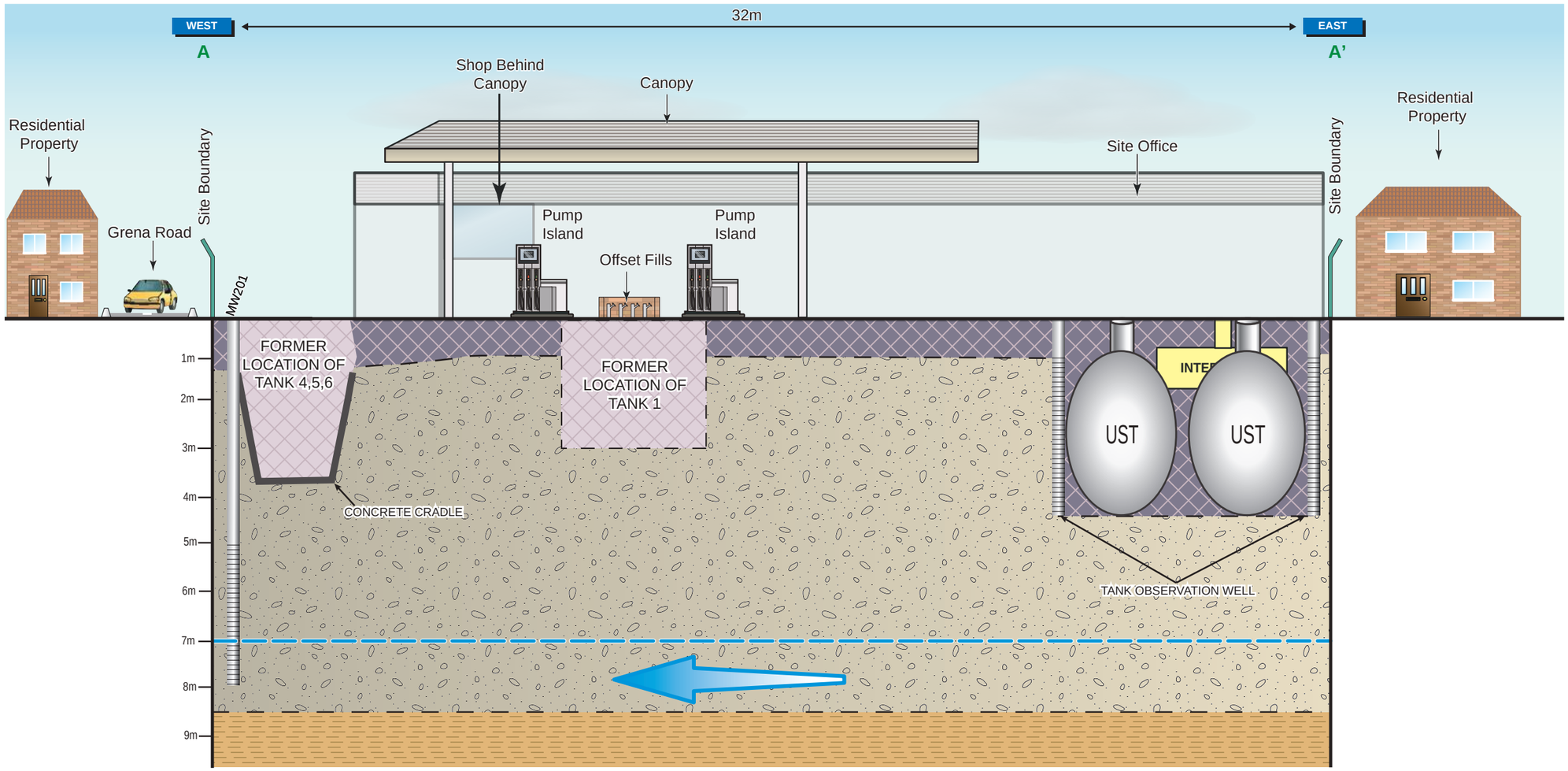
DO NOT SCALE



AREA OF POTENTIAL CONCERN

On-site

- Operational underground storage tanks serving the car forecourt.
- Accidental releases to ground from off-set fill points.
- Accidental releases to ground from dispenser pumps.
- Accidental releases from fuel lines that run between the off-set fills, tanks, and dispensers.
- The forecourt interceptor located and associated drainage lines.

Off-site

- None Known

CHEMICALS OF POTENTIAL CONCERN

- TPH – Petroleum hydrocarbons.
- BTEX — Benzene, toluene, ethylbenzene and xylenes.
- Petroleum Additives – Methyl tertiary butyl ether (MTBE) and tertiary amyl methyl ether (TAME)
- PAHs – Polycyclic aromatic hydrocarbons.
- Heavy Metals
- Asbestos

POTENTIAL PATHWAYS

Human Health

- Vapours – Migration of vapours through made ground to above ground buildings.
- Particulate – Ingestion, inhalation, dermal contact, with soil particulates.
- Permeation – Migration of hydrocarbon substances through plastic potable water supply pipes.

Controlled Waters

- Leaching – Migration of hydrocarbon substances from soils into perched water (if present), or to groundwater.
- Migration of impacted perched water (if present) or groundwater to surface water.

POTENTIAL RECEPTORS

Human Health

- Shop staff.
- The general public and visiting staff (such as contractors, including those conducting excavation works).
- Workers and visitors associated with the indoor bowls club immediately north of the site.
- Off site residents adjacent to the eastern boundary of the site and 11m to the west of the site.

Controlled Waters

- Taplow Gravel Aquifer immediately underlying the site.

POTENTIALLY COMPLETE POLLUTANT LINKAGES

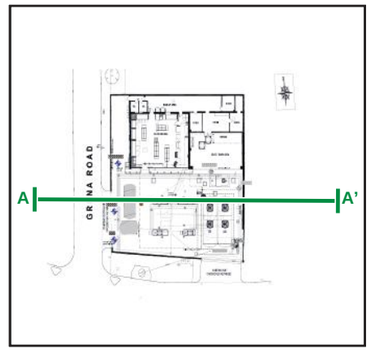
Human Health

- Potentially impacted soils followed by particulate ingestion, inhalation and dermal contact with soil particulates by on-site workers, site users, or construction workers excavating the ground.

Controlled Waters

- None identified

NOTES



KEY

- MADEGROUND
- TAPLOW GRAVEL FORMATION
- LONDON CLAY FORMATION PROVEN AT 9m IN MW201
- TYPE 1 BACKFILL
- GROUNDWATER LEVEL
- INFERRED GROUNDWATER FLOW DIRECTION

CONSULTING ENGINEERS

AECOM

AECOM Infrastructure & Environment UK LTD,
St George's House, 3rd Floor
5 St George's Road, Wimbledon, London SW19 4DR
Tel :020 7963 9800 Fax: 020 7963 9801

CLIENT
SHELL UK OIL PRODUCTS LIMITED

PROJECT
SHELL BLACKHORSE
174 Sheen Road, Richmond,
London. TW9 1XD

DRAWING TITLE
Figure 6 – Conceptual Site Model

DRAWN	DESIGNED	CHECKED	APPROVED	DATE
AM	TP	TP	PA	JUNE 2016

SCALE	DRG No.	REV.
NTS	FIGURE 6	

APPENDIX A TOWN PLANNING CONSENT

Environment Directorate

Civic Centre, 44 York Street, Twickenham TW1 3BZ
tel: 020 8891 7300 text phone 020 8891 7120
fax: 020 8891 7789
email: envprotection@richmond.gov.uk
website: www.richmond.gov.uk

LONDON BOROUGH OF RICHMOND UPON THAMES

PLANNING

TOWN AND COUNTRY PLANNING ACT 1990: DECISION NOTICE

Mr Spencer Lindsay
RLDM Architects Ltd
1A Kingsway Place
Sans Walk
London
EC1R 0LS

Please contact: Planning Support

Please telephone: 0845 612 2660

Your ref: 1345 - Blackhorse - Tank repl...

Our ref:
DC/CHB/13/2161/FUL/FUL

Letter Printed: 20 September 2013

FOR DECISION DATED
20.09.2013

Dear Sir/Madam

Applicant: Mr Alex Shattock **Agent:** Mr Spencer Lindsay

WHEREAS in accordance with the provisions of the Town and Country Planning Act 1990 and the orders made thereunder, you have made an application received on **18 June 2013** and illustrated by plans for the permission of the Local Planning Authority to develop land situated at:

Blackhorse Garage, 174 Sheen Road, Richmond, TW9 1XE.
for
Redevelopment of the service station including the replacement of the existing tank storage with the installation of a new 150,000 litre double skin steel tank farm, new above ground offset fill point with associated pipework and tanker fill area. Replacement canopy raised to 4.15M in height with new pump dispensers together with drainage alterations and associated resurfacing works.

NOW THEREFORE WE THE MAYOR AND BURGESSES OF THE LONDON BOROUGH OF RICHMOND UPON THAMES acting by the Council of the said Borough, the Local Planning Authority HEREBY GIVE YOU NOTICE pursuant to the said Act and the Orders made thereunder that permission to develop the said land in accordance with the said application is hereby **GRANTED** subject to the conditions and informatives summarised and listed on the attached schedule:-

Yours faithfully

Robert Angus
Development Control Manager

APPLICANT NAME	AGENT NAME
Mr Alex Shattock C/o Agent	Mr Spencer Lindsay 1A Kingsway Place Sans Walk London EC1R 0LS

SITE:
Blackhorse Garage, 174 Sheen Road, Richmond, TW9 1XE.

PROPOSAL:
Redevelopment of the service station including the replacement of the existing tank storage with the installation of a new 150,000 litre double skin steel tank farm, new above ground offset fill point with associated pipework and tanker fill area. Replacement canopy raised to 4.15M in height with new pump dispensers together with drainage alterations and associated resurfacing works.

SUMMARY OF CONDITIONS AND INFORMATIVES

CONDITIONS:

AT01 Development begun within 3 years	U63614 Pollution report
U63609 Arboricultural Method Statement (AMS)	U63619 Construction Method Statement
U63610 Hand excavation only	U63620 Materials
U63611 Protect Major Roots and Root Treatment	U63623 Approved drawings
U63612 Site Monitoring Procedures and recording	
U63613 Pollution Management	

INFORMATIVES:

U71629 Composite Informative	U71630 NPPF APPROVAL - Para. 186 and 187
U71632 Signage and advertisements	

DETAILED CONDITIONS

AT01 Development begun within 3 years

The development to which this permission relates must be begun not later than the expiration of three years beginning with the date of this permission.
REASON: To conform with the requirements of Section 91 of the Town and Country Planning Act 1990 as amended by the Planning and Compulsory Purchase Act 2004.

U63609 Arboricultural Method Statement (AMS)

Prior to any works associated with this application commencing a scheme specific Arboricultural Method Statement must be submitted, this is to include details of all special engineering within the RPA and other relevant construction details. This must be approved prior to any works associated with this application commencing on site.

The AMS must be in accordance with section 6.1 of British Standard 5837:2012 Trees in relation to design, demolition and construction - recommendations.

The AMS must be submitted to and approved in writing by the Local Planning Authority before any materials or machinery is brought onto the site and before any demolition, development or landscaping commences. The scheme must be undertaken in accordance with the approved AMS.

Reason: To ensure that the tree (s) are not damaged or otherwise adversely affected by building operations and soil compaction

U63610 Hand excavation only

Any excavation/vegetation clearance within the RPA of any retained tree(s) on/off site shall be carried out using non-mechanised hand tools only and undertaken in accordance with 7.2 of BS5837:2012 Trees in relation to design, demolition and construction - Recommendations. If this is not practical an alternative procedure must be submitted in writing and approved in advance by the council's arboricultural officer.

REASON: To ensure that the tree(s) are not damaged or otherwise adversely affected by building operations.

U63611 Protect Major Roots and Root Treatment

A) All excavations in preparation of foundations, drainage and all works above ground level within the Root Protection Area of (retained tree(s) shall be carried out in a manner to ensure that all major roots uncovered in excess of 25mm shall be retained, bridged around and treated in accordance with section 7.2 of BS5837:2012.

B) Roots with a diameter less than 25mm may be removed if necessary; this should be done in accordance with BS3998:2010 (Tree Work - Recommendations) and section 7.2.3 of BS5837:2012

C) Any tree root exposed which is in excess of 5cm in diameter shall be reported to the Council's Tree Officer within 48 hours of exposure in order that advice may be obtained with regard to adequate treatment.

D) Any exposed roots must be immediately wrapped or covered to prevent desiccation and to protect them from rapid temperature changes. Wrapping must be removed prior to backfilling.

E) Backfilling should be undertaking in accordance with section 7.2.4 of BS5837:2012.

REASON: To ensure that tree (s) are not damaged or otherwise adversely affected by the building operations

U63612 Site Monitoring Procedures and recording

Prior to the commencement of works (e.g. demolition, plant movement and storage in preparation of development etc.) within the site an auditable system of arboricultural site monitoring is to be formulated for the scheme; the system should involve arboricultural supervision at key phases. The site specific process of monitoring shall be submitted to and approved in writing by the Local Planning Authority.
Site visits shall be undertaken in accordance with the approved scheme, records shall be submitted to the Local Planning Authority within 24 hours of the visits taking place.

REASON: To ensure that tree (s) are not damaged or otherwise adversely affected by the building operations

U63613 Pollution Management

No development shall commence until a scheme to manage the pollution risks associated with the operations of the proposed petrol filling station have been submitted to and approved, in writing, by the local planning authority. The scheme shall include and address the following components:
1. The location and design of groundwater monitoring boreholes comprising of at least one up hydraulic gradient and two down gradient boreholes, one
of these to be located down gradient of the underground fuel tanks. The information must include proposed frequency of monitoring and reporting to relevant regulatory authority. These boreholes must be constructed in a manner that ensures they do not provide a pathway for spillages to enter the ground or groundwater from the site surfacing

2. Drainage details for the forecourt and drainage within the tanker off loading area;

3. A site specific staff training manual that explains to site staff specific environmental risks associated with the petrol filling station, and actions to be taken in the event of a incident. Any changes to these components require the express consent of the local planning authority. The scheme shall be implemented as approved.

Prior to the commencement of operations on the site, an as built report, demonstrating the completion of the works in accordance with the above shall be submitted for approval to the local planning authority.

Reason: To protect the underlying groundwater from potential pollution.

U63614 Pollution report

Prior to the commencement of operations on the site, an as built report, demonstrating the completion of the works in accordance with condition U63613 - Pollution Management shall be submitted for approval to the local planning authority.

Reason: To protect the underlying groundwater from potential pollution.

U63619 Construction Method Statement

No development shall take place, including any works of demolition, until a construction method statement has been submitted to, and approved in writing by the LPA. The approved statement shall be adhered to throughout the construction period. The statement shall provide for:
i) size and routing of construction vehicles and holding areas for these on/off site;
ii) the parking of vehicles of site operatives and visitors;
iii) the loading and unloading of plant and materials;
iv) the storage of plant and materials used in constructing the development;
v) the erection and maintenance of security hoarding;
vi) measures to control the emission of dust and dirt during construction;
vii) a scheme for recycling and disposing of waste resulting from demolition and construction work;

Reason: in the interests of highway and pedestrian safety together with the amenity of the area

U63620 Materials

The external surfaces and all areas of hard surfacing, where applicable, shall not be constructed other than in materials to match the existing or in accordance with the details specified in the application form and approved documents unless otherwise agreed in writing with the Local Planning Authority.
REASON: To ensure that the proposed development does not prejudice the appearance of the locality.

U63623 Approved drawings

The development hereby permitted shall be carried out in accordance with the following approved plans and documents, where applicable.
1345-04 PLG 2012 A; 1345-05 PLG 2012 A; 1345-03 PLG 2012; 1345-02 PLG 2012 A; 1345-06 PLG 2012; 1345-08 PLG 2012; 5.05; Tree constraints plan; 1345-LOC PLG 2012; TM/BLACKHORSE/SLP; 0005308-05 REV A; A2; Environmental Strategy Plan; Arbtech Consulting Limited Tree Survey; Arbtech Environmental Services Arboricultural Impact Assessment and Tree Protection Scheme; Construction Logistics Plan received 18th June 2013

REASON: To accord with the terms of the application, for the avoidance of doubt and in the interests of proper planning.

DETAILED INFORMATIVES

U71629 Composite Informative

Building Regulations:
The applicant is advised that the erection of new buildings or alterations to existing buildings should comply with the Building Regulations. This permission is NOT a consent under the Building Regulations for which a separate application should be made. For application forms and advice please contact the Building Control Section of the Street Scene department, 2nd floor, Civic Centre, 44 York Street, Twickenham, TW1 3BZ. (Tel: 0845 612 2660).
If you alter your proposals in any way, including to comply with the Building Regulations, a further planning application may be required. If you wish to deviate in any way from the proposals shown on the approved drawings you should contact the Development Control Department, 2nd floor, Civic Centre, 44 York Street, Twickenham, TW1 3BZ. (Tel: 0845 612 2660).

