

GTE795 – Contamination Report
7 April 2016

Ostar Developments

C/- Design Cubicle
44 Sorrell Street
North Parramatta NSW 2151

Attention: Farah Georges
E-mail: farah@designcubicle.com.au

Dear Sir,

RE: STAGE 1 CONTAMINATION ASSESSMENT at Nos.116-124 Restwell Street, Bankstown

This letter presents a Stage 1 Contamination report on the inspection and testing services associated with the contamination assessment undertaken at the above project.

Should you have any questions related to this report please do not hesitate to contact the undersigned.

For and on behalf of
Ground Technologies Pty Ltd



A. Bennett
Senior Geotechnical Engineer

Reviewed By



J. Harendran
Geotechnical Engineer

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EXECUTIVE SUMMARY

This executive summary presents a synopsis of the Stage 1 Contamination Assessment for the site; Nos.116-124 Restwell Street, Bankstown. It is understood that the proposed works will comprise the demolition of five existing houses allowing the construction of a six storey apartment building with a two basement levels of car parking. The basement level car park will extend across the entire building envelope to depths of approximately 6.0m below existing ground surface levels.

The objective of the Stage 1 Contamination Report was to ascertain whether the site presents a risk to human health and/or the environment arising from any past/present activities at the site or neighbouring properties.

The conclusions of this Contamination Report are as follows:

- The site was historically used for a residential purposes.
- A review of aerial photography suggests that the neighbouring properties are residential and not considered to have posed a risk for potential contamination to the site.
- A search of the NSW EPA Contaminated Land Management record of notices revealed that there were no notices issued to the subject site. No history of dangerous manufacturing utilizing heavy chemicals or metals was documented.
- No industrial facilities undertaking heavy manufacturing are located within 500m of the subject site. The surrounding sites are residential. Therefore the risk of contamination migration caused by surface run-off from adjoining sites is minimal.

Minor filling was observed during the field investigation. As such a sampling and analysis program was undertaken order to assess the nature, location and likely distribution of any contamination present at the subject site, and also any potential risk posed to human health or the environment. Test results were compared to the relevant assessment criteria, Hils B, and were well below the assessment criteria and as such, indicate a low risk of contamination due to filling within the site.

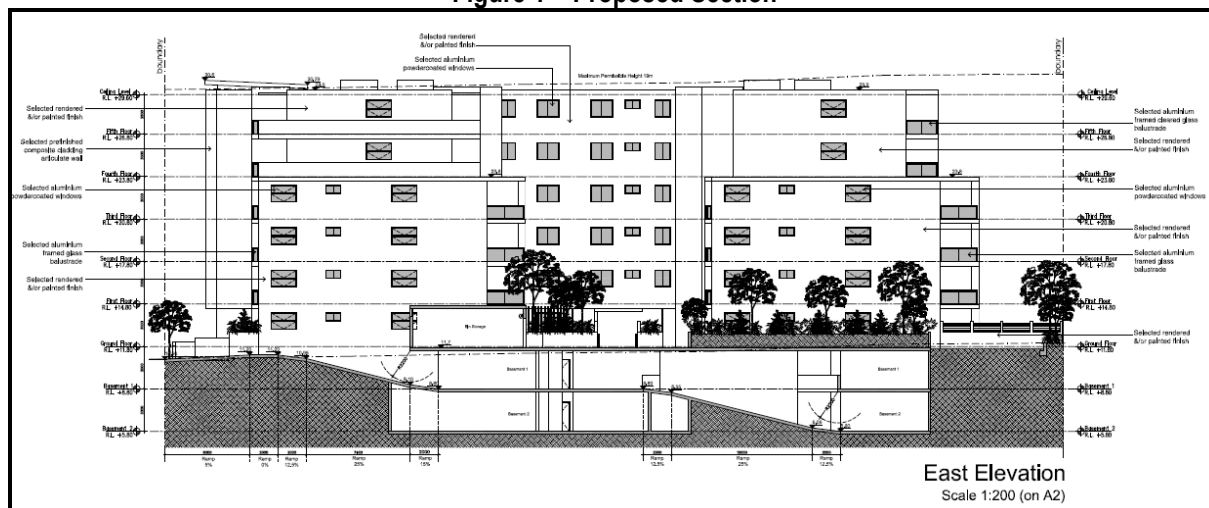
The site is suitable for development for “residential” use. No remediation action plan is required.

During Excavation works, the fill may be disposed of as “General Solid Waste”. The natural soils and sandstone bedrock may be disposed of as VENM.

1.0 INTRODUCTION

Ground Technologies Pty Ltd have undertaken a Stage 1 Contamination Report as requested by Ostar Developments on No.116-124 Restwell Street, Bankstown. It is understood that the proposed works will comprise the demolition of five existing houses allowing the construction of a six storey apartment building with two levels of basement level car parking. The basement level car park will extend across the entire building envelope to a depth of approximately 6.0m below existing ground surface levels.

Figure 1 – Proposed Section



2.0 SCOPE OF WORK

The following scope of work was conducted:

