr 28, 2015		Soil	S15-My03084	X		
AQ66 1-2	Apr 28, 2015		Soil	S15-My03085	X		
AQ66 2-3	Apr 28, 2015		Soil	S15-My03086	X		
AQ67 1-1.3	Apr 28, 2015		Soil	S15-My03087	X		
AQ68 1-1.5	Apr 28, 2015		Soil	S15-My03088	X		
AQ69 1-1.6	Apr 28, 2015		Soil	S15-My03089	X		
AQ70 0.7-1.2(N)	Apr 28, 2015		Soil	S15-My03090			X
AQ72 1-2	Apr 28, 2015		Soil	S15-My03091	X		

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Laboratory where analysis is conducted							
Melbourne Laboratory - NATA Site # 1254 & 14271							
Sydney Laboratory - NATA Site # 18217					X	X	X
Brisbane Laboratory - NATA Site # 20794							
External Laboratory							
AQ72 2-3	Apr 28, 2015		Soil	S15-My03092	X		
AQ72 3-3.3	Apr 28, 2015		Soil	S15-My03093			X
QC021	Apr 28, 2015		Soil	S15-My03094		X	
QC022	Apr 28, 2015		Soil	S15-My03095		X	
QC023	Apr 28, 2015		Soil	S15-My03096		X	
AQ15 2-2.2	Apr 28, 2015		Soil	S15-My03445			X
AQ 3-3.5	Apr 29, 2015		Soil	S15-My03446			X
AQ04 1-2	Apr 30, 2015		Soil	S15-My03447			X
AQ03 2-2.3	Apr 29, 2015		Soil	S15-My03448			X
AQ61 3-3.5	Not Provided		Soil	S15-My03449			X

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Sample Detail					Asbestos - WA guidelines	CANCELLED	HOLD
Laboratory where analysis is conducted							
Melbourne Laboratory - NATA Site # 1254 & 14271							
Sydney Laboratory - NATA Site # 18217					X	X	X
Brisbane Laboratory - NATA Site # 20794							
External Laboratory							
RAQ59-2 B	Apr 30, 2015		Soil	S15-My03450			X
AQ33 1-2 B	Apr 29, 2015		Soil	S15-My03451			X
AQ68 B	Apr 29, 2015		Soil	S15-My03452			X
61 (1-2)	Not Provided		Soil	S15-My03453			X

Eurofins | mgt Internal Quality Control Review and Glossary

General

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

Holding Times

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

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

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

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

UNITS

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

TERMS

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

Comments

The LORs have been raised as there was insufficient sample provided for analysis.

Sample Integrity

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

Qualifier Codes/Comments

Code	Description
N/A	Not applicable
M11	NATA accreditation does not cover the performance of this service.

Authorised by:

Nibha Vaidya

Senior Analyst-Asbestos (NSW)



Glenn Jackson
National Laboratory Manager

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

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

Uncertainty data is available on request

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Eurofas 1 of 4

PROJECT NO.: 50369					LABORATORY BATCH NO.:													
PROJECT NAME: WHR - V009					SAMPLERS: MMURRAY													
SEND REPORT TO: MHOXINS					SEND INVOICE TO: ADMIN@JBSG.COM.AU					PHONE: SYDNEY 02 8245 0300 - PERTH 08 9488 0100					EMAIL: MHOXINS@JBSG.COM.AU			
DATE NEEDED BY: 48 hour TAT					QC LEVEL: NEPM (2013)													
COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:																		
ASBESTOS (WA) HOLD																		
SAMPLE ID		MATRIX	DATE	TIME	TYPE & PRESERVATIVE	pH												NOTES:
AQ01, 1-2		SOIL	28/7		BAG													
AQ01, 2-3																		
AQ01, 3-3.4																		
AQ02, 1-2																		
AQ02, 2-3																		
AQ02, 3-3.5																		
AQ03, 1-2																		
AQ04, 2-3																		
AQ04, 3-3.5																		
AQ05, 1-1.5																		
AQ05, 2-3																		
AQ05, 3-3.4																		
AQ07, 1-2																		
AQ07, 2-3																		
AQ07, 3-3.4																		
AQ08, 1-2																		
AQ08, 2-2.9																		
AQ14, 1-2																		
AQ14, 2-3																		
RELINQUISHED BY:					METHOD OF SHIPMENT:					RECEIVED BY:					FOR RECEIVING LAB USE ONLY			
NAME: MM		DATE: 4/5/15			CONSIGNMENT NOTE NO.					NAME:					COOLER SEAL - Yes No Intact Broken			
OF: JBS&G					TRANSPORT CO.					DATE:					COOLER TEMP deg C			
NAME:		DATE:			CONSIGNMENT NOTE NO.					NAME:					COOLER SEAL - Yes No Intact Broken			
OF:					TRANSPORT CO.					DATE:					COOLER TEMP deg C			
Container & Preservative Codes: P = Plastic; J = Soil Jar; B = Glass Bottle; N = Nitric Acid Prsvd.; C = Sodium Hydroxide Prsvd; VC = Hydrochloric Acid Prsvd Vial; VS = Sulfuric Acid Prsvd Vial; S = Sulfuric Acid Prsvd; Z = Zinc Prsvd; E = EDTA Prsvd; ST = Sterile Bottle; O = Other																		

2 of 4

IMSO FormsO13 - Chain of Custody - Generic