Damage to the public highway:
Care should be taken to ensure that no damage is caused to the public highway adjacent to the site during demolition and (or) construction. The Council will seek to recover any expenses incurred in repairing or making good such damage from the owner of the land in question or the person causing or responsible for the damage.

BEFORE ANY WORK COMMENCES you MUST contact Highways and Transport, London Borough of Richmond upon Thames, 44 York Street, Twickenham TW1 3BZ (Telephone 0845 612 2660 ask for the Streetscene inspector for your area or email highwaysandtransport@richmond.gov.uk) to arrange a pre commencement photographic survey of the public highways adjacent to and within the vicinity of the site. The precondition survey will ensure you are not charged for any damage which existed prior to commencement of your works.

If you fail to contact us to arrange a pre commencement survey then it will be assumed that any damage to the highway was caused by your activities and you will be charged the full cost of repair.

Once the site works are completed you need to contact us again to arrange for a post construction inspection to be carried out. If there is no further damage then the case will be closed. If damage or further damage is found to have occurred then you will be asked to pay for repairs to be carried out.

Noise control - Building sites:
The attention of the applicant is drawn to the requirements of section 60 of the Control of Pollution Act 1974 in respect of the minimisation of noise and vibration on construction and demolition sites. Application, under section 61 of the Act for prior consent to the works, can be made to the Environmental Health Department.

Under the Act the Council has certain powers to control noise from construction sites. Typically the council will limit the times during which sites are permitted to make noise that their neighbours can hear.

For general construction works the Council usually imposes (when necessary) the following limits on noisy works:-

Monday to Friday 8am to 6pm
Saturdays 8am to 1pm
Sundays and Public Holidays- No noisy activities allowed

Applicants should also be aware of the guidance contained in British Standard 5228;2009- Noise and vibration control on construction and open sites.

Any enquiries for further information should be made to the Commercial Environmental Health Team, 2nd Floor Civic Centre, 44 York Street, Twickenham TW1 3AB.

U71632 Signage and advertisements

This application grants consent for the alterations to the tanks and canopy. All alterations to the advertisements and signage have not been cosnidered as part of this application although it is understood

SCHEDULE OF REASONS FOR APPLICATION 13/2161/FUL
that consent was granted for these within application 12/2860/ADV.

U71630 NPPF APPROVAL - Para. 186 and 187

In accordance with paragraphs 186 and 187 of the National Planning Policy Framework, Richmond upon Thames Borough Council takes a positive and proactive approach to the delivery of sustainable development, by:
o Providing a pre-application and duty officer service
o Providing written policies and guidance, all of which is available to view on the Council's website
o Where appropriate, negotiating amendments to secure a positive decision
o Determining applications in a timely manner

In this instance:
o The application was acceptable as submitted, and approved.

END OF SCHEDULE OF CONDITIONS AND INFORMATIVES FOR APPLICATION 13/2161/FUL

APPENDIX B TABLES

Table 1
Groundwater Monitoring

Borehole Number	Date of Sampling	Depth to Groundwater (m btc)	Base of Borehole (m btc)	Borehole Elevation (m aOD)	Groundwater Elevation (m aOD)	Stabilised Water Quality Indicators								Comments
						Volume (L)	Temperature (℃)	pH	Conductivity (µS/cm)	ORP (mV)	ORP (EH)	DO (mg/L)	Turbidity (g/l)	
MW1	21/09/2015	7.248	8.280	9.862	2.614	3	16.48	7.44	2112	353.7	565.4	6.55	1.64	clear NVO
						6	16.37	7.39	2133	353.5	565.2	6.13	1.66	
						12	16.30	7.40	2136	348.3	560.0	6.20	1.66	
MW2	21/09/2015	6.910	8.610	9.46	2.550	8	18.10	7.86	2132	334.9	546.6	5.45	1.60	clear NVO, sheen.
						16	18.11	7.85	2132	337.7	549.4	5.36	1.60	
						25	18.11	7.85	2131	340.7	552.4	5.35	15.95	
MW3	21/09/2015	6.990	7.760	9.357	2.367	2	14.34	7.00	1977	405.5	617.2	3.55	1.61	Clear NVO
						5	14.11	6.99	1936	395.6	607.3	5.30	1.59	
						10	13.95	7.12	1915	387.9	599.6	6.41	1.58	
	09/12/2015	7.175	7.860	9.357	2.182	2	13.38	7.08	688.4	110.7	322.4	5.60	0.56	Clear, slow recovery.
						4	13.81	7.10	682	101.8	313.5	3.51	0.56	
						6	13.82	7.10	675.2	96.8	308.5	3.41	0.56	
MW4	21/09/2015	6.905	8.855	9.329	2.424	4	14.00	7.37	2142	406.0	617.7	7.04	1.76	Clear NVO
						10	13.94	7.28	2158	405.2	616.9	7.10	1.77	
						15	13.93	7.27	2178	396.3	608.0	7.07	1.79	
	09/12/2015	7.103	7.680	9.329	2.226	3	13.85	7.02	592.3	91.0	302.7	6.92	0.48	Clear NVO, good recovery.
						6	13.77	7.00	595.5	86.6	298.3	6.76	0.47	
						9	13.74	7.00	600.1	85.9	297.6	6.74	0.47	
MW201	01/05/2016	7.020	8.436	**	-	5	13.26	7.87	741	433.5	645.2	3.41	0.60	Clear, NVO
						20	13.54	7.75	776	446.2	657.9	3.21	0.64	
						23	13.54	7.74	777	446.5	658.2	3.18	0.69	

Notes

** Not surveyed

ORP is corrected against temperature of groundwater.
Equation: Eh = Em + Eref
Where: Eh = Corrected ORP value
EM = ORP measured by probe

Eref = Correction factor = [(temperature2) x -0.0013)-(temperature x 0.6656)+222.02] (for a 3.5mol KCl probe)

Temperature Approximate specific correction factor

10°C	215.2	15°C	211.7	20°C	208.2

℃ - Degrees Celsius
L - Litres
m AOD - Metres Above Ordnance Datum
NVO - No visible or olfactory evidence of impact
pH - Potential of Hydrogen (dimensionless)

m bgl - metres below ground level
mg/L - milligrams per litre
µS - milli siemens
mV - milli volts
ORP - Oxidation Reduction Potential

Table 2
Vapour Monitoring Results

Site	Shell Blackhorse
Sample Round	22/09/2015 and 9/12/15

Sample Location	Sample Date	Depth to Base (m bgl)	Depth to Groundwater m bgl)	Sample Tube ID	PID Reading (ppm)		Flow Pod (L/hr)	Barometric Pressure (mb)		Methane (CH_4) %LEL	Carbon Dioxide (CO_2) %v/v	Oxygen (O_2) % v/v	Methane Flow (l/hr)	Carbon Dioxide Flow (l/hr)
					Pre-purge	Post-purge	Peak	Pre-purge	Post-purge	Peak	Peak	Peak		
VM1	22/09/2105	1.527	-	651	0.5	0.0	6.3	992.0	992.0	0.0	2.4	18.7	-	-
VM2	22/09/2105	-	-	224	0.1	0.1	0.0	991.0	991.0	0.0	0.0	20.1	-	-
VM3	22/09/2105	1.335	-	199	0.7	0.1	0.0	991.0	0.0	0.0	7.3	17.2	-	-
VP201	09/12/2016	-	-	142	0.2	<0.1	0.0	1021.0	1021.0	0.0	0.1	19.3	-	-

Legend:

ppm - parts per million
L/hr - litres per hour
LEL - lower explosive limit
-- - not encountered
mb - milliBar
m bgl - metres below ground level

Table 3a
Soil Analytical Results
Compared Against Human Health (High Density Residential, HDR and Continued Petroleum Use, CPU) Criteria

Location	Units	Method Detection Limit	2015 GAC - Continued Petroleum Use	2015 GAC - High Density Residential	Backfill 1	Backfill 2	EXA01	EXA02	EXA03	EXA04	EXA05	EXA06	EXA07	EXA08	EXA09	EXA10	EXA11	EXA12
Average Depth (m)							2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	4.5	4.5	4.5	4.5
Date					02/03/2016	02/03/2016	13/01/2016	13/01/2016	13/01/2016	14/01/2016	14/01/2016	14/01/2016	14/01/2016	13/01/2016	14/01/2016	14/01/2016	13/01/2016	13/01/2016
Sample Type					Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
Lab Report Number					352749	352749	346181	346181	346181	346181	346243	346243	346181	346181	346243	346243	346181	346181
BTEX																		
Benzene	mg/kg	0.009	2.6[#1]	**0.13[#1]**	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009
Toluene	mg/kg	0.007	Sat[#1]	**320[#1]**	<0.007	<0.007	0.0206	<0.007	<0.007	0.00911	<0.007	<0.007	0.0369	0.00877	<0.007	<0.007	<0.007	<0.007
Ethylbenzene	mg/kg	0.004	Sat[#1]	**30[#1]**	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	0.00576	<0.004	<0.004	<0.004	<0.004	<0.004
Xylene (m & p)	mg/kg	0.01			<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.0176	<0.01	<0.01	<0.01	<0.01	<0.01
Xylene (o)	mg/kg	0.01	Sat[#1]	**31[#1]**	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Xylene Total	mg/kg		570[#1]	**28[#1]**	0	0	0	0	0	0	0	0	0.0176	0	0	0	0	0
Oxygenates																		
Diisopropyl Ether	mg/kg	0.001	35[#1]	**1.9[#1]**	<0.001	<0.001	<0.01	<0.001	<0.001	<0.01	<0.001	<0.001	<0.01	<0.001	<0.001	<0.001	<0.001	<0.001
Ethyl Tert Butyl Ether	mg/kg	0.001	270[#1]	**14[#1]**	<0.001	<0.001	<0.01	<0.001	<0.001	<0.01	<0.001	<0.001	<0.01	<0.001	<0.001	<0.001	<0.001	<0.001
Methyl Tert Butyl Ether	mg/kg	0.01	650[#1]	**33[#1]**	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.112	<0.01
Tert Amyl Methyl Ether	mg/kg	0.01	17[#1]	**0.9[#1]**	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Tert Butyl Alcohol	mg/kg	0.01	2,700[#1]	**130[#1]**	<0.01	<0.01	<0.1	0.121	0.0857	<0.1	<0.01	<0.01	<0.1	<0.01	<0.01	<0.01	0.0815	0.529
Ethanol	mg/kg	0.05			<0.05	<0.05	<0.5	<0.05	<0.05	<0.5	<0.05	<0.05	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05
PAH																		
Acenaphthene	mg/kg	0.008	Sat[#1]	**Sat[#1]**	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	0.0178	<0.008	0.0138	<0.008	<0.008
Acenaphthylene	mg/kg	0.012	Sat[#1]	**Sat[#1]**	<0.012	<0.012	0.0836	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012
Anthracene	mg/kg	0.016	Sat[#1]	**Sat[#1]**	<0.016	<0.016	0.0437	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	0.0388	<0.016	0.0396	<0.016	<0.016
Benzo(a)anthracene	mg/kg	0.014	Sat[#1]	**Sat[#1]**	<0.014	<0.014	0.148	<0.014	<0.014	<0.014	<0.014	<0.014	<0.014	0.0888	<0.014	0.0161	<0.014	<0.014
Benzo(a)pyrene	mg/kg	0.015	Sat[#1]	**Sat[#1]**	<0.015	<0.015	0.151	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	0.0771	<0.015	0.0235	<0.015	<0.015
Benzo(b)fluoranthene	mg/kg	0.015	Sat[#1]	**Sat[#1]**	<0.015	<0.015	0.186	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	0.064	<0.015	0.0332	<0.015	<0.015
Benzo(g,h,i)perylene	mg/kg	0.024	Sat[#1]	**Sat[#1]**	<0.024	<0.024	0.184	<0.024	<0.024	<0.024	<0.024	<0.024	<0.024	0.0693	<0.024	<0.024	<0.024	<0.024
Benzo(k)fluoranthene	mg/kg	0.014	Sat[#1]	**Sat[#1]**	<0.014	<0.014	0.0741	<0.014	<0.014	<0.014	<0.014	<0.014	<0.014	0.0425	<0.014	<0.014	<0.014	<0.014
Chrysene	mg/kg	0.01	Sat[#1]	**Sat[#1]**	<0.01	<0.01	0.124	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.0817	<0.01	0.0194	<0.01	<0.01
Dibenz(a,h)anthracene	mg/kg	0.023	Sat[#1]	**Sat[#1]**	<0.023	<0.023	0.0385	<0.023	<0.023	<0.023	<0.023	<0.023	<0.023	<0.023	<0.023	<0.023	<0.023	<0.023
Fluoranthene	mg/kg	0.017	Sat[#1]	**Sat[#1]**	<0.017	0.0194	0.144	<0.017	0.0221	<0.017	<0.017	<0.017	<0.017	0.181	<0.017	0.0413	<0.017	<0.017
Fluorene	mg/kg	0.01	Sat[#1]	**Sat[#1]**	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.0192	<0.01	0.147	<0.01	<0.01
Indeno(1,2,3-c,d)pyrene	mg/kg	0.018	Sat[#1]	**Sat[#1]**	<0.018	<0.018	0.106	<0.018	<0.018	<0.018	<0.018	<0.018	<0.018	0.0461	<0.018	<0.018	<0.018	<0.018
Naphthalene	mg/kg	0.009	19[#1]	**0.85[#1]**	<0.009	0.00941	0.0208	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	0.0301	<0.009	0.087	<0.009	<0.009
Phenanthrene	mg/kg	0.015	Sat[#1]	**Sat[#1]**	<0.015	0.0179	0.075	<0.015	<0.015	<0.015	<0.015	0.0256	<0.015	0.132	<0.015	0.185	<0.015	<0.015
Pyrene	mg/kg	0.015	Sat[#1]	**Sat[#1]**	<0.015	0.0174	0.227	<0.015	0.0188	<0.015	<0.015	<0.015	<0.015	0.173	<0.015	0.0559	<0.015	<0.015
PAHs (sum of 4)	mg/kg				0	0	0.5501	0	0	0	0	0	0	0.2219	0	0.0332	0	0
Benzo(b,k)fluoranthene	mg/kg				0	0	0.2601	0	0	0	0	0	0	0.1065	0	0.0332	0	0
PAH 16 Total	mg/kg	0.118			<0.118	<0.118	1.61	<0.118	<0.118	<0.118	<0.118	<0.118	<0.118	1.06	<0.118	0.662	<0.118	<0.118
Benzo(g,h,i)perylene + Indeno(1,2,3-cd)pyrene	mg/kg				0	0	0.29	0	0	0	0	0	0	0.1154	0	0	0	0
Coal tar (BaP as a surrogate)	mg/kg		Sat[#1]	**Sat[#1]**	0	0	0.151	0	0	0	0	0	0	0.0771	0	0.0235	0	0
TPH																		
>EC5-EC7 Aromatics	mg/kg	0.01	Sat[#1]	**130[#1]**	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
>EC7-EC8 Aromatics	mg/kg	0.01	Sat[#1]	**320[#1]**	<0.01	<0.01	0.0471	<0.01	<0.01	0.0246	<0.01	<0.01	0.0396	0.0383	<0.01	<0.01	<0.01	<0.01
>EC8-EC10 Aromatics	mg/kg	0.01	360[#1]	**18[#1]**	0.0112	0.0144	0.057	<0.01	<0.01	0.0493	0.0109	0.0132	0.0802	0.986	0.0986	3.84	0.0901	0.019
>EC10-EC12 Aromatics	mg/kg	0.01	Sat[#1]	**100[#1]**	<0.01	0.0165	<0.01	<0.01	<0.01	0.0168	0.0229	0.0495	0.0192	2.34	0.266	8.07	0.253	0.0235
>EC12-EC16 Aromatics	mg/kg	0.1	Sat[#1]	**Sat[#1]**	<0.1	<0.1	0.441	<0.1	<0.1	<0.1	<0.1	<0.1	0.576	12.9	<0.1	7.96	<0.1	<0.1
>EC16-EC21 Aromatics	mg/kg	0.1	Sat[#1]	**Sat[#1]**	<0.1	<0.1	1.64	<0.1	0.452	<0.1	<0.1	<0.1	1.31	17.4	<0.1	2.81	<0.1	<0.1
>EC21-EC35 Aromatics	mg/kg	0.1	Sat[#1]	**Sat[#1]**	<0.1	<0.1	13.4	<0.1	15.1	4.08	0.292	<0.1	18.2	29.1	<0.1	0.518	<0.1	<0.1
>C5-C6 Aliphatics	mg/kg	0.01	Sat[#1]	**20[#1]**	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.0104	<0.01	0.0113	<0.01	<0.01
>C6-C8 Aliphatics	mg/kg	0.01	Sat[#1]	**44[#1]**	0.0101	0.0124	<0.01	<0.01	<0.01	0.0213	<0.01	<0.01	0.0181	0.108	0.0244	1.63	0.0103	0.0179
>C8-C10 Aliphatics	mg/kg	0.01	Sat[#1]	**11[#1]**	<0.01	0.0103	<0.01	<0.01	<0.01	0.019	0.0164	0.0187	0.0237	1.38	0.147	5.76	0.111	0.0235
>C10-C12 Aliphatics	mg/kg	0.01	Sat[#1]	**Sat[#1]**	<0.01	0.0247	<0.01	<0.01	<0.01	0.0246	0.0338	0.0748	0.0283	3.51	0.399	12.1	0.38	0.0347
>C12-C16 Aliphatics	mg/kg	0.1	Sat[#1]	**Sat[#1]**	<0.1	<0.1	0.383	<0.1	<0.1	<0.1	<0.1	<0.1	0.211	42.4	<0.1	3.29	<0.1	<0.1
>C16-C21 Aliphatics	mg/kg	0.1			<0.1	<0.1	1.17	<0.1	0.235	<0.1	1.82	1.6	0.75	65.5	1.14	2.29	<0.1	<0.1
>C16-C35 Aliphatics	mg/kg		Sat[#1]	**Sat[#1]**	0	0	12.17	0	9.675	8.66	3.86	4.41	16.25	102.8	1.14	2.857	0	0
>C21-C35 Aliphatics	mg/kg	0.1			<0.1	<0.1	11	<0.1	9.44	8.66	2.04	2.81	15.5	37.3	<0.1	0.567	<0.1	<0.1
>C35-C44 Aliphatics	mg/kg	0.1	Sat[#1]	**Sat[#1]**	<0.1	<0.1	4.83	<0.1	11.6	3.91	<0.1	<0.1	9.07	2.75	<0.1	<0.1	<0.1	<0.1
Hazard Index CPU					0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.06	0.00	0.00
Hazard Index HDR				1.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.01	0.23	0.02	0.63	0.02	0.00
Asbestos																		
Amosite Asbestos	-				-	-	0	-	-	0	-	-	0	0	-	-	0	-
Chrysotile Asbestos	-				-	-	1	-	-	0	-	-	1	1	-	-	0	-
Crocidoilite Asbestos	-				-	-	0	-	-	0	-	-	0	0	-	-	0	-
Fibrous Actinolite	-				-	-	0	-	-	0	-	-	0	0	-	-	0	-
Fibrous Anthophyllite	-				-	-	0	-	-	0	-	-	0	0	-	-	0	-
Fibrous Tremolite	-				-	-	0	-	-	0	-	-	0	0	-	-	0	-
Non-Asbestos Fibre	-				-	-	0	-	-	0	-	-	0	0	-	-	0	-
Asbestos Quantification - PCM Evaluation	%	0.001			-	-	<0.001	-	-	-	-	-	<0.001	<0.001	-	-	-	-
Asbestos Quantification - Total - %	%	0.001			-	-	0.024	-	-	-	-	-	<0.001	0.17	-	-	-	-
Additional Asbestos Components (Using TM048)	-				-	-	1	-	-	-	-	-	1	1	-	-	-	-
Asbestos Gravimetric Quantification	%	0.001			-	-	0.0235	-	-	-	-	-	<0.001	0.17	-	-	-	-
Misc																		
Fraction Organic Carbon	-	0.0002			-	-	0.0117	0.000879	0.00184	0.00412	0.00111	0.00125	0.00401	0.0101	0.00064	0.00115	0.000774	0.000545
Moisture	%				1.4	2.9	20	11	8.9	10	8.3	9.2	12	14	14	11	12	11
Other																		
Analysed By	-				-	-	1	-	-	1	-	-	1	1	-	-	1	-
Analysts Comments	-				-	-	1	-	-	-	-	-	1	1	-	-	-	-