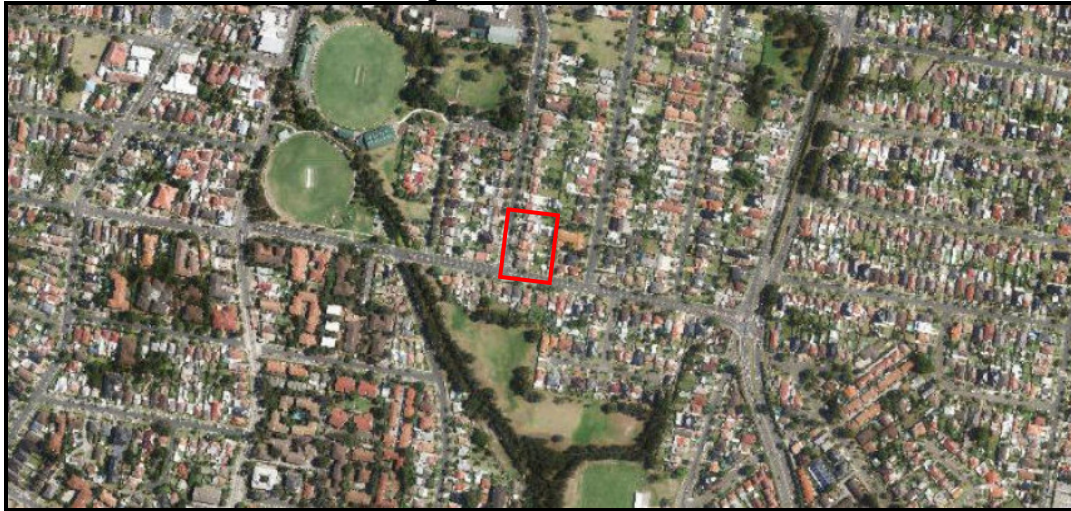
- Desktop Study of the following to assist in identification of potential contamination issues:
 - Data from Environment Protection Authority
 - Scheduled premises
 - Section 35 notices
 - Unhealthy building land sites
 - Sites which are likely contaminated and not contaminated
 - Data from the Protection of the Environment Operations Public Register (POEO)
- Review of soils and geological maps.
- Review of aerial photography
- Site Inspection by a Geotechnical Engineer to ascertain current activities, and any visible signs of contamination.
- Collection of soil samples by a Geotechnical Engineer according to a sampling plan.
- Chemical analysis by a NATA accredited laboratory.
- Assessment of the results of the chemical analysis against the appropriate guidelines.
- Preparation of the Stage1 Contamination Report.

3.0 SITE DESCRIPTION

Table 1 - Summary of Site Details

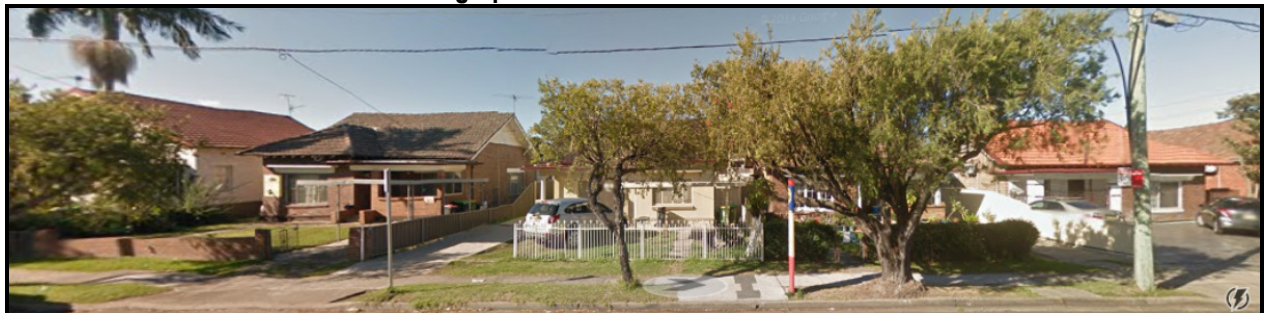
Site Address	116-124 Restwell Street, Bankstown
Council Area	Bankstown City Council
Lot & Plan No.	Lot 100 DP1135453 Lot s 2-5 DP13055

Figure 2 – Site Location

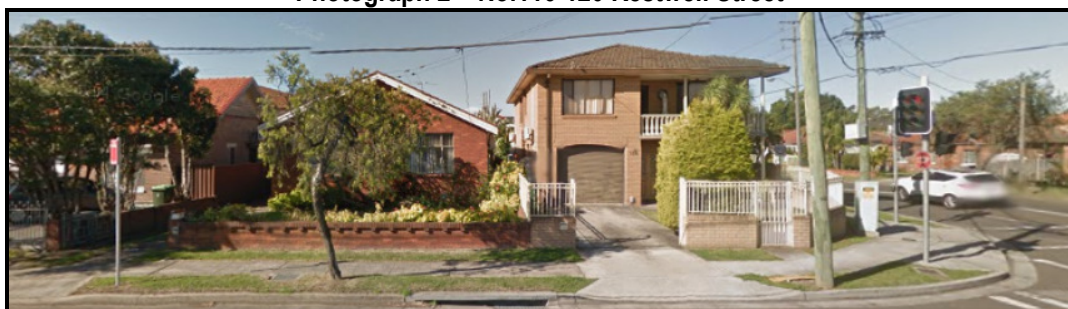


The subject site is a combination of five residential lots measuring approximately 65m wide along the Restwell Street Frontage and up to 50m in length. The site covers an area of approximately 3250m² and is relatively flat.. No's 116, 120 & 122 Restwell Street contain single storey brick houses. No 118 Restwell Street contains a single storey weatherboard house and No. 124 Restwell Street contains a double storey brick house. Based upon architecture and material inputs it is estimated that the houses in No.116-122 were constructed prior to 1980 whilst the house on No.124 was build post 1980.

Photograph 1 – No.116-120 Restwell Street



Photograph 2 – No.116-120 Restwell Street



4.0 SITE HISTORY

In order to ascertain the site history, a documentary review of past and present land use at the subject site and the surrounding area has been undertaken as follows:

4.1 Aerial Photographs:

A review of Historical Aerial Photographs was undertaken in order to provide a greater insight into the site history.

1961 – In 1961 the site appears to be in use for residential purposes. The surrounding properties appear to be residential. The subject site is highlighted in figure 3.

Figure 3 – Aerial Photograph from 1961



1986 – In 1986 the site appears to be in use for residential purposes. The surrounding properties appear to be residential. No significant changes to the surrounding region could be observed, however the house at No.124 has been constructed. The subject site is highlighted in figure 4.

Figure 4 – Aerial Photograph from 1986



2005 – No significant changes to the surrounding region since 1986 could be observed and the site is appears to be in use for residential purposes. The surrounding properties appear to be residential. The subject site is highlighted in figure 5.

Figure 5 – Aerial Photograph from 2005



2016 – No significant changes to the surrounding region since 1986 could be observed and the site is appears to be in use for residential purposes. The surrounding properties appear to be residential. The subject site is highlighted in figure 6.

Figure 6 – Aerial Photograph from 2016



4.2 Search of Contaminated Land Management Register (NSW EPA):

A summary of the search of the NSW EPA Contaminated Land Management record of notices for the Bankstown City Council Area can be found in Appendix A. No notices have been issued to the subject site. Eight (8) sites are listed on this register however they are situated at such a distance (greater than 200m) so as not to pose a potential contamination risk to the subject property.

