ANZECC (2000) states that there is currently insufficient data to derive high reliability trigger values for various contaminants. For these contaminants, low reliability trigger values have been adopted.

ANZECC (2000) state that there is currently insufficient data to derive a high reliability trigger value for TPH but propose a low reliability trigger value for TPH of 7μg/L. This guideline is generally considered by industry to be overly conservative and is also well below the TPH detection limit, which most laboratories can achieve. Given the conservative value of the trigger there is no IL established for these analytes. The LOR is considered to be the default IL for the purpose of this investigation.

Guidelines for the recreational water use are also presented in the ANZECC (2000) Australian and New Zealand Guidelines for Fresh and Marine Water Quality (Table 5.2.3 of the guidelines).

The groundwater investigation levels are presented in Table LR2.

5 FIELD AND LABORATORY INVESTIGATIONS

5.1 General

The field investigation program was designed based on information obtained during the site history review and site walkover and the subsequent identification of potential AECs, which are summarised in Section 4 of this report. The sampling locations were targeted to assess specific potential AECs, such as the former service station as well assessing the site-wide AEC (the presence of fill materials) and to provide general coverage of accessible areas of the site.

Fourteen groundwater monitoring wells were installed across the site to allow for an assessment of groundwater conditions at the site.

It should be noted that the sites were occupied and fully operational at the time of the investigations, resulting in access constraints in some areas. In addition, some areas had height restrictions from either being within a building, or under over head services. As a result, boreholes from these areas could only be hand-augered to limited depths. It should also be noted that historical information on the former service station site was limited. The areas of the UST's were largely unknown prior to the commencement of the investigation. Hence, potential contamination associated with USTs at depth in this area could not be assessed fully at the time of investigation. It is thought that in the eastern area of the KAS Auto site, UST's that have been slurry filled may remain on site.

5.2 Soil Investigations

The field investigations were undertaken over 10 days on 19th through 31st May and 3rd June 2008 by Coffey Environmental Scientists.

A total of fifty one boreholes were drilled on site to collect soil samples and to assess the subsurface conditions. The boreholes were drilled using a truck mounted drilling rig utilising solid stem augers were possible and air hammering where required. Several soil bores (BH47, BH48, BH50, BH51& BH52 on KAS Auto and BH40, BH43 & BH46 on the Ateco site) were drilled with a stainless steel hand auger due to access restrictions. Where concrete was present at the hole locations the concrete was cored using a concrete corer.

The NSW EPA (1995) "Sampling Design Guidelines" recommend a minimum of 52 sampling locations for a site of 4.5ha for potential hotspot detection plus additional sampling locations targeting specific AECs. It is considered that this assessment has met the minimum requirements of the sampling design guidelines.

Following service clearance using Dial-Before-You-Dig Plans and a service locator, each borehole position was hand-augered by the drillers to 1m depth using a hand auger to confirm the absence of underground services prior to drilling.

Environmental samples were collected from the near surface, at each layer of fill/natural soil encountered, and also at 1m intervals within the fill and within the natural substrate.

The hand auger was decontaminated by rinsing with a Decon90 solution between each sample followed by rinsing with potable water. The augers were washed down with high pressure water between each hole. A clean pair of disposable gloves was used when handling each new sample. Each sample was divided into three sub-samples.

One of the sub-samples was placed into a laboratory-supplied, acid-rinsed 250mL glass jar and placed in an ice-chilled cooler box. The second sub-sample was placed in a plastic zip-lock bag for asbestos screening. The other was bagged for field headspace screening.

A photo-ionisation detector (PID) was used to screen the headspace gases of the bagged soil samples. The PID provides a semi-quantitative indication of the presence of ionisable volatile organic compounds in the soil. The PID had a 10.6eV lamp calibrated with isobutylene gas at 100ppm prior to commencement of fieldwork.

The approximate sampling locations are shown on Figure 3 and were measured by tape relative to existing site features such as buildings and fences. The borehole logs are presented in Appendix E.

5.2.1 Groundwater Monitoring Well Installations

Fourteen groundwater monitoring wells were installed in boreholes MW2 through MW18 down to a maximum of 15m depth at which substantial groundwater inflow was observed. Note that more minor inflow was observed a few metres above the base of the boreholes. These were initially drilled using solid flight augers through the soils then followed by rotary air blast techniques with an air compressor through bedrock. This method was adopted to allow drilling into bedrock without introducing drilling water (which could have resulted in obscuring groundwater inflow during drilling as well as mixing groundwater with the drilling fluid).