Location	EXB1	EXB2	EXB3	EXB4	EXB5	EXC01	EXC02	EXC03	EXC04	EXC05	EXC06	EXC07	EXC08
Average Depth (m)						1.8	1.8	2	1.7	1.7	1.8	3	3
Date	17/12/2015	17/12/2015	17/12/2015	17/12/2015	17/12/2015	14/12/2015	14/12/2015	14/12/2015	14/12/2015	14/12/2015	14/12/2015	14/12/2015	14/12/2015
Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
Lab Report Number	343375	343375	343375	343375	343375	343316	343316	343316	343316	343316	343316	343316	343316
BTEX													
Benzene	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009
Toluene	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007
Ethylbenzene	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Xylene (m & p)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Xylene (o)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Xylene Total	0	0	0	0	0	0	0	0	0	0	0	0	0
Oxygenates													
Diisopropyl Ether	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001
Ethyl Tert Butyl Ether	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001
Methyl Tert Butyl Ether	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Tert Amyl Methyl Ether	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Tert Butyl Alcohol	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01
Ethanol	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.25	<0.05	<0.05	<0.05	<0.05	<0.05
PAH													
Acenaphthene	0.23	0.0245	0.0112	0.0602	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008
Acenaphthylene	<0.012	<0.012	<0.012	0.0162	<0.012	0.0156	0.0138	<0.012	<0.012	0.0166	<0.012	<0.012	<0.012
Anthracene	0.782	<0.016	0.0394	0.148	<0.016	<0.016	0.025	<0.016	0.0311	0.0542	0.0427	<0.016	<0.016
Benzo(a)anthracene	4.35	0.0188	0.0225	0.478	<0.014	0.107	0.187	0.0194	0.0911	0.209	0.204	<0.014	<0.014
Benzo(a)pyrene	3.71	0.0269	0.0277	0.376	<0.015	0.127	0.22	0.0381	0.0977	0.183	0.193	<0.015	<0.015
Benzo(b)fluoranthene	4.59	<0.015	<0.015	0.539	<0.015	0.195	0.26	0.0445	0.113	0.238	0.271	<0.015	<0.015
Benzo(g,h,i)perylene	1.84	<0.024	<0.024	0.233	<0.024	0.128	0.167	0.0546	0.1	0.166	0.162	<0.024	<0.024
Benzo(k)fluoranthene	1.88	<0.014	<0.014	0.215	<0.014	0.064	0.115	<0.014	0.0545	0.104	0.0865	<0.014	<0.014
Chrysene	3.57	0.0153	0.0184	0.491	<0.01	0.0787	0.152	0.0192	0.0552	0.153	0.184	<0.01	<0.01
Dibenz(a,h)anthracene	0.546	<0.023	<0.023	0.0579	<0.023	0.034	0.0447	<0.023	<0.023	0.0383	0.0329	<0.023	<0.023
Fluoranthene	7.68	<0.017	<0.017	0.896	<0.017	0.106	0.264	0.043	0.0867	0.272	0.291	<0.017	<0.017
Fluorene	0.181	<0.01	<0.01	0.0546	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Indeno(1,2,3-c,d)pyrene	1.66	<0.018	<0.018	0.196	<0.018	0.102	0.132	0.0309	0.0712	0.121	0.118	<0.018	<0.018
Naphthalene	0.0507	<0.009	<0.009	0.0187	<0.009	0.0202	0.0169	0.0137	<0.009	0.0288	0.015	<0.009	<0.009
Phenanthrene	3.1	<0.015	0.0407	0.539	<0.015	0.0468	0.0984	0.0312	0.0464	0.119	0.106	<0.015	<0.015
Pyrene	6.49	<0.015	0.0329	0.751	<0.015	0.0984	0.233	0.04	0.0791	0.221	0.247	<0.015	<0.015
PAHs (sum of 4)	9.97	0	0	1.183	0	0.489	0.674	0.13	0.3387	0.629	0.6375	0	0
Benzo(b,k)fluoranthene	6.47	0	0	0.754	0	0.259	0.375	0.0445	0.1675	0.342	0.3575	0	0
PAH 16 Total	40.7	<0.118	0.193	5.07	<0.118	1.12	1.93	0.335	0.826	1.92	1.95	<0.118	<0.118
Benzo(g,h,i)perylene + Indeno(1,2,3-cd)pyrene	3.5	0	0	0.429	0	0.23	0.299	0.0855	0.1712	0.287	0.28	0	0
Coal tar (BaP as a surrogate)	3.71	0.0269	0.0277	0.376	0	0.127	0.22	0.0381	0.0977	0.183	0.193	0	0
TPH													
>EC5-EC7 Aromatics	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
>EC7-EC8 Aromatics	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
>EC8-EC10 Aromatics	0.157	3.11	2.5	0.299	0.0331	<0.01	<0.01	<0.01	0.0222	0.0467	<0.01	<0.01	<0.01
>EC10-EC12 Aromatics	0.565	9.08	8.67	2.09	0.057	0.011	<0.01	<0.01	0.0311	0.0353	<0.01	<0.01	<0.01
>EC12-EC16 Aromatics	0.655	0.618	6.95	7.74	<0.1	<0.1	<0.1	<0.1	<0.1	0.391	<0.1	<0.1	0.241
>EC16-EC21 Aromatics	8.25	1.35	13.3	28.5	<0.1	1.05	1.61	<0.1	1.58	1.85	<0.1	<0.1	<0.1
>EC21-EC35 Aromatics	29.6	0.604	3	56.3	0.854	13	8.73	14.1	13	15.7	9.31	2.19	1.55
>C5-C6 Aliphatics	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
>C6-C8 Aliphatics	0.0327	0.0941	0.141	0.0766	0.0114	<0.01	<0.01	<0.01	0.0111	0.0148	<0.01	<0.01	<0.01
>C8-C10 Aliphatics	0.236	4.66	3.74	0.415	0.0353	0.011	<0.01	<0.01	0.0266	0.0627	<0.01	<0.01	<0.01
>C10-C12 Aliphatics	0.848	13.6	13	3.13	0.0844	0.0165	<0.01	<0.01	0.0466	0.0524	<0.01	<0.01	<0.01
>C12-C16 Aliphatics	1.54	5.01	42.3	17.9	<0.1	0.409	0.346	0.24	<0.1	0.616	<0.1	<0.1	<0.1
>C16-C21 Aliphatics	3.45	7.5	61.2	26.4	<0.1	2.15	1.88	3.1	0.503	1.04	0.572	<0.1	<0.1
>C16-C35 Aliphatics	16.55	10.56	82.7	55.9	0	27.05	21.48	43.4	12.503	13.14	10.372	0	1.81
>C21-C35 Aliphatics	13.1	3.06	21.5	29.5	<0.1	24.9	19.6	40.3	12	12.1	9.8	<0.1	1.81
>C35-C44 Aliphatics	1.88	<0.1	<0.1	6.08	<0.1	2.43	2.13	3.95	2.46	2.33	1.08	<0.1	<0.1
Hazard Index CPU	0.00	0.05	0.05	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hazard Index HDR	0.03	0.58	0.58	0.15	0.01	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00
Asbestos													
Amosite Asbestos	-	-	-	-	-	0	0	0	0	0	0	-	-
Chrysotile Asbestos	-	-	-	-	-	0	0	0	0	0	0	-	-
Crocidoilite Asbestos	-	-	-	-	-	0	0	0	0	0	0	-	-
Fibrous Actinolite	-	-	-	-	-	0	0	0	0	0	0	-	-
Fibrous Anthophyllite	-	-	-	-	-	0	0	0	0	0	0	-	-
Fibrous Tremolite	-	-	-	-	-	0	0	0	0	0	0	-	-
Non-Asbestos Fibre	-	-	-	-	-	0	0	0	0	0	0	-	-
Asbestos Quantification - PCM Evaluation	-	-	-	-	-	-	-	-	-	-	-	-	-
Asbestos Quantification - Total - %	-	-	-	-	-	-	-	-	-	-	-	-	-
Additional Asbestos Components (Using TM048)	-	-	-	-	-	-	-	-	-	-	-	-	-
Asbestos Gravimetric Quantification	-	-	-	-	-	-	-	-	-	-	-	-	-
Misc													
Fraction Organic Carbon	-	-	-	-	0.000655	-	-	-	-	-	-	-	-
Moisture	18	11	7.9	10	12	9.3	10	12	9.9	12	15	4.7	5.7
Other													
Analysed By	-	-	-	-	-	1	1	1	1	1	1	-	-
Analysts Comments	-	-	-	-	-	-	-	-	-	-	-	-	-

Location	EXD01	EXD02	EXD03	EXD04	EXD05	EXD06	EXD07	FL101
Average Depth (m)	2	2	3.5	2.5	2.2	2.3	3.2	
Date	09/12/2015	09/12/2015	09/12/2015	09/12/2015	09/12/2015	09/12/2015	09/12/2015	17/12/2015
Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
Lab Report Number	342339	342339	342339	342339	342339	342339	342339	343375
BTEX								
Benzene	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009
Toluene	<0.007	<0.007	<0.007	<0.007	0.014	<0.007	<0.007	<0.007
Ethylbenzene	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Xylene (m & p)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Xylene (o)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Xylene Total	0	0	0	0	0	0	0	0
Oxygenates								
Diisopropyl Ether	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Ethyl Tert Butyl Ether	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Methyl Tert Butyl Ether	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Tert Amyl Methyl Ether	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Tert Butyl Alcohol	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Ethanol	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.221
PAH								
Acenaphthene	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	0.0211
Acenaphthylene	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012
Anthracene	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	0.0215
Benzo(a)anthracene	<0.014	<0.014	<0.014	<0.014	0.122	<0.014	<0.014	0.0158
Benzo(a)pyrene	<0.015	<0.015	<0.015	<0.015	0.17	<0.015	<0.015	0.017
Benzo(b)fluoranthene	<0.015	<0.015	<0.015	<0.015	0.174	<0.015	<0.015	0.0246
Benzo(g,h,i)perylene	<0.024	<0.024	<0.024	<0.024	0.21	<0.024	<0.024	<0.024
Benzo(k)fluoranthene	<0.014	<0.014	<0.014	<0.014	0.0641	<0.014	<0.014	0.0205
Chrysene	<0.01	<0.01	<0.01	<0.01	0.157	<0.01	<0.01	0.0127
Dibenz(a,h)anthracene	<0.023	<0.023	<0.023	<0.023	0.0372	<0.023	<0.023	<0.023
Fluoranthene	<0.017	<0.017	<0.017	<0.017	0.125	<0.017	<0.017	<0.017
Fluorene	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Indeno(1,2,3-c,d)pyrene	<0.018	<0.018	<0.018	<0.018	0.113	<0.018	<0.018	<0.018
Naphthalene	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009
Phenanthrene	<0.015	<0.015	<0.015	<0.015	0.037	<0.015	<0.015	0.0227
Pyrene	<0.015	<0.015	<0.015	<0.015	0.197	<0.015	<0.015	<0.015
PAHs (sum of 4)	0	0	0	0	0.5611	0	0	0.0451
Benzo(b,k)fluoranthene	0	0	0	0	0.2381	0	0	0.0451
PAH 16 Total	<0.118	<0.118	<0.118	<0.118	1.41	<0.118	<0.118	0.156
Benzo(g,h,i)perylene + Indeno(1,2,3-cd)pyrene	0	0	0	0	0.323	0	0	0
Coal tar (BaP as a surrogate)	0	0	0	0	0.17	0	0	0.017
TPH								
>EC5-EC7 Aromatics	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
>EC7-EC8 Aromatics	<0.01	<0.01	<0.01	<0.01	0.0165	<0.01	0.0103	<0.01
>EC8-EC10 Aromatics	0.0215	<0.01	<0.01	<0.01	0.065	<0.01	0.0298	<0.01
>EC10-EC12 Aromatics	0.0235	<0.01	<0.01	<0.01	0.097	<0.01	0.0123	<0.01
>EC12-EC16 Aromatics	<0.1	<0.1	<0.1	0.269	0.244	<0.1	<0.1	<0.1
>EC16-EC21 Aromatics	0.293	<0.1	<0.1	0.851	1.78	<0.1	0.225	<0.1
>EC21-EC35 Aromatics	2.54	<0.1	1.31	1.87	20.8	0.802	1.88	2.15
>C5-C6 Aliphatics	<0.01	<0.01	<0.01	<0.01	0.0186	<0.01	<0.01	<0.01
>C6-C8 Aliphatics	<0.01	<0.01	<0.01	<0.01	0.0299	<0.01	0.0154	<0.01
>C8-C10 Aliphatics	0.0164	<0.01	<0.01	<0.01	0.0557	<0.01	0.0123	<0.01
>C10-C12 Aliphatics	0.0347	<0.01	<0.01	<0.01	0.146	<0.01	0.0195	<0.01
>C12-C16 Aliphatics	0.513	<0.1	<0.1	0.754	1.25	<0.1	<0.1	0.256
>C16-C21 Aliphatics	0.485	0.731	<0.1	0.887	1.16	<0.1	<0.1	<0.1
>C16-C35 Aliphatics	4.805	0.731	0	2.147	4.56	0.888	3.4	1.32
>C21-C35 Aliphatics	4.32	<0.1	<0.1	1.26	3.4	0.888	3.4	1.32
>C35-C44 Aliphatics	<0.1	<0.1	<0.1	<0.1	0.697	<0.1	<0.1	<0.1
Hazard Index CPU	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hazard Index HDR	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00
Asbestos								
Amosite Asbestos	-	-	-	-	-	-	-	-
Chrysotile Asbestos	-	-	-	-	-	-	-	-
Crocidoilite Asbestos	-	-	-	-	-	-	-	-
Fibrous Actinolite	-	-	-	-	-	-	-	-
Fibrous Anthophyllite	-	-	-	-	-	-	-	-
Fibrous Tremolite	-	-	-	-	-	-	-	-
Non-Asbestos Fibre	-	-	-	-	-	-	-	-
Asbestos Quantification - PCM Evaluation	-	-	-	-	-	-	-	-
Asbestos Quantification - Total - %	-	-	-	-	-	-	-	-
Additional Asbestos Components (Using TM048)	-	-	-	-	-	-	-	-
Asbestos Gravimetric Quantification	-	-	-	-	-	-	-	-
Misc								
Fraction Organic Carbon	-	-	-	-	-	-	0.000765	-
Moisture	2.2	4	3.4	2.6	3.1	0.78	2.6	7.9
Other								
Analysed By	-	-	-	-	-	-	-	-
Analysts Comments	-	-	-	-	-	-	-	-