4.3 Search of Protection of the Environment Operations Public Register (POEO) of Licensed and Delicensed Premises:

A search of the POEO public register of licensed and delicensed premises (DECC) provided the details of thirty four (34) premises in the Bankstown City Council area (see Appendix B), however no licensed or delicensed premises were located within the immediate surrounding area of the site (within 200m).

5.0 SITE CONDITION AND SURROUNDING ENVIRONMENT

A site investigation was conducted on the 8th of March 2016. The field observations are summarised in the table below:

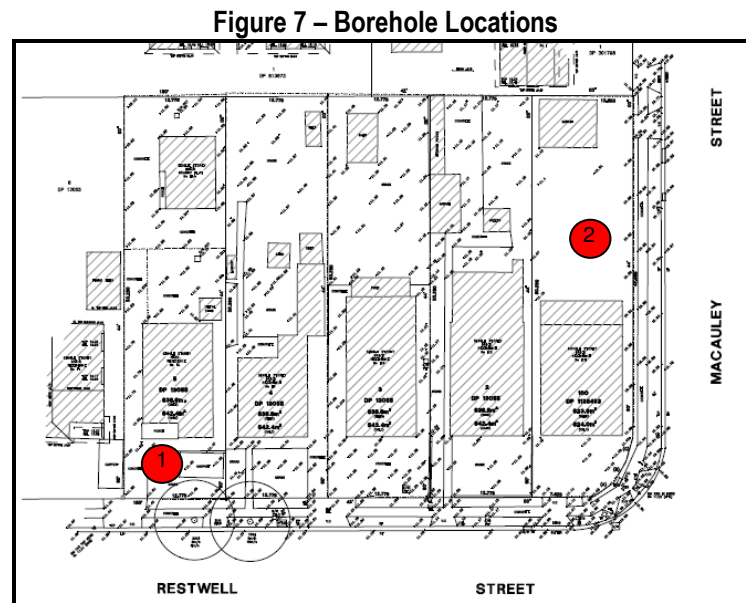
Table 2 – Summary of Field Observations

Parameter	Observation
Visible observations on soil contamination	No visible evidence of contamination was observed. No staining of the soils or odours were documented.
Signs of plant stress	None observed.
Signs of Agriculture	None observed. No visible indicators of tilled land
Presence of drums, fill or waste materials	None observed. No visible indicators of underground fuel tanks (bowzers or venting pipes)
Presence of fill	Minor filling was observed within the No124 Restwell Street

6.0 SITE GEOLOGY AND HYDROGEOLOGY

The 1:100,000 scale Geological Series Map of the Sydney region indicates that the subject site is underlain by an Alluvial (Qha) profile consisting of *Silty and Peaty Quartz, Sand, Silt and Clay*. This is further underlain by Ashfield Shale of the Wianamatta Group dating back to the Middle Triassic period and generally comprise *Claystone / Siltstone and fine Sandstone / Siltstone laminite*.

Fieldwork was undertaken on the 8th of March 2016 and included the drilling of two (2) boreholes using a 4WD Toyota Landcruiser Ute mounted drill rig with 100 mm solid flight spiral augers at locations shown on Figure 7.



The boreholes indicate that the soil profile generally comprises the following:-

Borehole 1

- 0 – 0.5m: TOPSOIL; Sandy silt, pale brown, dry
- 0.5 – 1.6m: NATURAL; Silty Clay, medium plasticity, mottled yellow/brown and pale brown, slightly moist, very stiff.
- 1.6 – 2.3m: NATURAL; Silty Clay, medium plasticity, mottled yellow/brown, pale brown and pale grey, slightly moist, very stiff.
- 2.3 – 2.6m: NATURAL; Silty Clay with significant ironstone gravels, medium plasticity, mottled yellow/brown, pale brown and pale grey, very moist to wet, stiff.
- 2.6 – 3.8m: BEDROCK; Shale, completely weathered, extremely low strength, pale grey with yellow mottling.
- 3.8 – 5.0m: BEDROCK; Shale, extremely weathered, very low strength, brown, grey/brown.
- 5.0 – 6.2m: BEDROCK; Shale, extremely weathered, very low strength, brown, grey/brown.

Borehole 2

- 0 – 1.0m: FILL; Admixed Silt, Sand, minor crushed brick, brown, dark brown, slightly moist. Sample B1 was recovered from this profile
- 0.5 – 1.6m: NATURAL; Very Silty Clay, medium plasticity, grey/brown with orange mottling, very moist, soft.
- 1.4 – 2.8m: NATURAL; Silty Clay, medium plasticity, mottled yellow/brown, pale brown and pale grey, slightly moist, very stiff.
- 2.8 – 3.2m: NATURAL; Silty Clay with significant ironstone gravels, medium plasticity, mottled yellow/brown, pale brown and pale grey, wet, stiff.
- 3.2 – 4.1m: BEDROCK; Shale, completely weathered, extremely low strength, pale grey with yellow mottling.
- 4.1 – 5.4m: BEDROCK; Shale, extremely weathered, very low strength, brown, grey/brown.
- 5.4 – 6.5: BEDROCK; Shale, extremely weathered, very low strength, brown, grey/brown.

No groundwater was encountered at the time of our visit.

During wet months or following significant rainfall events, development of “perched” groundwater may occur, resulting in localized wetting or saturation of the silty clay with significant ironstone gravels which overlie the clay interface. This perched water was observed during the field investigation with free water in the borehole at the completion of drilling.

7.0 SUMMARY OF POTENTIAL SOURCES OF CONTAMINATION

A search of the NSW EPA Contaminated Land Management record of notices revealed that there were no notices issued to the subject site. No history of dangerous manufacturing utilizing heavy chemicals or metals was documented. No history of heavy chemicals or metals storage was documented. No industrial facilities undertaking heavy manufacturing are located within 500m of the subject site. The surrounding sites are residential / warehousing. Therefore, the risk of contamination migration caused by surface run-off from adjoining sites is minimal. The neighbouring properties are rural residential and not considered to have posed a risk for potential contamination to the site.

Minor filling was observed within No.124 Restwell Street. Potential contamination is possible within the fill material in the form of Heavy Metals, Total Petroleum Hydrocarbons (TPH), BTEX and Polynuclear Aromatic Hydrocarbons (PAH).

8.0 SAMPLING METHODOLOGY AND LABORATORY QUALITY ASSESSMENT

8.1 Sampling Methodology

One (1) sample was recovered in order to assess the nature, location and likely distribution of any contamination present at the subject site, and also any potential risk posed to human health or the environment. The sample was collected from the auger using a stainless steel trowel, which had been decontaminated prior to use to prevent cross contamination occurring.

The sample was placed in a 250g laboratory prepared glass jars which was capped using Teflon-sealed screw caps and then placed in a chilled container. The sample jar were transported to our West Hoxton office and placed in a refrigerator.

Two days later the sample was forwarded to Australian Laboratory Services (ALS) Pty Ltd for analysis along with a Chain of Custody which was subsequently returned to confirm the receipt of all samples.

8.2 Laboratory Accreditation

ALS are accredited by the National Association of Testing Authorities (NATA) for the analyses carried out and are also accredited for compliance with ISO/IEC 17025.

9.0 BASIS FOR ASSESMENT CRITERIA

The Assessment criteria used in this investigation have been obtained from the National Environment Protection (Assessment of Site Contamination) Measure (NEPM, 1999 amended 2013). This document presents risk-based Health Investigation Levels based on a variety of exposure settings for a number of organic and inorganic contaminants. To assess the risk to human health the results of the laboratory analysis are compared against the Health Investigation Levels (HIL) for the exposure setting; "Residential B" – Residential with minimum opportunities for soil access such as high rise buildings and apartments. The selected assessment criteria used in this assessment are summarized on table 3 below:

Table 3: Site Assessment Criteria

Chemicals and other attributes		Health Based Investigation Level (HIL 'B')
Heavy Metals	Arsenic	500
	Cadmium	150
	Chromium (total)	500
	Copper	30,000
	Lead	1,200
	Nickel	120
	Zinc	1,200
	Mercury	60,000
Hydrocarbons	C6-C10	180
	C10-C16	120
	C16-C34	300
	C34-C40	2,800
	Benzene	50
	Toulene	85
	Ethylbenzene	70
	Xylenes	105
	Total PAH	400
	Benzo(a)pyrene	0.7
	Carcinogenic PAH	4

10.0 RESULTS

Test results are tabulated and presented in table 4 along with the relevant assessment criteria. Areas in bold highlighting have exceeded the site threshold values. Laboratory test certificates (ES1605356) are located in Appendix C.

Table 4 - Laboratory Test Results of the Fill Material

Location			Metals								Hydrocarbons										
Sample No.	Borehole	Depth	Arsenic	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Zinc	C6-C10	C10-C16	C16-C34	C34-C40	Benzene	Toulene	Ethylbenzene	Xyless	Total PAH	Carcinogenic PAH	Benzo(a)pyrene
B1	BH1	0.4m	58	<1	15	39	620	0.1	8	433	<10	<50	<100	<100	<0.2	<0.5	<0.5	<0.5	6.8	1.3	0.6
NEPM Health Investigation Level (B)			500	150	500	30,000	1,200	120	1,200	60,000	180	120	300	280	50	85	70	105	400	4	0.7

Heavy metal and hydrocarbon concentrations within the fill soils are presented in Table 4. The concentrations of all metals and hydrocarbons were well below the relevant assessment criteria (HILs B). Therefore, the heavy metal and hydrocarbon concentrations present in the fill profile are not considered likely to pose a risk to human health or the environment under the setting - Residential with minimum opportunities for soil access such as high rise buildings and apartments.

11.0 WASTE CLASSIFICATION

11.1 Waste Classification of Fill Materials

The Assessment criteria used in this investigation have been obtained from the Specific Contaminant Concentrations from Table 1 of Part 1: Classifying Waste, Waste Classification Guidelines published by the NSW EPA (2014).

Table 5 – Waste Classification of the Fill Material

Contaminant	SCC mg/kg B1	General Solid Waste Criteria CT1 mg/kg	Restricted Solid Waste Criteria CT2 mg/kg	Classification (without TCLP)
Arsenic	58	100	400	General
Cadmium	<1	20	80	General
Chromium	15	100	400	General
Lead	620	100	400	Hazardous
Mercury	0.1	4	16	General
Nickel	8	40	160	General
Benzene	<0.2	10	40	General
Toluene	<0.5	288	1152	General
Ethyl Benzene	<0.5	600	2400	General
Xylenes (total)	<0.5	1000	4000	General
Benzo(a)pyrene	0.6	0.8	3.2	General
Total PAH	6.8	200*	800*	General
TPH (C6-C9)	<10	650*	2600*	General
TPH (C10-C36)	<50	10000*	40000*	General

results of the analyses on the soil show that the material could not be classified as Restricted Solid Waste without testing Lead with the Toxicity Characteristics Leaching Procedure (TCLP). As such, additional testing was undertaken by ALS (Certificate Reference number ES1606876) The results are summarised in Table 6 with the relevant Contaminant Concentrations from Table 2 of Part 1: Classifying Waste, Waste Classification Guidelines published by the NSW EPA (2014).

Table 6 - Analysis of TCLP Extract

Sample	Contaminant	SCC mg/kg	General Solid Waste Criteria (mg/kg)	TCLP (mg/L)	General Solid Waste Criteria mg/L	Classification (with TCLP)
B1	Lead	620	1500	<0.1	20	General

After analysing the soil samples recovered from the subject site, the fill material is classified as **General Solid Waste** (non putrescible) for landfill disposal purposes since the results are in accordance with the values in Table 1 and 2 of the Part 1: Classifying Waste, Waste Classification Guidelines published by the NSW EPA (2014).

11.2 Waste Disposal of Natural Materials Comment

Based upon visual observations and laboratory test results, the material on the above site is classified as virgin excavated natural material (VENM) for future use; since it is in accordance with the definition of VENM given under the *Protection of the Environments Operations Act 1997* as outlined below:

‘Natural material (such as clay, gravel, sand, soil or rock fines):

- That has been excavated or quarried from areas that are not contaminated with manufactured chemicals or process residues, as a result of industrial, commercial, mining or agricultural activities, and
- That does not contain any sulfidic ores or soils or any other waste.’