Comments
#1 Derived GAC for petrol filling stations

Table 3a
Soil Analytical Results
Compared Against Human Health (High Density Residential, HDR and Continued Petroleum Use, CPU) Criteria

	Units	Method Detection Limit	2015 GAC - Continued Petroleum Use	2015 GAC - High Density Residential	Location	FL102	MW201		PI01_1.5	PI02_1.5	SB201		SB202	SB203			SB204		SB205		TP101	TP102	TP103	TP104	TP105	TP106	TP107	VP201
					Average Depth (m)		0.65	7	1.5	1.5	0.5	2.5	0.8	1.1	1	5	1.1	2	0.7	6	0.5	0.5	0.6	0.6	0.5	0.5	0.8	0.5
					Date	17/12/2015	01/12/2015	02/12/2015	16/02/2016	16/02/2016	01/12/2015	02/12/2015	01/12/2015	01/12/2015	03/12/2015	03/12/2015	02/12/2015	02/12/2015	01/12/2015	04/12/2015	07/12/2015	07/12/2015	07/12/2015	07/12/2015	07/12/2015	07/12/2015	07/12/2015	07/12/2015	01/12/2015
					Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
					Lab Report Number	343375	340898	341472	350628	350628	342760	342756	342760	342760	342319	342319	342759	342759	342759	342319	342025	342025	342025	342025	342025	342025	342025	342759
BTEX																												
Benzene	mg/kg	0.009	2.8[#1]	**0.13**[#1]		<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	-	-	-	-	-	-	-	<0.009
Toluene	mg/kg	0.007	Sat[#1]	**320**[#1]		<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	2.14	<0.007	<0.007	-	-	-	-	-	-	-	<0.007
Ethylbenzene	mg/kg	0.004	Sat[#1]	**30**[#1]		<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	6.36	<0.004	<0.004	-	-	-	-	-	-	-	<0.004
Xylene (m & p)	mg/kg	0.01				<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	149	<0.01	<0.01	-	-	-	-	-	-	-	<0.01
Xylene (o)	mg/kg	0.01	Sat[#1]	**31**[#1]		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	**76.8**	<0.01	<0.01	-	-	-	-	-	-	-	<0.01
Xylene Total	mg/kg		570[#1]	**28**[#1]		0	0	0	0	0	0	0	0	0	0	0	0	**225.8**	0	0	-	-	-	-	-	-	-	0
Oxygenates																												
Diisopropyl Ether	mg/kg	0.001	35[#1]	**1.9**[#1]		<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	-	-	-	-	-	-	-	<0.001
Ethyl Tert Butyl Ether	mg/kg	0.001	270[#1]	**14**[#1]		<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	-	-	-	-	-	-	-	<0.001
Methyl Tert Butyl Ether	mg/kg	0.01	650[#1]	**33**[#1]		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	-	-	-	-	-	-	<0.01
Tert Amyl Methyl Ether	mg/kg	0.01	17[#1]	**0.9**[#1]		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	-	-	-	-	-	-	<0.01
Tert Butyl Alcohol	mg/kg	0.01	2,700[#1]	**130**[#1]		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	-	-	-	-	-	-	<0.01
Ethanol	mg/kg	0.05				<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	-	-	-	-	-	-	<0.05
PAH																												
Acenaphthene	mg/kg	0.008	Sat[#1]	Sat[#1]		0.0388	<0.008	<0.008	<0.008	0.0511	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	0.0665	<0.008	<0.008	-	-	-	-	-	-	-	0.0102
Acenaphthylene	mg/kg	0.012	Sat[#1]	Sat[#1]		0.0175	0.0182	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	-	-	-	-	-	-	-	0.0744
Anthracene	mg/kg	0.016	Sat[#1]	Sat[#1]		0.073	<0.016	<0.016	<0.016	0.0982	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	0.157	<0.016	<0.016	-	-	-	-	-	-	-	0.119
Benzo(a)anthracene	mg/kg	0.014	Sat[#1]	Sat[#1]		0.177	0.0557	<0.014	0.058	0.225	0.0622	<0.014	0.0734	0.0353	<0.014	<0.014	<0.014	0.0221	<0.014	<0.014	-	-	-	-	-	-	-	0.487
Benzo(a)pyrene	mg/kg	0.015	Sat[#1]	Sat[#1]		0.132	0.0864	<0.015	0.036	0.156	0.0711	<0.015	0.0724	0.0321	<0.015	<0.015	<0.015	0.0163	0.0233	<0.015	-	-	-	-	-	-	-	0.476
Benzo(b)fluoranthene	mg/kg	0.015	Sat[#1]	Sat[#1]		0.173	0.129	<0.015	0.0427	0.193	0.107	<0.015	0.104	0.043	<0.015	<0.015	<0.015	0.0188	0.0262	<0.015	-	-	-	-	-	-	-	0.692
Benzo(g,h,i)perylene	mg/kg	0.024	Sat[#1]	Sat[#1]		0.0755	0.0954	<0.024	0.0273	0.107	0.0618	<0.024	0.0631	0.0365	<0.024	<0.024	<0.024	<0.024	<0.024	<0.024	-	-	-	-	-	-	-	0.382
Benzo(k)fluoranthene	mg/kg	0.014	Sat[#1]	Sat[#1]		0.0657	0.0526	<0.014	0.0178	0.0964	0.0385	<0.014	<0.014	<0.014	<0.014	<0.014	<0.014	<0.014	<0.014	<0.014	-	-	-	-	-	-	-	0.243
Chrysene	mg/kg	0.01	Sat[#1]	Sat[#1]		0.159	0.0548	<0.01	0.0267	0.241	0.0534	<0.01	0.0643	0.0341	<0.01	<0.01	<0.01	<0.01	0.014	<0.01	-	-	-	-	-	-	-	0.511
Dibenz(a,h)anthracene	mg/kg	0.023	Sat[#1]	Sat[#1]		<0.023	<0.023	<0.023	<0.023	0.0265	<0.023	<0.023	<0.023	<0.023	<0.023	<0.023	<0.023	<0.023	<0.023	<0.023	-	-	-	-	-	-	-	0.0887
Fluoranthene	mg/kg	0.017	Sat[#1]	Sat[#1]		0.354	0.0605	<0.017	0.0576	0.49	0.0908	<0.017	0.105	0.0499	<0.017	<0.017	<0.017	0.0837	0.0312	<0.017	-	-	-	-	-	-	-	0.875
Fluorene	mg/kg	0.01	Sat[#1]	Sat[#1]		0.0296	<0.01	<0.01	<0.01	0.0489	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.824	<0.01	<0.01	-	-	-	-	-	-	-	<0.01
Indeno(1,2,3-c,d)pyrene	mg/kg	0.018	Sat[#1]	Sat[#1]		0.0571	0.0804	<0.018	<0.018	0.0807	0.0506	<0.018	0.0485	0.027	<0.018	<0.018	<0.018	<0.018	<0.018	<0.018	-	-	-	-	-	-	-	0.286
Naphthalene	mg/kg	0.009	19[#1]	**0.85**[#1]		<0.009	<0.009	<0.009	0.0149	0.0873	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	**1.26**	<0.009	<0.009	-	-	-	-	-	-	-	0.0243
Phenanthrene	mg/kg	0.015	Sat[#1]	Sat[#1]		0.239	0.0358	<0.015	0.0505	0.461	0.0483	<0.015	0.0614	0.0222	<0.015	<0.015	<0.015	0.982	0.0203	<0.015	-	-	-	-	-	-	-	0.249
Pyrene	mg/kg	0.015	Sat[#1]	Sat[#1]		0.309	0.0553	<0.015	0.0525	0.424	0.077	<0.015	0.0882	0.0422	<0.015	<0.015	<0.015	0.165	0.0252	<0.015	-	-	-	-	-	-	-	0.909
PAHs (sum of 4)	mg/kg					0.3713	0.3574	0	0.0878	0.4771	0.2579	0	0.2156	0.1065	0	0	0.0188	0.0262	0	-	-	-	-	-	-	-	-	1.603
Benzo(b,k)fluoranthene	mg/kg					0.2387	0.1816	0	0.0605	0.2894	0.1455	0	0.104	0.043	0	0	0.0188	0.0262	0	-	-	-	-	-	-	-	-	0.935
PAH 16 Total	mg/kg	0.118				1.9	0.724	<0.118	0.384	2.79	0.661	<0.118	0.68	0.322	<0.118	<0.118	3.6	0.14	<0.118	-	-	-	-	-	-	-	-	5.43
Benzo(g,h,i)perylene + Indeno(1,2,3-cd)pyrene	mg/kg					0.1326	0.1758	0	0.0273	0.1877	0.1124	0	0.1116	0.0635	0	0	0	0	0	0	-	-	-	-	-	-	-	0.668
Coal tar (BaP[2] as a surrogate)	mg/kg		Sat[#1]	Sat[#1]		0.132	0.0864	0	0.036	0.156	0.0711	0	0.0724	0.0321	0	0	0.0163	0.0233	0	-	-	-	-	-	-	-	-	0.476
TPH																												
>EC5-EC7 Aromatics	mg/kg	0.01	Sat[#1]	**130**[#1]		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.2	<0.01	<0.01	-	-	-	-	-	-	-	<0.01
>EC7-EC8 Aromatics	mg/kg	0.01	Sat[#1]	**320**[#1]		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	2.84	<0.01	<0.01	-	-	-	-	-	-	-	<0.01
>EC8-EC10 Aromatics	mg/kg	0.01	360[#1]	**18**[#1]		1.02	<0.01	<0.01	0.0122	0.0658	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	**1,210**	<0.01	<0.01	-	-	-	-	-	-	-	<0.01
>EC10-EC12 Aromatics	mg/kg	0.01	Sat[#1]	**100**[#1]		2.9	<0.01	<0.01	0.022	0.111	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	**623**	<0.01	<0.01	-	-	-	-	-	-	-	<0.01
>EC12-EC16 Aromatics	mg/kg	0.1	Sat[#1]	Sat[#1]		6.88	<0.1	<0.1	0.852	2.26	<0.1	<0.1	<0.1	0.125	<0.1	<0.1	<0.1	45.2	<0.1	<0.1	-	-	-	-	-	-	-	<0.1
>EC16-EC21 Aromatics	mg/kg	0.1	Sat[#1]	Sat[#1]		11.7	0.478	<0.1	3.1	5.54	0.254	<0.1	0.294	0.829	<0.1	<0.1	<0.1	9.68	<0.1	<0.1	-	-	-	-	-	-	-	2.5
>EC21-EC35 Aromatics	mg/kg	0.1	Sat[#1]	Sat[#1]		8.15	6.93	<0.1	8.71	122	3.71	<0.1	3.29	3.26	<0.1	<0.1	<0.1	4.6	2.92	<0.1	-	-	-	-	-	-	-	11.4
>C5-C6 Aliphatics	mg/kg	0.01	Sat[#1]	**20**[#1]		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.2	<0.01	<0.01	-	-	-	-	-	-	-	<0.01
>C6-C8 Aliphatics	mg/kg	0.01	Sat[#1]	**44**[#1]		0.0999	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	41.4	<0.01	<0.01	-	-	-	-	-	-	-	<0.01
>C8-C10 Aliphatics	mg/kg	0.01	Sat[#1]	**11**[#1]		1.53	<0.01	<0.01	0.0111	0.0559	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	**1,140**	<0.01	<0.01	-	-	-	-	-	-	-	<0.01
>C10-C12 Aliphatics	mg/kg	0.01	Sat[#1]	Sat[#1]		4.34	<0.01	<0.01	0.0488	0.167	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	934	<0.01	<0.01	-	-	-	-	-	-	-	<0.01
>C12-C16 Aliphatics	mg/kg	0.1	Sat[#1]	Sat[#1]		34.9	<0.1	<0.1	3.2	1.21	<0.1	1.58	<0.1	0.235	<0.1	<0.1	<0.1	13.8	<0.1	<0.1	-	-	-	-	-	-	-	<0.1
>C16-C21 Aliphatics	mg/kg	0.1				49.6	<0.1	<0.1	9.84	3.89	<0.1	6.54	<0.1	0.177	<0.1	<0.1	<0.1	1.69	<0.1	<0.1	-	-	-	-	-	-	-	<0.1
>C16-C35 Aliphatics	mg/kg		Sat[#1]	Sat[#1]		74.6	4.08	0	25.14	10.42	1.29	8.24	0	0.404	0	0	1.69	4.51	0	-	-	-	-	-	-	-	-	2.12
>C21-C35 Aliphatics	mg/kg	0.1				25	4.08	<0.1	15.3	6.53	1.29	1.7	<0.1	0.227	<0.1	<0.1	<0.1	4.51	<0.1	-	-	-	-	-	-	-	-	2.12
>C35-C44 Aliphatics	mg/kg	0.1	Sat[#1]	Sat[#1]		0.943	0.485	<0.1	1.93	0.904	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	-	-	-	-	-	<0.1
Hazard Index CPU						0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.36	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hazard Index HDR				1.00		0.25	0.00	0.00	0.01	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	**46.27**	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Asbestos																												
Amosite Asbestos	-					-	0	-	-	0	0	-	0	0	-	0	-	0	-	0	0	0	0	0	0	0	0	0
Chrysotile Asbestos	-					-	0	-	-	0	0	-	0	0	-	0	-	0	-	0	0	0	0	0	0	0	0	0
Crocidolilte Asbestos	-					-	0	-	-	0	0	-	0	0	-	0	-	0	-	0	0	0	0	0	0	0	0	0
Fibrous Actinolite	-					-	0	-	-	0	0	-	0	0	-	0	-	0	-	0	0	0	0	0	0	0	0	0
Fibrous Anthophyllite	-					-	0	-	-	0	0	-	0	0	-	0	-	0	-	0	0	0	0	0	0	0	0	0
Fibrous Tremolite	-					-	0	-	-	0	0	-	0	0	-	0	-	0	-	0	0	0	0	0	0	0	0	0
Non-Asbestos Fibre	-					-	0	-	-	1	0	-	0	0	-	0	-	0	-	0	0	0	0	0	0	0	0	0
Asbestos Quantification - PCM Evaluation	%	0.001				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Asbestos Quantification - Total - %	%	0.001				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Additional Asbestos Components (Using TM048)	-					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Asbestos Gravimetric Quantification	%	0.001				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Misc																												
Fraction Organic Carbon	-	0.0002				-	-	0.000429	-	-	-	0.000695	-	-	0.000344	-	0.000959	-	0.000861	-	-	-	-	-	-	-	-	-
Moisture	%					9	8.2	4.3	9.8	8.9	8.9	2.4	17	9.4	6.5	1.6	5.1	3.1	19	-	-	-	-	-	-	-	-	17
Other																												
Analysed By	-					-	1	-	-	-	1	-	1	1	-	1	-	1	-	1	1	1	1	1	1	1	1
Analysts Comments	-					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Comments
#1 Derived GAC for petrol filling stations

Table 3b
Soil Analytical Results
Compared Against Controlled Waters (Drinking Water Standards, DWS) Criteria