Heavy metal and hydrocarbon concentrations within the fill soils are presented in Table 4. The concentrations of all metals and hydrocarbons were well below the relevant assessment criteria (HILs B). Therefore, the heavy metal and hydrocarbon concentrations present in the fill profile are not considered likely to pose a risk to human health or the environment under a ‘standard residential with garden/accessible soil’ setting.

12.0 CONCLUSIONS AND RECOMMENDATIONS

The conclusions of this Contamination Report are as follows:

- The site was historically used for a residential purposes.
- A review of aerial photography suggests that the neighbouring properties are residential and not considered to have posed a risk for potential contamination to the site.
- A search of the NSW EPA Contaminated Land Management record of notices revealed that there were no notices issued to the subject site. No history of dangerous manufacturing utilizing heavy chemicals or metals was documented.
- No industrial facilities undertaking heavy manufacturing are located within 500m of the subject site. The surrounding sites are residential. Therefore the risk of contamination migration caused by surface run-off from adjoining sites is minimal.

Filling was observed during the field investigation. As such a sampling and analysis program was undertaken order to assess the nature, location and likely distribution of any contamination present at the subject site, and also any potential risk posed to human health or the environment. Test results were compared to the relevant assessment criteria, Hils B, and were well below the assessment criteria and as such, indicate a low risk of contamination due to filling within the site.

The site is suitable for development for “residential” use. No remediation action plan is required.

During Excavation works, the fill may be disposed of as “General Solid Waste”. The natural soils and shale bedrock may be disposed of as VENM.

REFERENCES:

Geological Series Sheet 9130 (EDITION 1) 1983, Map of the Sydney region, scale 1:100,000

Contaminated Sites – Guidelines for Consultants Reporting on Contaminated Sites. NSW Environment Protection Authority (EPA) 2000.

Managing Land Contamination: Planning Guidelines SEPP55 – Remediation of Land - Department of Urban Affairs and Planning and Environment Protection Authority (DUAP and EPA) 1998.

National Environment Protection (Assessment of Site Contamination) Measure – National Environmental Protection Council 1999.

APPENDIX A

SEARCH RESULTS OF EPA CONTAMINATED LAND REGISTER

Search results

Your search for: LGA: Bankstown City Council

Matched 26 notices relating to 8 sites.

[Search Again](#)[Refine Search](#)

Suburb	Address	Site Name	Notices related to this site
CHESTER HILL	127 Orchard ROAD	Former Orica, Chester Hill	1 current and 1 former
PADSTOW	55 Bryant STREET	Exide	1 current
REVESBY	33-35 Violet STREET	Bituminous Products	2 current and 1 former
REVESBY	21 Marigold STREET	Mirotone Pty Ltd	2 current
VILLAWOOD	66 Christina ROAD	Former Electrical Component Manufacturer	1 current and 4 former
VILLAWOOD	2 Christina ROAD	Former Orica Crop Care	3 current
VILLAWOOD	49 Miowera ROAD	Former Siemens/Westinghouse	9 former
YAGOONA	117-153 Rookwood ROAD	Galvanising Services	1 current