	Units	Method Detection Limit	2015 GAC - CW (EN/WA) DWS - 0.2% TOC	Location	Backfill 1	Backfill 2	EXA01	EXA02	EXA03	EXA04	EXA05	EXA06	EXA07	EXA08	EXA09	EXA10	EXA11	EXA12	EXB1	EXB2	EXB3	EXB4	EXB5	EXC01	EXC02	EXC03	EXC04	EXC05	EXC06	EXC07	EXC08	EXD01	EXD02	EXD03	EXD04
				Average Depth (m)			2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	4.5	4.5	4.5	4.5						1.8	1.8	2	1.7	1.7	1.8	3	3	2	2	3.5	2.5
				Date	02/03/2016	02/03/2016	13/01/2016	13/01/2016	13/01/2016	14/01/2016	14/01/2016	14/01/2016	14/01/2016	13/01/2016	14/01/2016	14/01/2016	14/01/2016	13/01/2016	17/12/2015	17/12/2015	17/12/2015	17/12/2015	17/12/2015	14/12/2015	14/12/2015	14/12/2015	14/12/2015	14/12/2015	14/12/2015	14/12/2015	14/12/2015	14/12/2015	09/12/2015	09/12/2015	09/12/2015	09/12/2015
				Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
				Lab Report Number	352749	352749	346181	346181	346181	346181	346243	346243	346181	346181	346243	346243	346181	346181	343375	343375	343375	343375	343375	343316	343316	343316	343316	343316	343316	343316	343316	342339	342339	342339	342339
BTEX																																			
Benzene	mg/kg	0.009	0.0002[#2]		<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009
Toluene	mg/kg	0.007	0.3238[#5]		<0.007	<0.007	0.0206	<0.007	<0.007	0.00911	<0.007	<0.007	0.0369	0.00877	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007
Ethylbenzene	mg/kg	0.004	0.2852[#5]		<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	0.00576	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Xylene (m & p)	mg/kg	0.01			<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.0176	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Xylene (o)	mg/kg	0.01			<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Xylene Total	mg/kg		0.48[#5]		0	0	0	0	0	0	0	0	0.0176	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Oxygenates																																			
Diisopropyl Ether	mg/kg	0.001	0.0001[#12]		<0.001	<0.001	<0.01	<0.001	<0.001	<0.01	<0.001	<0.001	<0.01	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Ethyl Tert Butyl Ether	mg/kg	0.001	0.0018[#12]		<0.001	<0.001	<0.01	<0.001	<0.001	<0.01	<0.001	<0.001	<0.01	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Methyl Tert Butyl Ether	mg/kg	0.01	0.0022[#12]		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.112	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Tert Amyl Methyl Ether	mg/kg	0.01	0.018[#9]		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Tert Butyl Alcohol	mg/kg	0.01	0.3761[#8]		<0.01	<0.01	<0.1	0.121	0.0857	<0.1	<0.01	<0.01	<0.1	<0.01	<0.01	<0.01	0.0815	0.529	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Ethanol	mg/kg	0.05			<0.05	<0.05	<0.5	<0.05	<0.05	<0.5	<0.05	<0.05	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.25	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
PAH																																			
Acenaphthene	mg/kg	0.008			<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	0.0178	<0.008	0.0138	<0.008	<0.008	0.23	0.0245	0.0112	0.0602	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008
Acenaphthylene	mg/kg	0.012			<0.012	<0.012	0.0836	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	0.0162	<0.012	0.0156	0.0138	<0.012	<0.012	0.0166	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012
Anthracene	mg/kg	0.016			<0.016	<0.016	0.0437	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	0.0388	<0.016	0.0396	<0.016	<0.016	0.782	<0.016	0.0394	0.148	<0.016	<0.016	0.025	<0.016	0.0311	0.0542	0.0427	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016
Benzo(a)anthracene	mg/kg	0.014			<0.014	<0.014	0.148	<0.014	<0.014	<0.014	<0.014	<0.014	<0.014	0.0888	<0.014	0.0161	<0.014	<0.014	4.35	0.0188	0.0225	0.478	<0.014	0.107	0.187	0.0194	0.0911	0.209	0.204	<0.014	<0.014	<0.014	<0.014	<0.014	<0.014	<0.014
Benzo(a)pyrene	mg/kg	0.015	0.0026[#2]		<0.015	<0.015	0.151	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	0.0771	<0.015	0.0235	<0.015	<0.015	3.71	0.0269	0.0277	0.376	<0.015	0.127	0.22	0.0381	0.0977	0.183	0.193	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
Benzo(b)fluoranthene	mg/kg	0.015			<0.015	<0.015	0.186	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	0.064	<0.015	0.0332	<0.015	<0.015	4.59	<0.015	<0.015	0.539	<0.015	0.195	0.26	0.0445	0.113	0.238	0.271	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
Benzo(g,h,i)perylene	mg/kg	0.024			<0.024	<0.024	0.184	<0.024	<0.024	<0.024	<0.024	<0.024	<0.024	0.0693	<0.024	<0.024	<0.024	<0.024	1.84	<0.024	<0.024	0.233	<0.024	0.128	0.167	0.0546	0.1	0.166	0.162	<0.024	<0.024	<0.024	<0.024	<0.024	<0.024	<0.024
Benzo(k)fluoranthene	mg/kg	0.014			<0.014	<0.014	0.0741	<0.014	<0.014	<0.014	<0.014	<0.014	<0.014	0.0425	<0.014	<0.014	<0.014	<0.014	1.88	<0.014	<0.014	0.215	<0.014	0.064	0.115	<0.014	0.0545	0.104	0.0865	<0.014	<0.014	<0.014	<0.014	<0.014	<0.014	<0.014
Chrysene	mg/kg	0.01			<0.01	<0.01	0.124	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.0817	<0.01	0.0194	<0.01	<0.01	3.57	0.0153	0.0184	0.491	<0.01	0.0787	0.152	0.0192	0.0552	0.153	0.184	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Dibenz(a,h)anthracene	mg/kg	0.023			<0.023	<0.023	0.0385	<0.023	<0.023	<0.023	<0.023	<0.023	<0.023	<0.023	<0.023	<0.023	<0.023	<0.023	0.546	<0.023	<0.023	0.0579	<0.023	0.034	0.0447	<0.023	<0.023	0.0383	0.0329	<0.023	<0.023	<0.023	<0.023	<0.023	<0.023	<0.023
Fluoranthene	mg/kg	0.017			<0.017	0.0194	0.144	<0.017	0.0221	<0.017	<0.017	<0.017	<0.017	0.181	<0.017	0.0413	<0.017	<0.017	7.68	<0.017	<0.017	0.896	<0.017	0.106	0.264	0.043	0.0867	0.272	0.291	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017
Fluorene	mg/kg	0.01			<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.0192	<0.01	0.147	<0.01	<0.01	0.181	<0.01	<0.01	0.0546	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Indeno(1,2,3-c,d)pyrene	mg/kg	0.018			<0.018	<0.018	0.106	<0.018	<0.018	<0.018	<0.018	<0.018	<0.018	0.0461	<0.018	<0.018	<0.018	<0.018	1.66	<0.018	<0.018	0.196	<0.018	0.102	0.132	0.0309	0.0712	0.121	0.118	<0.018	<0.018	<0.018	<0.018	<0.018	<0.018	<0.018
Naphthalene	mg/kg	0.009	0.1999[#10]		<0.009	0.00941	0.0208	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	0.0301	<0.009	0.087	<0.009	<0.009	0.0507	<0.009	<0.009	0.0187	<0.009	0.0202	0.0169	0.0137	<0.009	0.0288	0.015	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009
Phenanthrene	mg/kg	0.015			<0.015	0.0179	0.075	<0.015	<0.015	<0.015	<0.015	0.0256	<0.015	0.132	<0.015	0.185	<0.015	<0.015	3.1	<0.015	0.0407	0.539	<0.015	0.0468	0.0984	0.0312	0.0464	0.119	0.106	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
Pyrene	mg/kg	0.015			<0.015	0.0174	0.227	<0.015	0.0188	<0.015	<0.015	<0.015	<0.015	0.173	<0.015	0.0559	<0.015	<0.015	6.49	<0.015	0.0329	0.751	<0.015	0.0984	0.233	0.04	0.0791	0.221	0.247	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
PAHs (Sum of 4)	mg/kg		0.0174[#2]		0	0	0.5501	0	0	0	0	0	0	0.2219	0	0.0332	0	0	9.97	0	0	1.183	0	0.488	0.674	0.13	0.3381	0.629	0.6375	0	0	0	0	0	0	0
Benzo(b,k)fluoranthene	mg/kg				0	0	0.2601	0	0	0	0	0	0	0.1065	0	0.0332	0	0	6.47	0	0	0.754	0	0.259	0.375	0.0445	0.1675	0.342	0.3575	0	0	0	0	0	0	0
PAH 16 Total	mg/kg	0.118			<0.118	<0.118	1.61	<0.118	<0.118	<0.118	<0.118	<0.118	<0.118	1.06	<0.118	0.662	<0.118	<0.118	40.7	<0.118	0.193	5.07	<0.118	1.12	1.93	0.335	0.826	1.92	1.95	<0.118	<0.118	<0.118	<0.118	<0.118	<0.118	<0.118
Benzo(g,h,i)perylene + Indeno(1,2,3-cd)pyrene	mg/kg				0	0	0.29	0	0	0	0	0	0	0.1154	0	0	0	0	3.5	0	0	0.429	0	0.23	0.299	0.0855	0.1712	0.287	0.28	0	0	0	0	0	0	0
Coal tar (BaP as a surrogate)	mg/kg				0	0	0.151	0	0	0	0	0	0	0.0771	0	0.0235	0	0	3.71	0.0269	0.0277	0.376	0	0.127	0.22	0.0381	0.0977	0.183	0.193	0	0	0	0	0	0	0
TPH																																			
>EC5-EC7 Aromatics	mg/kg	0.01	0.0002[#1]		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
>EC7-EC8 Aromatics	mg/kg	0.01	0.3238[#4]		<0.01	<0.01	0.0471	<0.01	<0.01	0.0246	<0.01	<0.01	0.0396	0.0383	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
>EC8-EC10 Aromatics	mg/kg	0.01	0.9722[#3]		0.0112	0.0144	0.057	<0.01	<0.01	0.0493	0.0109	0.0132	0.0802	0.986	0.0986	3.84	0.0901	0.019	0.157	3.11	2.5	0.299	0.0331	<0.01	<0.01	<0.01	<0.01	0.0222	0.0467	<0.01	<0.01	0.0215	<0.01	<0.01	<0.01
>EC10-EC12 Aromatics	mg/kg	0.01	0.4566[#3]		<0.01	0.0165	<0.01	<0.01	<0.01	0.0168	0.0229	0.0495	0.0192	2.34	0.266	8.07	0.253	0.0235	0.565	9.08	8.67	2.09	0.057	0.011	<0.01	<0.01	0.0311	0.0353	<0.01	<0.01	<0.01	0.0235	<0.01	<0.01	<0.01
>EC12-EC16 Aromatics	mg/kg	0.1	0.9059[#3]		<0.1	<0.1	0.441	<0.1	<0.1	<0.1	<0.1	<0.1	0.575	12.9	<0.1	7.96	<0.1	<0.1	0.655	6.44	0.618	6.95	1.74	<0.1	<0.1	<0.1	<0.1	0.391	<0.1	<0.1	0.241	<0.1	<0.1	<0.1	0.269
>EC16-EC21 Aromatics	mg/kg	0.1	2.5462[#3]		<0.1	<0.1	1.64	<0.1	0.452	<0.1	<0.1	<0.1	1.31	17.4	<0.1	2.81	<0.1	<0.1	8.25	1.35	13.3	28.5	<0.1	1.05	1.61	<0.1	1.58	1.85	<0.1	<0.1	<0.1	0.293	<0.1	<0.1	0.851
>EC21-EC35 Aromatics	mg/kg	0.1	Sat[#3]		<0.1	<0.1	13.4	<0.1	15.1	4.08	0.292	<0.1	18.2	29.1	<0.1	0.518	<0.1	<0.1	29.6	0.604	3	56.3	0.854	13	8.73	14.1	13	15.7	9.31	2.19	1.55	2.54	<0.1	1.31	1.87
>C5-C6 Aliphatics	mg/kg	0.01	63.0946[#3]		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.0104	<0.01	0.0113	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
>C6-C8 Aliphatics	mg/kg	0.01	164.1979[#3]		0.0101	0.0124	<0.01	<0.01	<0.01	0.0213	<0.01	<0.01	0.0181	0.108	0.0244	1.63	0.0103	0.0179	0.0327	0.0941	0.141	0.0766	0.0114	<0.01	<0.01	<0.01	0.0111	0.0148	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
>C8-C10 Aliphatics	mg/kg	0.01	19.6379[#3]		<0.01	0.0103	<0.01	<0.01	<0.01	0.019	0.0164	0.0187	0.0237	1.38	0.147	5.76	0.111	0.0235	0.236	4.66	3.74	0.415	0.0353	0.011	<0.01	<0.01	0.0266	0.0627	<0.01	<0.01	<0.01	0.0164	<0.01	<0.01	<0.01
>C10-C12 Aliphatics	mg/kg	0.01	146.2792[#3]		<0.01	0.0247	<0.01	<0.01	<0.01	0.0246	0.0338	0.0748	0.0283	3.51	0.399	12.1	0.38	0.0347	0.848	13.6	13	3.13	0.0844	0.0165	<0.01	<0.01	0.0466	0.0524	<0.01	<0.01	<0.01	0.0347	<0.01	<0.01	<0.01
>C12-C16 Aliphatics	mg/kg	0.1	Sat[#3]		<0.1	<0.1	0.383	<0.1	<0.1	<0.1	<0.1	<0.1	0.211	42.4	<0.1	3.29	<0.1	<0.1	1.54	5.01	42.3	17.9	<0.1	0.409	0.346	0.24	<0.1	0.616	<0.1	<0.1	<0.1	0.513	<0.1	<0.1	0.754
>C16-C21 Aliphatics	mg/kg	0.1	Sat[#3]		<0.1	<0.1	1.17	<0.1	0.235	<0.1	1.82	1.6	0.75	65.5	1.14	2.29	<0.1	<0.1	3.45	7.5	61.2	26.4	<0.1	2.15	1.88	3.1	0.503	1.04	0.572	<0.1	<0.1	0.485	0.731	<0.1	0.887
>C16-C35 Aliphatics	mg/kg				0	0	9.675	8.66	3.86	4.41	16.25	102.8	1.14	2.857	0	0	16.55	10.56	82.7	55.9	0	27.05	21.48	43.4	12.503	13.14	10.372	0	1.81	4.805	0.731	0	2.147			
>C21-C35 Aliphatics	mg/kg	0.1			<0.1	<0.1	11	<0.1	9.44	8.66	2.04	2.81	15.5	37.3	<0.1	0.567	<0.1	<0.1	13.1	3.06	21.5	29.5	<0.1	24.9	19.6	40.3	12	12.1	9.8	<0.1	1.81	4.32	<0.1	<0.1	1.26	
>C35-C44 Aliphatics	mg/kg	0.1			<0.1	<0.1	4.83	<0.1	11.6	3.91	<0.1	<0.1	9.07	2.75	<0.1	<0.1	<0.1	<0.1	1.88	<0.1	<0.1	6.08	<0.1	2.43	2.13	3.95	2.46	2.33	1.08	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	
Asbestos																																			
Amosite Asbestos	-				-	-	0	-	-	0	-	-	0	0	-	-	0	-	-	-	-	-	-	0	0	0	0	0	0	-	-	-	-	-	-
Chrysotile Asbestos	-				-	-	1	-	-	0	-	-	1	1	-	-	0	-	-	-	-	-	-	0	0	0	0	0	0	-	-	-	-	-	-
Crocidolilite Asbestos	-				-	-	0	-	-	0	-	-	0	0	-	-	0	-	-	-	-	-	-	0	0	0	0	0	0	-	-	-	-	-	-
Fibrous Actinolite	-				-	-	0	-	-	0	-	-	0	0	-	-	0	-	-	-	-	-	-	0	0	0	0	0	0	-	-	-	-	-	-
Fibrous Anthophyllite	-				-	-	0	-	-	0	-	-	0	0	-	-	0	-	-	-	-	-	-	0	0	0	0	0	0	-	-	-	-	-	-
Fibrous Tremolite	-				-	-	0	-	-	0	-	-	0	0	-	-	0	-	-	-	-	-	-	0	0	0	0	0	0	-	-	-	-	-	-
Non-Asbestos Fibre	-				-	-	0	-	-	0	-	-	0	0	-	-	0	-	-	-	-	-	-	0	0	0	0	0	0	-	-	-	-	-	-
Asbestos Quantification - PCM Evaluation	%	0.001			-	-	<0.001	-	-	-	-	-	<0.001	<0.001	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Asbestos Quantification - Total - %	%	0.001			-	-	0.024	-	-	-	-	-	<0.001	0.17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Additional Asbestos Components (Using TM048)	-				-	-	1	-	-	-	-	-	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Asbestos Gravimetric Quantification	%	0.001			-	-	0.0235	-	-	-	-	-	<0.001	0.17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Misc																																			
Fraction Organic Carbon	-	0.0002			-	-	0.0117	0.000879	0.00184	0.00412	0.00111	0.00125	0.00401	0.0101	0.00064	0.00115	0.000774	0.000545	-	-	-	-	0.000655	-	-	-	-	-	-	-	-	-	-	-	-
Moisture	%				1.4	2.9	20	11	8.9	10	8.3	9.2	12	14	14	11	12	11	18	11	7.9	10	12	9.3	10	12	9.9	12	15	4.7	5.7	2.2	4	3.4	2.6
Other																																			
Analysed By	-				-	-	1	-	-	1	-	-	1	1	-	-	1	-	-	-	-	-	-	1	1	1	1	1	1	-	-	-	-	-	-
Analysts Comments	-				-	-	1	-	-	-	-	-	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Comments
#1 WS Regs 2010 (Eng/Wal) for benzene
#2 WS Regs 2010 (Eng/Wal)
#3 WHO Petroleum In DW 2008
#4 WHO DWG 2011 for toluene
#5 WHO DWG 2011
#6 USEPA RSL (tapwater)
#7 USEPA 1997
#8 URS dervied using API (2005) RfD & WHO DWG
#9 Taste - API (1993)
#10 Shell RBSL (2014)
#11 Odour - Health Effects Institute (1996)
#12 Odour - Amoore and Hautala, 1983,
GAC: Generic Assessment Criteria
(blank): No assessment criteria available
Sat: Unacceptable risk not achieved due to calculated saturation of vapour pathway
- : Not analysed
CW: Controlled Waters
DWS: Drinking Water Standard
Soil CW/WE GAC calculated using EA RTM methodology
Soil CW/WE GAC based on soil properties for sand and either low TOC (0.2%) or high TOC (1%)