APPENDIX B

SEARCH OF POEO REGISTER OF LICENSED AND DELICENSED PREMISES

Organisation Name	Premise Address	Suburb	Local Govt Area	Fee-Based Activity
POOL RESOURCES PTY LIMITED	390 MARION STREET	BANKSTOWN	BANKSTOWN	Chemical storage waste generation
POOL RESOURCES PTY LIMITED	390 MARION STREET	BANKSTOWN	BANKSTOWN	General chemicals storage
MACKIES ASIA PACIFIC PTY LIMITED	112-116 CANTERBURY ROAD	BANKSTOWN	BANKSTOWN	Metal waste generation
BANKSTOWN CITY COUNCIL	-	BANKSTOWN	BANKSTOWN	Other activities
Integrated Packaging Australia Pty Ltd	149 ORCHARD ROAD	CHESTER HILL	BANKSTOWN	Printing, packaging and visual communications waste generation
FAIRFAX PRINTERS PTY LIMITED	1 WORTH STREET	CHULLORA	BANKSTOWN	Printing, packaging and visual communications waste generation
SITA AUSTRALIA PTY LTD	MUIR ROAD	CHULLORA	BANKSTOWN	Composting
SITA AUSTRALIA PTY LTD	MUIR ROAD	CHULLORA	BANKSTOWN	Non-thermal treatment of general waste
SITA AUSTRALIA PTY LTD	MUIR ROAD	CHULLORA	BANKSTOWN	Recovery of general waste
SITA AUSTRALIA PTY LTD	MUIR ROAD	CHULLORA	BANKSTOWN	Waste storage - hazardous, restricted solid, liquid, clinical and related waste and asb
SITA AUSTRALIA PTY LTD	MUIR ROAD	CHULLORA	BANKSTOWN	Waste storage - other types of waste
SITA AUSTRALIA PTY LTD	MUIR ROAD	CHULLORA	BANKSTOWN	Waste storage - waste tyres
P & M QUALITY SMALLGOODS PTY LTD	18 HUME HIGHWAY	CHULLORA	BANKSTOWN	General animal products production
SYDNEY TRAINS	WORTH STREET GATE1	CHULLORA	BANKSTOWN	Recovery of general waste
SYDNEY TRAINS	WORTH STREET GATE1	CHULLORA	BANKSTOWN	Waste storage - other types of waste
VEOLIA ENVIRONMENTAL SERVICES	75 ANZAC STREET	GREENACRE	BANKSTOWN	Non-thermal treatment of general waste
VEOLIA ENVIRONMENTAL SERVICES	75 ANZAC STREET	GREENACRE	BANKSTOWN	Waste storage - other types of waste
GOYEN CONTROLS CO PTY LTD	268 MILPERRA ROAD	MILPERRA	BANKSTOWN	Metal coating
GOYEN CONTROLS CO PTY LTD	268 MILPERRA ROAD	MILPERRA	BANKSTOWN	Metal processing
SIMS GROUP AUSTRALIA	43 ASHFORD AVE	MILPERRA	BANKSTOWN	Scrap metal processing
BANKSTOWN CITY COUNCIL	BRANSGROVE ROAD	MILPERRA	BANKSTOWN	Waste disposal by application to land
BANKSTOWN CITY COUNCIL	Bransgrove Road	MILPERRA	BANKSTOWN	Recovery of general waste
BANKSTOWN CITY COUNCIL	Bransgrove Road	MILPERRA	BANKSTOWN	Waste storage - other types of waste
ARDAGH AUSTRALIA PTY LTD	11 Amour Street	MILPERRA	BANKSTOWN	Metal coating
ARDAGH AUSTRALIA PTY LTD	11 Amour Street	MILPERRA	BANKSTOWN	Metal processing
ARDAGH AUSTRALIA PTY LTD	11 Amour Street	MILPERRA	BANKSTOWN	Metal waste generation
DULUXGROUP (AUSTRALIA) PTY LTD	15 GOW STREET	PADSTOW	BANKSTOWN	Chemical storage waste generation
DULUXGROUP (AUSTRALIA) PTY LTD	15 GOW STREET	PADSTOW	BANKSTOWN	General chemicals storage
THE LINCOLN ELECTRIC CO PTY LTD	35 BRYANT ST	PADSTOW	BANKSTOWN	Chemical production waste generation
THE LINCOLN ELECTRIC CO PTY LTD	35 BRYANT ST	PADSTOW	BANKSTOWN	General chemicals storage
EXIDE AUSTRALIA PTY LTD	55 BRYANT STREET	PADSTOW	BANKSTOWN	Battery production
EXIDE AUSTRALIA PTY LTD	55 BRYANT STREET	PADSTOW	BANKSTOWN	Chemical production waste generation
EXIDE AUSTRALIA PTY LTD	55 BRYANT STREET	PADSTOW	BANKSTOWN	Contaminated soil treatment
EXIDE AUSTRALIA PTY LTD	55 BRYANT STREET	PADSTOW	BANKSTOWN	Recovery of hazardous and other waste
FOSECO PTY LIMITED	7 STUART STREET	PADSTOW	BANKSTOWN	Dangerous goods production
FOSECO PTY LIMITED	7 STUART STREET	PADSTOW	BANKSTOWN	General chemicals storage
FOSECO PTY LIMITED	7 STUART STREET	PADSTOW	BANKSTOWN	Non-thermal treatment of hazardous and other waste
FOSECO PTY LIMITED	7 STUART STREET	PADSTOW	BANKSTOWN	Waste storage - hazardous, restricted solid, liquid, clinical and related waste and asb
TRANSPACIFIC CLEANAWAY PTY LTD	12 - 14 STUART STREET	PADSTOW	BANKSTOWN	Non-thermal treatment of hazardous and other waste
GALVATECH PTY LTD	49 GOW STREET	PADSTOW	BANKSTOWN	Metal coating
GALVATECH PTY LTD	49 GOW STREET	PADSTOW	BANKSTOWN	Metal waste generation
DULUXGROUP (AUSTRALIA) PTY LTD	1 GOW STREET	PADSTOW	BANKSTOWN	Chemical production waste generation
DULUXGROUP (AUSTRALIA) PTY LTD	1 GOW STREET	PADSTOW	BANKSTOWN	Paints/polishes/adhesives production
ORANGEVILLE RECYCLING PTY LTD	81 GOW STREET	PADSTOW	BANKSTOWN	Recovery of general waste

ORANGEVILLE RECYCLING PTY LTD	81 GOW STREET	PADSTOW	BANKSTOWN	Waste storage - other types of waste
ECOLAB PTY LTD	30-32 MARIGOLD STREET	REVESBY	BANKSTOWN	Chemical production waste generation
ECOLAB PTY LTD	30-32 MARIGOLD STREET	REVESBY	BANKSTOWN	Dangerous goods production
ECOLAB PTY LTD	30-32 MARIGOLD STREET	REVESBY	BANKSTOWN	General chemicals storage
ORORA PACKAGING AUSTRALIA PTY LTD	146 CARRINGTON STREET	REVESBY	BANKSTOWN	Printing, packaging and visual communications waste generation
MIROTONE PTY LTD	21 MARIGOLD STREET	REVESBY	BANKSTOWN	Chemical production waste generation
MIROTONE PTY LTD	21 MARIGOLD STREET	REVESBY	BANKSTOWN	Dangerous goods production
MIROTONE PTY LTD	21 MARIGOLD STREET	REVESBY	BANKSTOWN	Paints/polishes/adhesives production
BITUMINOUS PRODUCTS PTY LTD	33 VIOLET ST	REVESBY	BANKSTOWN	Recovery of waste oil
BITUMINOUS PRODUCTS PTY LTD	33 VIOLET ST	REVESBY	BANKSTOWN	Waste storage - hazardous, restricted solid, liquid, clinical and related waste and asb
SITA AUSTRALIA PTY LTD	76 VIOLET ST	REVESBY	BANKSTOWN	Non-thermal treatment of hazardous and other waste
SITA AUSTRALIA PTY LTD	76 VIOLET ST	REVESBY	BANKSTOWN	Waste storage - hazardous, restricted solid, liquid, clinical and related waste and asb
TRANSPACIFIC INDUSTRIAL SOLUTIONS	112 Milperra Road	REVESBY	BANKSTOWN	Waste storage - hazardous, restricted solid, liquid, clinical and related waste and asb
SITA AUSTRALIA PTY LTD	78 Violet Street	REVESBY	BANKSTOWN	Non-thermal treatment of hazardous and other waste
SITA AUSTRALIA PTY LTD	78 Violet Street	REVESBY	BANKSTOWN	Waste storage - hazardous, restricted solid, liquid, clinical and related waste and asb
PPG INDUSTRIES AUSTRALIA PTY LIMITED	9 BIRMINGHAM AVE	VILLAWOOD	BANKSTOWN	Chemical production waste generation
PPG INDUSTRIES AUSTRALIA PTY LIMITED	9 BIRMINGHAM AVE	VILLAWOOD	BANKSTOWN	General chemicals storage
PPG INDUSTRIES AUSTRALIA PTY LIMITED	9 BIRMINGHAM AVE	VILLAWOOD	BANKSTOWN	Paints/polishes/adhesives production
COLGATE-PALMOLIVE PTY LTD	50 MARPLE AVE	VILLAWOOD	BANKSTOWN	Chemical production waste generation
COLGATE-PALMOLIVE PTY LTD	50 MARPLE AVE	VILLAWOOD	BANKSTOWN	Soap and detergents production
ORICA AUSTRALIA PTY LTD	GATE 1, 2 CHRISTINA ROAD	VILLAWOOD	BANKSTOWN	Contaminated soil treatment
ORICA AUSTRALIA PTY LTD	GATE 1, 2 CHRISTINA ROAD	VILLAWOOD	BANKSTOWN	Waste storage - hazardous, restricted solid, liquid, clinical and related waste and asb
ORICA AUSTRALIA PTY LTD	GATE 3, 2 CHRISTINA ROAD	VILLAWOOD	BANKSTOWN	Chemical production waste generation
ORICA AUSTRALIA PTY LTD	GATE 3, 2 CHRISTINA ROAD	VILLAWOOD	BANKSTOWN	Pharmaceutical and veterinary products production
TES-AMM AUSTRALIA PTY LTD	1 MARPLE AVENUE	VILLAWOOD	BANKSTOWN	Non-thermal treatment of hazardous and other waste
TES-AMM AUSTRALIA PTY LTD	1 MARPLE AVENUE	VILLAWOOD	BANKSTOWN	Waste storage - hazardous, restricted solid, liquid, clinical and related waste and asb
GALVANISING SERVICES PTY LTD	135 ROOKWOOD ROAD	YAGOONA	BANKSTOWN	Metal coating

APPENDIX C

LABORATORY TEST CERTIFICATES

Red Maple QLD 4740
Ph: 02 4248 8552 E: samplesydney@anglobal.com
JTCOYPA 4715 Gentry Place North Meera NSW 2541
Ph: 02 4248 8552 E: north@anglobal.com
COWEP 4710 Wood Way, Malaga WA 6130
Ph: 08 4204 7655 E: samplesydney@anglobal.com

CHEWEL 5715 S Rose Gum Road Warburton NSW 2304
Ph: 02 4248 8552 E: samplesydney@anglobal.com
COWYPA 4715 Gentry Place North Meera NSW 2541
Ph: 02 4248 8552 E: north@anglobal.com
COWEP 4710 Wood Way, Malaga WA 6130
Ph: 08 4204 7655 E: samplesydney@anglobal.com

QSTOWY 277 2532 Hilda Road Smithfield NSW 2164
Ph: 02 6184 9555 E: samplesydney@anglobal.com
JTCOYPA 4715 Gentry Place North Meera NSW 2541
Ph: 02 4248 8552 E: north@anglobal.com
COWEP 4710 Wood Way, Malaga WA 6130
Ph: 08 4204 7655 E: samplesydney@anglobal.com

TAT (List due date):

or Urgent TAT (List due date):

COC SEQUENCE NUMBER (Circle)									
COC:	1	2	3	4	5	6	7		
OF:	1	2	3	4	5	6	7		

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE/TIME:

DATE/TIME:

FOR LABORATORY USE ONLY (Circle)

Custody Seal Intact?

Yes

No

N/A

Free ice / frozen ice bricks present upon receipt?

Yes

No

N/A

Random Sample Temperature on Receipt:

°C

Other comment:

ANALYSIS REQUIRED including SUITES (NB: Suite Codes must be listed to attract suite price)
Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).

Additional Information

CONTAINERS

S-26

x

Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.

Environmental Division
Sydney
Work Order Reference
ES1605356



Telephone : + 61-2-8784 8555

1

1

Am Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airfreight Unpreserved Plastic
erved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;

CERTIFICATE OF ANALYSIS

Work Order	: ES1605356	Page	: 1 of 4
Client	: GROUND TECHNOLOGIES	Laboratory	: Environmental Division Sydney
Contact	: MR ANTHONY BENNETT	Contact	:
Address	: PO BOX 1121 GREEN VALLEY NSW,AUSTRALIA 2168	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: anthony@groundtech.com.au	E-mail	:
Telephone	: +61 02 8783 8200	Telephone	: +61-2-8784 8555
Facsimile	: ----	Facsimile	: +61-2-8784 8500
Project	: gte795 Bankstown	QC Level	: NEPM 2013 B3 & ALS QC Standard
Order number	: ----	Date Samples Received	: 10-Mar-2016 09:00
C-O-C number	: ----	Date Analysis Commenced	: 16-Mar-2016
Sampler	: ANTHONY BENNETT	Issue Date	: 17-Mar-2016 16:04
Site	: ----		
Quote number	: ----	No. of samples received	: 1
		No. of samples analysed	: 1

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results



NATA Accredited Laboratory 825

Accredited for compliance with
ISO/IEC 17025.

Signatories

This document has been electronically signed by the authorized signatories indicated below. Electronic signing has been carried out in compliance with procedures specified in 21 CFR Part 11.

<i>Signatories</i>	<i>Position</i>	<i>Accreditation Category</i>
Celine Conceicao	Senior Spectroscopist	Sydney Inorganics, Smithfield, NSW
Edwandy Fadjjar	Organic Coordinator	Sydney Organics, Smithfield, NSW



General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.

LOR = Limit of reporting

^ = This result is computed from individual analyte detections at or above the level of reporting

Ø = ALS is not NATA accredited for these tests.

- Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenzo(a,h)anthracene (1.0), Benzo(g,h,i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero, for 'TEQ 1/2LOR' are treated as half the reported LOR, and for 'TEQ LOR' are treated as being equal to the reported LOR.

Note: TEQ 1/2LOR and TEQ LOR will calculate as 0.6mg/Kg and 1.2mg/Kg respectively for samples with non-detects for all of the eight TEQ PAHs.