Key
XXX Exceedance of 2015 GAC - CW (EN/WA) DWS - 0.2% TOC

Table 3b
Soil Analytical Results
Compared Against Controlled Waters (Drinking Water (Drinking Water Standards, DWS) Criteria

	Units	Method Detection Limit	2015 GAC - CW (EN/WA) DWS - 0.2% TOC	Location	EXD05	EXD06	EXD07	FL101	FL102	MW201		PI01_1.5	PI02_1.5	SB201		SB202	SB203		SB204		SB205		TP101	TP102	TP103	TP104	TP105	TP106	TP107	VP201
				Average Depth (m)	2.2	2.3	3.2	17/12/2015	17/12/2015	0.65	7	1.5	1.5	0.5	2.5	0.8	1.1	5	1.1	2	0.7	6	0.5	0.5	0.6	0.6	0.5	0.5	0.8	0.5
				Date	09/12/2015	09/12/2015	09/12/2015			01/12/2015	02/12/2015	16/02/2016	16/02/2016	01/12/2015	02/12/2015	01/12/2015	01/12/2015	03/12/2015	02/12/2015	02/12/2015	01/12/2015	04/12/2015	07/12/2015	07/12/2015	07/12/2015	07/12/2015	07/12/2015	07/12/2015	07/12/2015	01/12/2015
				Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
				Lab Report Number	342339	342339	342339	343375	343375	340898	341472	350628	350628	342760	342756	342760	342760	342319	342759	342759	342759	342319	342025	342025	342025	342025	342025	342025	342025	342759
BTEX																														
Benzene	mg/kg	0.009	0.0002[#2]		<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	-	-	-	-	-	-	-	<0.009
Toluene	mg/kg	0.007	0.3238[#5]		0.014	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	2.14	<0.007	<0.007	-	-	-	-	-	-	-	<0.007
Ethylbenzene	mg/kg	0.004	0.2852[#5]		<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	6.36	<0.004	<0.004	-	-	-	-	-	-	-	<0.004
Xylene (m & p)	mg/kg	0.01			<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	149	<0.01	<0.01	-	-	-	-	-	-	-	<0.01
Xylene (o)	mg/kg	0.01			<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	76.8	<0.01	<0.01	-	-	-	-	-	-	-	<0.01
Xylene Total	mg/kg		0.48[#5]		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	225.8	0	0	-	-	-	-	-	-	-	0
Oxygenates																														
Diisopropyl Ether	mg/kg	0.001	0.0001[#12]		<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	-	-	-	-	-	-	-	<0.001
Ethyl Tert Butyl Ether	mg/kg	0.001	0.0018[#11]		<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	-	-	-	-	-	-	-	<0.001
Methyl Tert Butyl Ether	mg/kg	0.01	0.0022[#2]		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	-	-	-	-	-	-	<0.01
Tert Amyl Methyl Ether	mg/kg	0.01	0.019[#2]		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	-	-	-	-	-	-	<0.01
Tert Butyl Alcohol	mg/kg	0.01	0.3761[#8]		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	-	-	-	-	-	-	<0.01
Ethanol	mg/kg	0.05			<0.05	<0.05	<0.05	0.221	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	-	-	-	-	-	-	<0.05
PAH																														
Acenaphthene	mg/kg	0.008			<0.008	<0.008	<0.008	0.0211	0.0388	<0.008	<0.008	<0.008	<0.008	0.0511	<0.008	<0.008	<0.008	<0.008	<0.008	0.0665	<0.008	<0.008	-	-	-	-	-	-	-	0.0102
Acenaphthylene	mg/kg	0.012			<0.012	<0.012	<0.012	<0.012	0.0175	0.0182	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	-	-	-	-	-	-	-	0.0744
Anthracene	mg/kg	0.016			<0.016	<0.016	<0.016	0.0215	0.073	<0.016	<0.016	<0.016	0.0982	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	0.157	<0.016	<0.016	-	-	-	-	-	-	-	0.119
Benzo(a)anthracene	mg/kg	0.014			0.122	<0.014	<0.014	0.0158	0.177	0.0557	<0.014	0.058	0.225	0.0622	<0.014	0.0734	0.0353	<0.014	<0.014	0.0221	<0.014	<0.014	-	-	-	-	-	-	-	0.487
Benzo(a)pyrene	mg/kg	0.015	0.0026[#2]		0.17	<0.015	<0.015	0.017	0.132	0.0864	<0.015	0.036	0.156	0.0711	<0.015	0.0724	0.0321	<0.015	<0.015	0.0163	0.0233	<0.015	-	-	-	-	-	-	-	0.476
Benzo(b)fluoranthene	mg/kg	0.015			0.174	<0.015	<0.015	0.0246	0.173	0.129	<0.015	0.0427	0.193	0.107	<0.015	0.104	0.043	<0.015	<0.015	0.0188	0.0262	<0.015	-	-	-	-	-	-	-	0.692
Benzo(g,h,i)perylene	mg/kg	0.024			0.21	<0.024	<0.024	<0.024	0.0755	0.0954	<0.024	0.0273	0.107	0.0618	<0.024	0.0631	0.0365	<0.024	<0.024	<0.024	<0.024	<0.024	-	-	-	-	-	-	-	0.382
Benzo(k)fluoranthene	mg/kg	0.014			0.0641	<0.014	<0.014	0.0205	0.0657	0.0526	<0.014	0.0178	0.0964	0.0385	<0.014	<0.014	0.014	<0.014	<0.014	<0.014	<0.014	<0.014	-	-	-	-	-	-	-	0.243
Chrysene	mg/kg	0.01			0.157	<0.01	<0.01	0.0127	0.159	0.0548	<0.01	0.0267	0.241	0.0534	<0.01	0.0643	0.0341	<0.01	<0.01	<0.01	0.014	<0.01	-	-	-	-	-	-	-	0.511
Dibenz(a,h)anthracene	mg/kg	0.023			0.0372	<0.023	<0.023	<0.023	<0.023	<0.023	<0.023	<0.023	0.0265	<0.023	<0.023	<0.023	0.023	<0.023	<0.023	<0.023	<0.023	<0.023	-	-	-	-	-	-	-	0.0887
Fluoranthene	mg/kg	0.017			0.125	<0.017	<0.017	<0.017	0.354	0.0605	<0.017	0.0576	0.49	0.0908	<0.017	0.105	0.0499	<0.017	<0.017	0.0837	0.0312	<0.017	-	-	-	-	-	-	-	0.875
Fluorene	mg/kg	0.01			<0.01	<0.01	<0.01	<0.01	0.0296	<0.01	<0.01	<0.01	0.0489	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.824	<0.01	<0.01	-	-	-	-	-	-	-	<0.01
Indeno(1,2,3-c,d)pyrene	mg/kg	0.018			0.113	<0.018	<0.018	<0.018	0.0571	0.0804	<0.018	<0.018	0.0807	0.0506	<0.018	0.0485	0.027	<0.018	<0.018	<0.018	<0.018	<0.018	-	-	-	-	-	-	-	0.286
Naphthalene	mg/kg	0.009	0.1999[#10]		<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	0.0149	0.0873	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	1.26	<0.009	<0.009	-	-	-	-	-	-	-	0.0243
Phenanthrene	mg/kg	0.015			0.037	<0.015	<0.015	0.0227	0.239	0.0358	<0.015	0.0505	0.461	0.0483	<0.015	0.0614	0.0222	<0.015	<0.015	0.982	0.0203	<0.015	-	-	-	-	-	-	-	0.249
Pyrene	mg/kg	0.015			0.197	<0.015	<0.015	<0.015	0.309	0.0553	<0.015	0.0525	0.424	0.077	<0.015	0.0882	0.0422	<0.015	<0.015	0.165	0.0252	<0.015	-	-	-	-	-	-	-	0.909
PAHs (sum of 4)	mg/kg		0.0174[#2]		0.5611	0	0	0.0451	0.7113	0.3574	0	0.0878	0.4701	0.2579	0	0.2156	0.1085	0	0	0.0188	0.0262	0	-	-	-	-	-	-	-	1.603
Benzo(b,k)fluoranthene	mg/kg				0.2381	0	0	0.0451	0.2387	0.1816	0	0.0605	0.2894	0.1455	0	0.104	0.043	0	0	0.0188	0.0262	0	-	-	-	-	-	-	-	0.935
PAH 16 Total	mg/kg	0.118			1.41	<0.118	<0.118	0.156	1.9	0.724	<0.118	0.384	2.79	0.661	<0.118	0.68	0.322	<0.118	<0.118	3.6	0.14	<0.118	-	-	-	-	-	-	-	5.43
Benzo(g,h,i)perylene + Indeno(1,2,3-cd)pyrene	mg/kg				0.323	0	0	0	0.1326	0.1758	0	0.0273	0.1877	0.1124	0	0.1116	0.0635	0	0	0	0	0	-	-	-	-	-	-	-	0.668
Coal tar (BaP as a surrogate)	mg/kg				0.17	0	0	0.017	0.132	0.0864	0	0.036	0.156	0.0711	0	0.0724	0.0321	0	0	0.0163	0.0233	0	-	-	-	-	-	-	-	0.476
TPH																														
>EC5-EC7 Aromatics	mg/kg	0.01	0.0002[#1]		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.2	<0.01	<0.01	-	-	-	-	-	-	-	<0.01
>EC7-EC8 Aromatics	mg/kg	0.01	0.3238[#4]		0.0165	<0.01	0.0103	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	2.84	<0.01	<0.01	-	-	-	-	-	-	-	<0.01
>EC8-EC10 Aromatics	mg/kg	0.01	0.9722[#2]		0.065	<0.01	0.0298	<0.01	1.02	<0.01	<0.01	<0.01	0.0122	0.0658	<0.01	<0.01	<0.01	<0.01	<0.01	1,210	<0.01	<0.01	-	-	-	-	-	-	-	<0.01
>EC10-EC12 Aromatics	mg/kg	0.01	0.4566[#2]		0.097	<0.01	0.0123	<0.01	2.9	<0.01	<0.01	0.0322	0.111	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	623	<0.01	<0.01	-	-	-	-	-	-	-	<0.01
>EC12-EC16 Aromatics	mg/kg	0.1	0.9059[#2]		0.244	<0.1	<0.1	<0.1	6.88	<0.1	<0.1	0.852	2.26	<0.1	<0.1	0.125	<0.1	<0.1	<0.1	45.2	<0.1	<0.1	-	-	-	-	-	-	-	<0.1
>EC16-EC21 Aromatics	mg/kg	0.1	2.562[#3]		1.78	<0.1	0.225	<0.1	11.7	0.478	<0.1	3.1	5.54	0.254	<0.1	0.294	0.829	<0.1	<0.1	9.68	<0.1	<0.1	-	-	-	-	-	-	-	2.5
>EC21-EC35 Aromatics	mg/kg	0.1	Sat[#3]		20.8	0.802	1.88	2.15	8.15	6.93	<0.1	8.71	122	3.71	<0.1	3.29	3.26	<0.1	<0.1	4.6	2.92	<0.1	-	-	-	-	-	-	-	11.4
>C5-C6 Aliphatics	mg/kg	0.01	63.0946[#3]		0.0186	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.2	<0.01	<0.01	-	-	-	-	-	-	-	<0.01
>C6-C8 Aliphatics	mg/kg	0.01	164.1979[#3]		0.0299	<0.01	0.0154	<0.01	0.0999	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	41.4	<0.01	<0.01	-	-	-	-	-	-	-	<0.01
>C8-C10 Aliphatics	mg/kg	0.01	19.6379[#3]		0.0557	<0.01	0.0123	<0.01	1.53	<0.01	<0.01	0.0111	0.0559	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	1,140	<0.01	<0.01	-	-	-	-	-	-	-	<0.01
>C10-C12 Aliphatics	mg/kg	0.01	146.2792[#3]		0.146	<0.01	0.0195	<0.01	4.34	<0.01	<0.01	0.0488	0.167	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	934	<0.01	<0.01	-	-	-	-	-	-	-	<0.01
>C12-C16 Aliphatics	mg/kg	0.1	Sat[#3]		1.25	<0.1	<0.1	0.256	34.9	<0.1	<0.1	3.2	1.21	<0.1	1.58	<0.1	0.235	<0.1	<0.1	13.8	<0.1	<0.1	-	-	-	-	-	-	-	<0.1
>C16-C21 Aliphatics	mg/kg	0.1	Sat[#3]		1.16	<0.1	<0.1	<0.1	49.6	<0.1	<0.1	9.84	3.89	<0.1	6.54	<0.1	0.177	<0.1	<0.1	1.69	<0.1	<0.1	-	-	-	-	-	-	-	<0.1
>C16-C35 Aliphatics	mg/kg				4.56	0.888	3.4	1.32	74.6	4.08	0	25.14	10.42	1.29	8.24	0	0.404	0	0	1.69	4.51	0	-	-	-	-	-	-	-	2.12
>C21-C35 Aliphatics	mg/kg	0.1			3.4	0.888	3.4	1.32	25	4.08	<0.1	15.3	6.53	1.29	1.7	<0.1	0.227	<0.1	<0.1	<0.1	4.51	<0.1	-	-	-	-	-	-	-	2.12
>C35-C44 Aliphatics	mg/kg	0.1			0.697	<0.1	<0.1	<0.1	0.943	0.485	<0.1	1.93	0.904	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	-	-	-	-	-	<0.1
Asbestos																														
Amosite Asbestos	-				-	-	-	-	-	0	-	-	0	0	-	0	0	-	0	-	0	-	0	0	0	0	0	0	0	0
Chrysotile Asbestos	-				-	-	-	-	-	0	-	-	0	0	-	0	0	-	0	-	0	-	0	0	0	0	0	0	0	0
Crocidolilite Asbestos	-				-	-	-	-	-	0	-	-	0	0	-	0	0	-	0	-	0	-	0	0	0	0	0	0	0	0
Fibrous Actinolite	-				-	-	-	-	-	0	-	-	0	0	-	0	0	-	0	-	0	-	0	0	0	0	0	0	0	0
Fibrous Anthophyllite	-				-	-	-	-	-	0	-	-	0	0	-	0	0	-	0	-	0	-	0	0	0	0	0	0	0	0
Fibrous Tremolite	-				-	-	-	-	-	0	-	-	0	0	-	0	0	-	0	-	0	-	0	0	0	0	0	0	0	0
Non-Asbestos Fibre	-				-	-	-	-	-	0	-	-	1	0	-	0	0	-	0	-	0	-	0	0	0	0	0	0	0	0
Asbestos Quantification - PCM Evaluation	%	0.001			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Asbestos Quantification - Total - %	%	0.001			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Additional Asbestos Components (Using TM048)	-				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Asbestos Gravimetric Quantification	%	0.001			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Misc																														
Fraction Organic Carbon	-	0.0002			-	-	0.000765	-	-	-	0.000429	-	-	-	0.000695	-	-	0.000344	-	0.000959	-	0.000861	-	-	-	-	-	-	-	-
Moisture	%				3.1	0.78	2.6	7.9	9	8.2	4.3	9.8	8.9	8.9	2.4	17	9.4	6.5	1.6	5.1	3.1	19	-	-	-	-	-	-	-	17
Other																														
Analysed By	-				-	-	-	-	-	1	-	-	-	1	-	1	1	-	1	-	1	-	1	1	1	1	1	1	1	1
Analysts Comments	-				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Comments
#1 WS Regs 2010 (Eng/Wal) for benzene
#2 WS Regs 2010 (Eng/Wal)
#3 WHO Petroleum In DW 2008
#4 WHO DWG 2011 for toluene
#5 WHO DWG 2011
#6 USEPA RSL (tapwater)
#7 USEPA 1997
#8 URS dervied using API (2005) RfD & WHO DWG
#9 Taste - API (1993)
#10 Shell RBSL (2014)
#11 Odour - Health Effects Institute (1996)
#12 Odour - Amoore and Hautala, 1983,
GAC: Generic Assessment Criteria
(blank): No assessment criteria available
Sat: Unacceptable risk not achieved due to calculated saturation of vapour pathway
- : Not analysed
CW: Controlled Waters
DWS: Drinking Water Standard
Soil CW/WE GAC calculated using EA RTM methodology
Soil CW/WE GAC based on soil properties for sand and either low TOC (0.2%) or high TOC (1%)