Analytical Results

Sub-Matrix: SOIL
 (Matrix: SOIL)

Client sample ID

				B1	----	----	----	----
Client sampling date / time				[08-Mar-2016]	----	----	----	----
Compound	CAS Number	LOR	Unit	ES1605356-001	-----	-----	-----	-----
				Result	Result	Result	Result	Result
EG005T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	58	----	----	----	----
Cadmium	7440-43-9	1	mg/kg	<1	----	----	----	----
Chromium	7440-47-3	2	mg/kg	15	----	----	----	----
Copper	7440-50-8	5	mg/kg	39	----	----	----	----
Lead	7439-92-1	5	mg/kg	620	----	----	----	----
Nickel	7440-02-0	2	mg/kg	8	----	----	----	----
Zinc	7440-66-6	5	mg/kg	433	----	----	----	----
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	0.1	----	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	----	----	----	----
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	----	----	----	----
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	----	----	----	----
Fluorene	86-73-7	0.5	mg/kg	<0.5	----	----	----	----
Phenanthrene	85-01-8	0.5	mg/kg	0.8	----	----	----	----
Anthracene	120-12-7	0.5	mg/kg	<0.5	----	----	----	----
Fluoranthene	206-44-0	0.5	mg/kg	1.6	----	----	----	----
Pyrene	129-00-0	0.5	mg/kg	1.6	----	----	----	----
Benzo(a)anthracene	56-55-3	0.5	mg/kg	0.5	----	----	----	----
Chrysene	218-01-9	0.5	mg/kg	0.6	----	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	0.6	----	----	----	----
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	----	----	----	----
Benzo(a)pyrene	50-32-8	0.5	mg/kg	0.6	----	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	----	----	----	----
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	----	----	----	----
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	0.5	----	----	----	----
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	6.8	----	----	----	----
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	0.7	----	----	----	----
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg	1.0	----	----	----	----
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg	1.3	----	----	----	----
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	----	----	----	----
C10 - C14 Fraction	----	50	mg/kg	<50	----	----	----	----
C15 - C28 Fraction	----	100	mg/kg	<100	----	----	----	----



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	B1	----	----	----	----
Client sampling date / time					[08-Mar-2016]	----	----	----	----
Compound	CAS Number	LOR	Unit		ES1605356-001	-----	-----	-----	-----
				Result	Result	Result	Result	Result	Result
EP080/071: Total Petroleum Hydrocarbons - Continued									
C29 - C36 Fraction	----	100	mg/kg		<100	----	----	----	----
^ C10 - C36 Fraction (sum)	----	50	mg/kg		<50	----	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	----	----	----	----
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg		<10	----	----	----	----
>C10 - C16 Fraction	----	50	mg/kg		<50	----	----	----	----
>C16 - C34 Fraction	----	100	mg/kg		<100	----	----	----	----
>C34 - C40 Fraction	----	100	mg/kg		<100	----	----	----	----
^ >C10 - C40 Fraction (sum)	----	50	mg/kg		<50	----	----	----	----
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg		<50	----	----	----	----
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	----	----	----	----
Toluene	108-88-3	0.5	mg/kg		<0.5	----	----	----	----
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	----	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	----	----	----	----
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	----	----	----	----
^ Sum of BTEX	----	0.2	mg/kg		<0.2	----	----	----	----
^ Total Xylenes	1330-20-7	0.5	mg/kg		<0.5	----	----	----	----
Naphthalene	91-20-3	1	mg/kg		<1	----	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		85.2	----	----	----	----
2-Chlorophenol-D4	93951-73-6	0.5	%		89.4	----	----	----	----
2,4,6-Tribromophenol	118-79-6	0.5	%		74.1	----	----	----	----
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		103	----	----	----	----
Anthracene-d10	1719-06-8	0.5	%		94.3	----	----	----	----
4-Terphenyl-d14	1718-51-0	0.5	%		92.5	----	----	----	----
EP080S: TPH(V)/BTEX Surrogates									
1,2-Dichloroethane-D4	17060-07-0	0.2	%		92.3	----	----	----	----
Toluene-D8	2037-26-5	0.2	%		90.0	----	----	----	----
4-Bromofluorobenzene	460-00-4	0.2	%		88.0	----	----	----	----

CERTIFICATE OF ANALYSIS

Work Order : **ES1606876**
Client : **GROUND TECHNOLOGIES**
Contact : **MR ANTHONY BENNETT**
Address : **PO BOX 1121**
GREEN VALLEY NSW,AUSTRALIA 2168
Telephone : **+61 02 8783 8200**
Project : **gte795 Bankstown**
Order number : **----**
C-O-C number : **----**
Sampler : **ANTHONY BENNETT**
Site : **----**
Quote number : **----**
No. of samples received : **1**
No. of samples analysed : **1**

Page : 1 of 4
Laboratory : Environmental Division Sydney
Contact :
Address : 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone : +61-2-8784 8555
Date Samples Received : 30-Mar-2016 14:45
Date Analysis Commenced : 31-Mar-2016
Issue Date : 01-Apr-2016 16:04

NATA Accredited Laboratory 825
 Accredited for compliance with
 ISO/IEC 17025.



This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

<i>Signatories</i>	<i>Position</i>	<i>Accreditation Category</i>
RICHARD TEA	Lab technician	Sydney Inorganics, Smithfield, NSW



General Comments

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LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.



Analytical Results

Sub-Matrix: **SOIL**
 (Matrix: **SOIL**)

Client sample ID

				B1	----	----	----	----
Client sampling date / time				[08-Mar-2016]	----	----	----	----
Compound	CAS Number	LOR	Unit	ES1606876-001	-----	-----	-----	-----
				Result	Result	Result	Result	Result
EN33: TCLP Leach								
Initial pH	----	0.1	pH Unit	8.0	----	----	----	----
After HCl pH	----	0.1	pH Unit	1.8	----	----	----	----
Extraction Fluid Number	----	1	-	1	----	----	----	----
Final pH	----	0.1	pH Unit	5.0	----	----	----	----



Analytical Results

Sub-Matrix: TCLP LEACHATE (Matrix: WATER)				Client sample ID	B1	----	----	----	----
				Client sampling date / time	[08-Mar-2016]	----	----	----	----
Compound	CAS Number	LOR	Unit	ES1606876-001	-----	-----	-----	-----	-----
				Result	Result	Result	Result	Result	Result
EG005C: Leachable Metals by ICPAES									
Lead	7439-92-1	0.1	mg/L	<0.1	----	----	----	----	----