Key
XXX Exceedance of 2015 GAC - CW (EN/WA) DWS - 0.2% TOC

Table 4a
Groundwater Analytical Results
Compared Against Human Health (High Denisty Resdiential, HDR and Continued Petroleum Use, CPU) Criteria

	Units	Method Detection Limit	2015 GAC - Continued Petroleum Use	2015 GAC - High Density Residential	Location	MW01	MW02	MW03		MW04		MW201
					Well	-	-	-		-		-
					Date	21/09/2015	21/09/2015	21/09/2015	09/12/2015	21/09/2015	09/12/2015	05/01/2016
					Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Normal
					Lab Report Number	331469	331469	331469		331469		344846
BTEX												
Benzene	µg/l	1	**22.000**[#1]	1.600[#1]		<1	<1	<1	<1	<1	<1	<1
Toluene	µg/l	1	**Sat**[#1]	Sat[#1]		<1	<1	<1	<1	<1	<1	<1
Ethylbenzene	µg/l	1	**Sat**[#1]	85.000[#1]		<1	<1	<1	<1	<1	<1	<1
Xylene (m & p)	µg/l	1				<1	<1	<1	<1	<1	<1	<1
Xylene (o)	µg/l	1	**Sat**[#1]	92.000[#1]		<1	<1	<1	<1	<1	<1	<1
Xylene Total	µg/l		**Sat**[#1]	77.000[#1]		0	0	0	0	0	0	0
Oxygenates												
Diisopropyl Ether	µg/l	1	**430.000**[#1]	31.000[#1]		<1	<1	<1	<1	<1	<1	<1
Ethyl Tert Butyl Ether	µg/l	1	**3.000.000**[#1]	220.000[#1]		<1	<1	<1	<1	<1	<1	<1
Methyl Tert Butyl Ether	µg/l	1	**6.800.000**[#1]	470.000[#1]		<1	<1	<1	<1	<1	<1	<1
Tert Amyl Methyl Ether	µg/l	1	**200.000**[#1]	14.000[#1]		<1	<1	<1	<1	<1	<1	<1
Tert Butyl Alcohol	µg/l	10	**14.000.000**[#1]	770.000[#1]		<10	<10	<10	<10	<10	<10	<10
Ethanol	µg/l	50				<50	<50	<50	<50	<50	<50	<50
PAH												
Acenaphthene	µg/l	0.015	**Sat**[#1]	Sat[#1]		<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
Acenaphthylene	µg/l	0.011	**Sat**[#1]	Sat[#1]		<0.011	<0.011	<0.011	<0.011	<0.011	<0.011	<0.011
Anthracene	µg/l	0.015	**Sat**[#1]	Sat[#1]		<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
Benzo(a)anthracene	µg/l	0.017	**Sat**[#1]	Sat[#1]		<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017
Benzo(a)pyrene	µg/l	0.009	**Sat**[#1]	Sat[#1]		<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009
Benzo(b)fluoranthene	µg/l	0.023	**Sat**[#1]	Sat[#1]		<0.023	<0.023	<0.023	<0.023	<0.023	<0.023	<0.023
Benzo(g,h,i)perylene	µg/l	0.016	**Sat**[#1]	Sat[#1]		<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016
Benzo(k)fluoranthene	µg/l	0.027	**Sat**[#1]	Sat[#1]		<0.027	<0.027	<0.027	<0.027	<0.027	<0.027	<0.027
Chrysene	µg/l	0.013	**Sat**[#1]	Sat[#1]		<0.013	<0.013	<0.013	<0.013	<0.013	<0.013	<0.013
Dibenz(a,h)anthracene	µg/l	0.016	**Sat**[#1]	Sat[#1]		<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016
Fluoranthene	µg/l	0.017	**Sat**[#1]	Sat[#1]		<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017
Fluorene	µg/l	0.014	**Sat**[#1]	Sat[#1]		<0.014	<0.014	<0.014	<0.014	<0.014	<0.014	<0.014
Indeno(1,2,3-c,d)pyrene	µg/l	0.014	**Sat**[#1]	Sat[#1]		<0.014	<0.014	<0.014	<0.014	<0.014	<0.014	<0.014
Naphthalene	µg/l	0.1	**16.000**[#1]	910[#1]		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	µg/l	0.022	**Sat**[#1]	Sat[#1]		<0.022	<0.022	<0.022	<0.022	<0.022	<0.022	<0.022
Pyrene	µg/l	0.015	**Sat**[#1]	Sat[#1]		<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
PAHs (sum of 4)	µg/l					0	0	0	0	0	0	0
Benzo(b,k)fluoranthene	µg/l					0	0	0	0	0	0	0
PAH 16 Total	µg/l	0.344				<0.344	<0.344	<0.344	<0.344	<0.344	<0.344	<0.344
Benzo(g,h,i)perylene + Indeno(1,2,3-cd)pyrene	µg/l					0	0	0	0	0	0	0
Coal tar (BaP as a surrogate)	µg/l		**Sat**[#1]	Sat[#1]		0	0	0	0	0	0	0
TPH												
>EC5-EC7 Aromatics	µg/l	10	**Sat**[#1]	1.600.000[#1]		<10	<10	<10	<10	<10	<10	<10
>EC7-EC8 Aromatics	µg/l	10	**Sat**[#1]	Sat[#1]		<10	<10	<10	<10	<10	<10	<10
>EC8-EC10 Aromatics	µg/l	10	**Sat**[#1]	14.000[#1]		<10	<10	<10	<10	<10	<10	<10
>EC10-EC12 Aromatics	µg/l	10	**Sat**[#1]	Sat[#1]		<10	<10	<10	<10	<10	<10	<10
>EC12-EC16 Aromatics	µg/l	10	**Sat**[#1]	Sat[#1]		<10	<10	<10	<10	<10	<10	<10
>EC16-EC21 Aromatics	µg/l	10	**Sat**[#1]	Sat[#1]		<10	<10	<10	<10	<10	<10	<10
>EC21-EC35 Aromatics	µg/l	10	**Sat**[#1]	Sat[#1]		<10	<10	<10	<10	<10	<10	<10
>C5-C6 Aliphatics	µg/l	10	**Sat**[#1]	15.000[#1]		<10	<10	<10	<10	<10	<10	<10
>C6-C8 Aliphatics	µg/l	10	**Sat**[#1]	Sat[#1]		<10	<10	<10	<10	<10	<10	<10
>C8-C10 Aliphatics	µg/l	10	**Sat**[#1]	Sat[#1]		<10	<10	<10	<10	<10	<10	<10
>C10-C12 Aliphatics	µg/l	10	**Sat**[#1]	Sat[#1]		<10	<10	<10	<10	<10	<10	<10
>C12-C16 Aliphatics	µg/l	10	**Sat**[#1]	Sat[#1]		<10	<10	<10	<10	<10	<10	<10
>C16-C21 Aliphatics	µg/l	10				<10	<10	<10	<10	<10	<10	<10
>C16-C35 Aliphatics	µg/l		**Sat**[#1]	Sat[#1]		0	0	0	0	0	0	0
>C21-C35 Aliphatics	µg/l	10				<10	<10	<10	<10	<10	<10	<10
Metals												
Arsenic (Filtered)	µg/l	0.12				1.69	5.24	2.24	-	1.48	-	0.711
Boron (Filtered)	µg/l	9.4				50.1	33.5	35	-	23.3	-	51.3
Cadmium (Filtered)	µg/l	0.1				<0.1	<0.1	<0.1	-	<0.1	-	<0.1
Chromium (hexavalent)	µg/l	30				<30	<30	<30	-	<30	-	<30
Chromium (III+VI) (Filtered)	µg/l	0.22				2.92	1.64	2.52	-	2.43	-	1.83
Cobalt (Filtered)	µg/l	0.06				0.132	0.155	10	-	0.254	-	0.789
Copper (Filtered)	µg/l	0.85				<0.85	<0.85	8.18	-	5.04	-	1.42
Lead (Filtered)	µg/l	0.02				0.185	0.057	0.035	-	0.133	-	0.27
Mercury (Filtered)	µg/l	0.01				<0.01	<0.01	<0.01	-	<0.01	-	<0.01
Molybdenum (Filtered)	µg/l	0.24				<0.24	<0.24	0.315	-	<0.24	-	0.938
Nickel (Filtered)	µg/l	0.15				1.3	1.21	22.2	-	3.37	-	3.47
Selenium (Filtered)	µg/l	0.39				<0.39	<0.39	<0.39	-	<0.39	-	0.607
Tin (Filtered)	µg/l	0.36				<0.36	<0.36	<0.36	-	<0.36	-	0.799
Zinc (Filtered)	µg/l	0.41				7	11.3	6.79	-	5.51	-	9.54
Misc												
Ferrous Iron	µg/l	100				<100	<100	<100	-	<100	-	<100
Manganese (Filtered)	µg/l	0.04				0.122	0.135	41.9	-	1.13	-	-
Methane	µg/l	1				<2.27	<2.27	<2.27	-	<2.27	-	-
Nitrate (as NO3-)	mg/l	0.3				27.4	27.1	25.8	-	26	-	23.5
Sulphate (soluble)	mg/l	2				48	46.9	46.3	-	45.5	-	62.8

Comments
#1 Derived GAC for petrol filling stations
GAC: Generic Assessment Criteria
(blank): No assessment criteria available
Sat: Unacceptable risk not achieved due to calculated saturation of vapour pathway
- : Not analysed
HH GAC calculated using CLEA methodology with C4SL exposure scenarios, specifically for petrol filling stations
HH GAC based on soil properties for 'CLEA sand' and 1% SOM (0.58% TOC)
Sat: Hazard quotient at vapour saturation < 1

Key

XXX	Exceedance of 2015 GAC - Continued Petroleum Use
XXX	Exceedance of 2015 GAC - High Density Residential

Table 4b
Groundwater Analytical Results
Compared Against Controlled Water (Drinking Water Standards, DWS) Criteria

	Units	Method Detection Limit	2015 GAC - CW (EN/WA) DWS	Location	MW01	MW02	MW03		MW04		MW201
				Well	-	-	-		-		-
				Date	21/09/2015	21/09/2015	21/09/2015	09/12/2015	21/09/2015	09/12/2015	05/01/2016
				Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Normal
				Lab Report Number	331469	331469	331469		331469		344846
BTEX											
Benzene	µg/l	1	1 #2		<1	<1	<1	<1	<1	<1	<1
Toluene	µg/l	1	700 #5		<1	<1	<1	<1	<1	<1	<1
Ethylbenzene	µg/l	1	300 #5		<1	<1	<1	<1	<1	<1	<1
Xylene (m & p)	µg/l	1			<1	<1	<1	<1	<1	<1	<1
Xylene (o)	µg/l	1			<1	<1	<1	<1	<1	<1	<1
Xylene Total	µg/l		500 #5		0	0	0	0	0	0	0
Oxygenates											
Diisopropyl Ether	µg/l	1	0.8 #12		<1	<1	<1	<1	<1	<1	<1
Ethyl Tert Butyl Ether	µg/l	1	13 #11		<1	<1	<1	<1	<1	<1	<1
Methyl Tert Butyl Ether	µg/l	1	20 #7		<1	<1	<1	<1	<1	<1	<1
Tert Amyl Methyl Ether	µg/l	1	130 #9		<1	<1	<1	<1	<1	<1	<1
Tert Butyl Alcohol	µg/l	10	1,300 #8		<10	<10	<10	<10	<10	<10	<10
Ethanol	µg/l	50			<50	<50	<50	<50	<50	<50	<50
PAH											
Acenaphthene	µg/l	0.015			<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
Acenaphthylene	µg/l	0.011			<0.011	<0.011	<0.011	<0.011	<0.011	<0.011	<0.011
Anthracene	µg/l	0.015			<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
Benzo(a)anthracene	µg/l	0.017			<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017
Benzo(a)pyrene	µg/l	0.009	0.01 #2		<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009
Benzo(b)fluoranthene	µg/l	0.023			<0.023	<0.023	<0.023	<0.023	<0.023	<0.023	<0.023
Benzo(g,h,i)perylene	µg/l	0.016			<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016
Benzo(k)fluoranthene	µg/l	0.027			<0.027	<0.027	<0.027	<0.027	<0.027	<0.027	<0.027
Chrysene	µg/l	0.013			<0.013	<0.013	<0.013	<0.013	<0.013	<0.013	<0.013
Dibenz(a,h)anthracene	µg/l	0.016			<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016
Fluoranthene	µg/l	0.017			<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017
Fluorene	µg/l	0.014			<0.014	<0.014	<0.014	<0.014	<0.014	<0.014	<0.014
Indeno(1,2,3-c,d)pyrene	µg/l	0.014			<0.014	<0.014	<0.014	<0.014	<0.014	<0.014	<0.014
Naphthalene	µg/l	0.1	150 #10		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	µg/l	0.022			<0.022	<0.022	<0.022	<0.022	<0.022	<0.022	<0.022
Pyrene	µg/l	0.015			<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
PAHs (sum of 4)	µg/l		0.1 #2		0	0	0	0	0	0	0
Benzo(b,k)fluoranthene	µg/l				0	0	0	0	0	0	0
PAH 16 Total	µg/l	0.344			<0.344	<0.344	<0.344	<0.344	<0.344	<0.344	<0.344
Benzo(g,h,i)perylene + Indeno(1,2,3-cd)pyrene	µg/l				0	0	0	0	0	0	0
Coal tar (BaP as a surrogate)	µg/l				0	0	0	0	0	0	0
TPH											
>EC5-EC7 Aromatics	µg/l	10	1 #1		<10	<10	<10	<10	<10	<10	<10
>EC7-EC8 Aromatics	µg/l	10	700 #4		<10	<10	<10	<10	<10	<10	<10
>EC8-EC10 Aromatics	µg/l	10	300 #3		<10	<10	<10	<10	<10	<10	<10
>EC10-EC12 Aromatics	µg/l	10	90 #3		<10	<10	<10	<10	<10	<10	<10
>EC12-EC16 Aromatics	µg/l	10	90 #3		<10	<10	<10	<10	<10	<10	<10
>EC16-EC21 Aromatics	µg/l	10	90 #3		<10	<10	<10	<10	<10	<10	<10
>EC21-EC35 Aromatics	µg/l	10	90 #3		<10	<10	<10	<10	<10	<10	<10
>C5-C6 Aliphatics	µg/l	10	15.000 #3		<10	<10	<10	<10	<10	<10	<10
>C6-C8 Aliphatics	µg/l	10	15.000 #3		<10	<10	<10	<10	<10	<10	<10
>C8-C10 Aliphatics	µg/l	10	300 #3		<10	<10	<10	<10	<10	<10	<10
>C10-C12 Aliphatics	µg/l	10	300 #3		<10	<10	<10	<10	<10	<10	<10
>C12-C16 Aliphatics	µg/l	10	300 #3		<10	<10	<10	<10	<10	<10	<10
>C16-C21 Aliphatics	µg/l	10	300 #3		<10	<10	<10	<10	<10	<10	<10
>C16-C35 Aliphatics	µg/l				0	0	0	0	0	0	0
>C21-C35 Aliphatics	µg/l	10			<10	<10	<10	<10	<10	<10	<10
Metals											
Arsenic (Filtered)	µg/l	0.12	10 #2		1.69	5.24	2.24	-	1.48	-	0.711
Boron (Filtered)	µg/l	9.4	1.000 #2		50.1	33.5	35	-	23.3	-	51.3
Cadmium (Filtered)	µg/l	0.1	5 #2		<0.1	<0.1	<0.1	-	<0.1	-	<0.1
Chromium (hexavalent)	µg/l	30	50 #2		<30	<30	<30	-	<30	-	<30
Chromium (III+VI) (Filtered)	µg/l	0.22	50 #2		2.92	1.64	2.52	-	2.43	-	1.83
Cobalt (Filtered)	µg/l	0.06	4.7 #6		0.132	0.155	10	-	0.254	-	0.789
Copper (Filtered)	µg/l	0.85	2.000 #2		<0.85	<0.85	8.18	-	5.04	-	1.42
Lead (Filtered)	µg/l	0.02	25 #2		0.185	0.057	0.035	-	0.133	-	0.27
Mercury (Filtered)	µg/l	0.01	1 #2		<0.01	<0.01	<0.01	-	<0.01	-	<0.01
Molybdenum (Filtered)	µg/l	0.24	70 #5		<0.24	<0.24	0.315	-	<0.24	-	0.938
Nickel (Filtered)	µg/l	0.15	20 #2		1.3	1.21	22.2	-	3.37	-	3.47
Selenium (Filtered)	µg/l	0.39	10 #2		<0.39	<0.39	<0.39	-	<0.39	-	0.607
Tin (Filtered)	µg/l	0.36	9300 #6		<0.36	<0.36	<0.36	-	<0.36	-	0.799
Zinc (Filtered)	µg/l	0.41	3000 #5		7	11.3	6.79	-	5.51	-	9.54
Misc											
Ferrous Iron	µg/l	100			<100	<100	<100	-	<100	-	<100
Manganese (Filtered)	µg/l	0.04			0.122	0.135	41.9	-	1.13	-	-
Methane	µg/l	1			<2.27	<2.27	<2.27	-	<2.27	-	-
Nitrate (as NO3-)	mg/l	0.3			27.4	27.1	25.8	-	26	-	23.5
Sulphate (soluble)	mg/l	2			48	46.9	46.3	-	45.5	-	62.8

Comments
#1 WS Regs 2010 (Eng/Wal) for benzene
#2 WS Regs 2010 (Eng/Wal)
#3 WHO Petroleum In DW 2008
#4 WHO DWG 2011 for toluene
#5 WHO DWG 2011
#6 USEPA RSL (tapwater)
#7 USEPA 1997
#8 URS dervied using API (2005) RfD & WHO DWG
#9 Taste - API (1993)
#10 Shell RBSL (2014)
#11 Odour - Health Effects Institute (1996)
#12 Odour - Amoore and Hautala, 1983,
GAC: Generic Assessment Criteria
(blank): No assessment criteria available
- : Not analysed
CW: Controlled Waters
DWS: Drinking Water Standard
Soil CW/WE GAC calculated using EA RTM methodology
Soil CW/WE GAC based on soil properties for sand and either low TOC (0.2%) or high TOC (1%)

Key
XXX Exceedance of 2015 GAC - CW (EN/WA) DWS

Table 4c
Potable Analytical Results
Compared Against Drinking Water Standards

	Units	Method Detection Limit	2015 GAC - CW (EN/WA) DWS	**Location**	Potable Active	Potable Static
				Well	-	-
				Date	21/09/2015	21/09/2015
				Sample Type	Normal	Normal
				Lab Report Number		
BTEX						
Benzene	µg/l	1	1 #2		<1	<1
Toluene	µg/l	1	700 #5		<1	<1
Ethylbenzene	µg/l	1	300 #5		<1	<1
Xylene (m & p)	µg/l	1			<1	<1
Xylene (o)	µg/l	1			<1	<1
Xylene Total	µg/l		500 #5		0	0
Oxygenates						
Diisopropyl Ether	µg/l	1	0.8 #12		<1	<1
Ethyl Tert Butyl Ether	µg/l	1	13 #11		<1	<1
Methyl Tert Butyl Ether	µg/l	1	20 #7		<1	<1
Tert Amyl Methyl Ether	µg/l	1	130 #9		<1	<1
Tert Butyl Alcohol	µg/l	10	1,300 #8		<10	<10
Ethanol	µg/l	50			<50	<50
PAH						
Acenaphthene	µg/l	0.015			<0.015	<0.015
Acenaphthylene	µg/l	0.011			<0.011	<0.011
Anthracene	µg/l	0.015			<0.015	<0.015
Benzo(a)anthracene	µg/l	0.017			<0.017	<0.017
Benzo(a)pyrene	µg/l	0.009	0.01 #2		<0.009	<0.009
Benzo(b)fluoranthene	µg/l	0.023			<0.023	<0.023
Benzo(g,h,i)perylene	µg/l	0.016			<0.016	<0.016
Benzo(k)fluoranthene	µg/l	0.027			<0.027	<0.027
Chrysene	µg/l	0.013			<0.013	<0.013
Dibenz(a,h)anthracene	µg/l	0.016			<0.016	<0.016
Fluoranthene	µg/l	0.017			<0.017	<0.017
Fluorene	µg/l	0.014			<0.014	<0.014
Indeno(1,2,3-c,d)pyrene	µg/l	0.014			<0.014	<0.014
Naphthalene	µg/l	0.1	150 #10		<0.1	<0.1
Phenanthrene	µg/l	0.022			<0.022	<0.022
Pyrene	µg/l	0.015			<0.015	<0.015
PAHs (sum of 4)	µg/l		0.1 #2		0	0
Benzo(b,k)fluoranthene	µg/l				0	0
PAH 16 Total	µg/l	0.344			<0.344	<0.344
Benzo(g,h,i)perylene + Indeno(1,2,3-cd)pyrene	µg/l				0	0
Coal tar (BaP as a surrogate)	µg/l				0	0
TPH						
>EC5-EC7 Aromatics	µg/l	10	1 #1		<10	<10
>EC7-EC8 Aromatics	µg/l	10	700 #4		<10	<10
>EC8-EC10 Aromatics	µg/l	10	300 #3		<10	<10
>EC10-EC12 Aromatics	µg/l	10	90 #3		<10	<10
>EC12-EC16 Aromatics	µg/l	10	90 #3		<10	<10
>EC16-EC21 Aromatics	µg/l	10	90 #3		<10	<10
>EC21-EC35 Aromatics	µg/l	10	90 #3		<10	<10
>C5-C6 Aliphatics	µg/l	10	15,000 #3		<10	<10
>C6-C8 Aliphatics	µg/l	10	15,000 #3		<10	<10
>C8-C10 Aliphatics	µg/l	10	300 #3		<10	<10
>C10-C12 Aliphatics	µg/l	10	300 #3		<10	<10
>C12-C16 Aliphatics	µg/l	10	300 #3		<10	<10
>C16-C21 Aliphatics	µg/l	10	300 #3		<10	<10
>C16-C35 Aliphatics	µg/l				0	0
>C21-C35 Aliphatics	µg/l	10			<10	<10
Metals						
Arsenic (Filtered)	µg/l	0.12	10 #2		2.74	2.54
Boron (Filtered)	µg/l	9.4	1,000 #2		37.8	36.7
Cadmium (Filtered)	µg/l	0.1	5 #2		<0.1	<0.1
Chromium (hexavalent)	µg/l	30	50 #2		<30	<30
Chromium (III+VI) (Filtered)	µg/l	0.22	50 #2		3.55	2.21
Cobalt (Filtered)	µg/l	0.06	4.7 #6		0.214	0.535
Copper (Filtered)	µg/l	0.85	2,000 #2		15.4	91.1
Lead (Filtered)	µg/l	0.02	25 #2		0.332	0.354
Mercury (Filtered)	µg/l	0.01	1 #2		<0.01	<0.01
Molybdenum (Filtered)	µg/l	0.24	70 #5		0.465	0.315
Nickel (Filtered)	µg/l	0.15	20 #2		2.47	2.66
Selenium (Filtered)	µg/l	0.39	10 #2		<0.39	0.83
Tin (Filtered)	µg/l	0.36	9300 #6		0.441	<0.36
Zinc (Filtered)	µg/l	0.41	3000 #5		3.35	28.4
Misc						
Ferrous Iron	µg/l	100			<100	<100
Nitrate (as NO3-)	mg/l	0.3			27.3	27.4
Sulphate (soluble)	mg/l	2			48.5	48.4

Comments
#1 WS Regs 2010 (Eng/Wal) for benzene
#2 WS Regs 2010 (Eng/Wal)
#3 WHO Petroleum In DW 2008
#4 WHO DWG 2011 for toluene
#5 WHO DWG 2011
#6 USEPA RSL (tapwater)
#7 USEPA 1997
#8 URS dervied using API (2005) RfD & WHO DWG
#9 Taste - API (1993)
#10 Shell RBSL (2014)
#11 Odour - Health Effects Institute (1996)
#12 Odour - Amoore and Hautala, 1983,
GAC: Generic Assessment Criteria
(blank): No assessment criteria available
CW: Controlled Waters
DWS: Drinking Water Standard
Soil CW/WE GAC calculated using EA RTM methodology
Soil CW/WE GAC based on soil properties for sand and either low TOC (0.2%) or high TOC (1%)

Key
XXX Exceedance of 2015 GAC - CW (EN/WA) DWS

Table 5a
Soil Vapour Analytical Results
Compared Against Human Health (High Density Resdiential, HDR and Continued Petroleum Use, CPU) Criteria

	Units	Method Detection Limit	2015 GAC - Continued Petroleum Use	2015 GAC - High Density Residential	Location	VM01	VM02	VM03	VP201 142	
					Well	-	-	-	-	
					Date	22/09/2015	22/09/2015	22/09/2015	09/12/2015	
					Sample Type	Normal	Normal	Normal	Normal	Field_D
					Lab Report Number	331844	331844	331844	342339	342339
BTEX										
Benzene	mg/m3		48[#1]	**2.4[#2]**		0.0111	0.00454	0.00419	0.00667	0.00573
Toluene	mg/m3		50,000[#1]	**2,600[#2]**		0.0591	0.0365	0.0139	0.0412	0.0342
Ethylbenzene	mg/m3		2,700[#1]	**140[#2]**		0.0107	0.0089	0.00583	0.00838	0.00675
Xylene (m & p)	mg/m3					0.0311	0.0263	0.0131	0.0191	0.0218
Xylene (o)	mg/m3		2,200[#1]	**110[#2]**		0.0114	0.00977	0.00536	0.00619	0.00757
Xylene Total	mg/m3		2,200[#1]	**110[#2]**		0.0425	0.03607	0.01846	0.02529	0.02937
Oxygenates										
Diisopropyl Ether	mg/m3	0.005	4,300[#1]	**230[#2]**		<0.0069	<0.0069	<0.0069	<0.005	<0.005
Ethyl Tert Butyl Ether	mg/m3	0.005	20,000[#1]	**1,100[#2]**		<0.0069	<0.0069	<0.0069	<0.005	<0.005
Methyl Tert Butyl Ether	mg/m3	0.005	26,000[#1]	**1,300[#2]**		<0.0069	0.01	<0.0069	<0.005	<0.005
Tert Amyl Methyl Ether	mg/m3	0.005	2,000[#1]	**1,100[#2]**		<0.0069	<0.0069	<0.0069	<0.005	<0.005
n-Hexane	mg/m3		6,500[#1]	**330[#2]**		0.00603	0.00396	0.00304	0.0221	0.0212
PAH										
Naphthalene	mg/m3	0.002	31[#1]	**1.4[#2]**		<0.00276	<0.00276	<0.00276	<0.002	<0.002
SVOC										
1-Methylnaphthalene	mg/m3	0.004	91[#1]	**5[#2]**		<0.00552	<0.00552	<0.00552	<0.004	<0.004
Gas VOC										
Decane	mg/m3	0.0008				0.0304	0.0169	0.00205	<0.0008	<0.0008
Dodecane	mg/m3	0.00414				<0.00414	<0.00414	<0.00414	0.00439	0.00455
Octane	mg/m3	0.0025				<0.00345	<0.00345	<0.00345	0.00294	<0.0025
GRO C6-C12	mg/m3					2.25	1.01	0.288	0.924	0.927
Other										
1,2,3-trimethylbenzene	mg/m3	0.003				<0.00414	<0.00414	<0.00414	<0.003	<0.003

Comments
#1 URS derived GAC for petrol filling stations
#2 Derived GAC for petrol filling stations
GAC: Generic Assessment Criteria
(blank): No assessment criteria available
Field_D: Field Duplicate
HH GAC calculated using CLEA methodology with C4SL exposure scenarios, specifically for petrol filling stations
HH GAC based on soil properties for 'CLEA sand' and 1% SOM (0.58% TOC)
Sat: Hazard quotient at vapour saturation < 1

Key

XXX	Exceedance of 2015 GAC - Continued Petroleum Use
XXX	Exceedance of 2015 GAC - High Density Residential

APPENDIX C PHOTO LOG

AECOM

PHOTOGRAPHIC LOG

Client Name: Shell UK Oil Products	Site Location: Shell Blackhorse, 174 Sheen Road, Richmond, London, TW9 1XD.	Project No.

Photo No. 1	Date: November 2015

Description:

Corer setup at MW201.

Photo No. 2	Date: November 2015

Description:

Vac-Ex setup at MW201.

AECOM

PHOTOGRAPHIC LOG

Client Name: Shell UK Oil Products	Site Location: Shell Blackhorse, 174 Sheen Road, Richmond, London, TW9 1XD.	Project No.

Photo No. 3	Date: November 2015

Description:

MW201 made ground sample taken from 0.65m bgl.

Photo No. 4	Date: November 2015

Description:

MW201 service cleared.

AECOM

PHOTOGRAPHIC LOG

Client Name: Shell UK Oil Products	Site Location: Shell Blackhorse, 174 Sheen Road, Richmond, London, TW9 1XD.	Project No.

Photo No. 5	Date: December 2015

Description:

VP201a concrete cored.

Photo No. 6	Date: December 2015

Description:

VP201a concrete sub-base refusal.

AECOM

PHOTOGRAPHIC LOG

Client Name: Shell UK Oil Products	Site Location: Shell Blackhorse, 174 Sheen Road, Richmond, London, TW9 1XD.	Project No.

Photo No. 7	Date: December 2015

Description:

VP201a (left) refusal, VP201b (right) refusal.

Photo No. 8	Date: December 2015

Description:

VP201 vac-ex set-up.

AECOM

PHOTOGRAPHIC LOG

Client Name: Shell UK Oil Products	Site Location: Shell Blackhorse, 174 Sheen Road, Richmond, London, TW9 1XD.	Project No.

Photo No. 9	Date: December 2015

Description:

VP201 made ground sample taken from 1.0m bgl.

Photo No. 10	Date: December 2015

Description:

SB301a refusal - abandoned tank located 0.7m bgl.

AECOM

PHOTOGRAPHIC LOG

Client Name: Shell UK Oil Products	Site Location: Shell Blackhorse, 174 Sheen Road, Richmond, London, TW9 1XD.	Project No.

Photo No. 11	Date: December 2015

Description:
Made ground from SB301 taken from 0.5m bgl.

Photo No. 12	Date: December 2015

Description:

Drilling rig set-up on SB301.

AECOM

PHOTOGRAPHIC LOG

Client Name: Shell UK Oil Products	Site Location: Shell Blackhorse, 174 Sheen Road, Richmond, London, TW9 1XD.	Project No.

Photo No. 13	Date: December 2015	
Description: SB301 soil samples from 1.5-3.0m bgl (left), and from 6.0m bgl (right).		

Photo No. 14	Date: December 2015	
Description: SB302a Vac-ex set-up.		

AECOM

PHOTOGRAPHIC LOG

Client Name: Shell UK Oil Products	Site Location: Shell Blackhorse, 174 Sheen Road, Richmond, London, TW9 1XD.	Project No.

Photo No. 15	Date: December 2015

Description:

SB302a tree root >20mm located at 0.9m bgl.

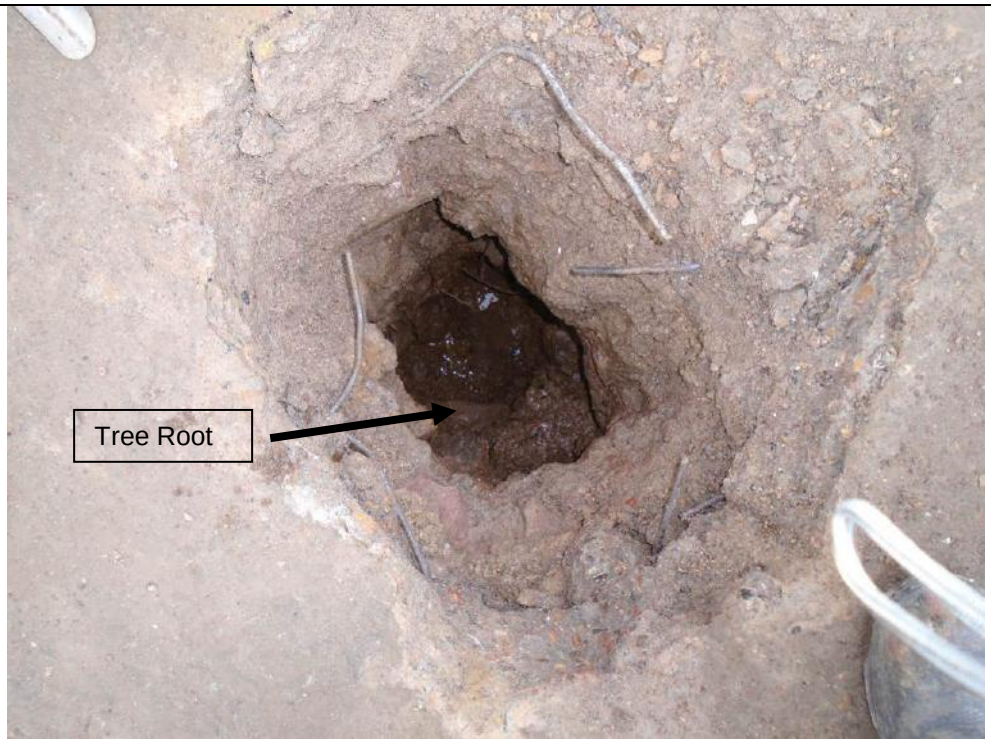


Photo No. 16	Date: December 2015

Description:

SB302b Vac-ex set-up.

AECOM

PHOTOGRAPHIC LOG

Client Name: Shell UK Oil Products	Site Location: Shell Blackhorse, 174 Sheen Road, Richmond, London, TW9 1XD.	Project No.

Photo No. 17	Date: December 2015

Description:

SB302a (left), SB302b (middle), and SB302c (right) locations.

Photo No. 18	Date: December 2015

Description:

SB302d refusal as void encountered.