The wells were screened with up to 5m of machine slotted 50mm PVC screen at varying depths (dependant upon groundwater inflow) within the zone of the observed groundwater strike and below the top of the shale.

The boreholes were backfilled with 2-5mm graded sand to approximately 1m above the top of the screen and sealed with bentonite pellets and concrete within the clay residual soil layer.

The wells were finished off slightly lower than the ground surface and a flushed cover was installed at ground level to protect the well.

The construction details of monitoring wells are shown on the borehole logs in Appendix F. Borehole and monitoring well locations are shown on Figure 2.

Monitoring wells were developed on 29th and 30th May 2008, following installation, by pumping through dedicated Wattera tubing and removing approximately three well volumes and until no further turbidity improvements were observed. The purged groundwater was stored in drums on site and collected by a licence contractor for offsite disposal.

5.2.2 Groundwater Sampling

Groundwater samples were collected from the monitoring wells 5th and 6th June 2008 in accordance with the following sampling protocols including:

- Prior to purging, the presence of phase separated hydrocarbons and groundwater levels were measured in each well using an oil water interface probe;
- Purging of the wells prior to sampling until field parameters stabilised;
- Field measurements of pH, electrical conductivity (EC), temperature, dissolved oxygen (DO) and redox potential (Eh) during purging (summarised in Appendix F);
- Use of dedicated sampling equipment for sample collection;
- Samples to be analysed for heavy metals were field filtered (45μm); and
- Samples were collected into laboratory-supplied appropriately preserved containers and placed in a cooler box filled with ice.

5.3 Field Quality Assurance/Quality Control

Sampling activities were generally based in accordance with Coffey Environments' "Standard Operating Procedures", which are based on industry accepted standard practice.

Augers were cleaned between holes using high pressure water cleaner. Sampling equipment that came directly in contact with the soil was decontaminated between samples by scrubbing with a solution of Decon-90, a phosphate-free detergent followed by rinsing with potable water. A clean pair of disposable gloves was used when handling each sample.

The samples for laboratory analyses were placed into a laboratory-supplied, acid-rinsed 250mL glass jars and placed in an ice-chilled cooler box. A small sub-sample for asbestos testing was extracted and placed in a plastic bag with the sample location marked on the outside and placed in eskies with the primary samples.

Twenty-three intra-laboratory field duplicate soil samples and nine inter-laboratory soil samples were analysed. The duplicate samples were collected by simultaneously filling the sample jars with soils collected from the desired sample depths. The duplicates were not homogenised to avoid potential loss of volatiles.

Three intra-laboratory field duplicate water sample and two inter-laboratory water sample were analysed. The duplicate samples were collected to enable laboratory QA/QC procedures. The duplicate samples were collected by simultaneously filling additional, identical sample bottles to the primary sample bottles with groundwater.

The duplicates were used to check whether the sampling and laboratory procedures adequately reproduced results and are summarised in Table 3.

Table 3: Summary of Field Duplicate Soil and Groundwater Samples

PRIMARY SAMPLE (SOIL)	INTRA-LABORATORY DUPLICATE SAMPLE
BH9 2.5-2.7	DUP 1
BH2 0.5-0.8	DUP 2
BH10 1.5-1.7	DUP 3
BH23 0.5-0.7	DUP 4
BH21 1.0-1.2	DUP 5
BH18 1.0-1.2	DUP 6
BH11 1.5-1.7	DUP 7
BH13 1.5-1.7	DUP 8
BH5 1.0-1.2	DUP 10
BH5 1.3-1.5	DUP 11
BH30 0.5-0.7	DUP Z1
BH34 1.9-2.0	DUP Z2
BH38 0.5-0.7	DUP Z3
BH37 0.5-0.7	DUP Z5
MW11 0.5-0.7	DUP Z6
MW15 1.5-1.7	DUP Z7
BH27 1.0-1.2	DUP Z8
MW16 1.0-1.2	DUP Z9
MW13 0.5-0.7	DUP Z10
BH39 0.5-0.7	DUP Z11
BH41 0.5-0.7	DUP Z12
MW20 1.0-1.2	DUP Z13
BH51 0.5-0.7	DUP Z14
PRIMARY SAMPLE (SOIL)	INTER-LABORATORY DUPLICATE SAMPLE
BH2 0.5-0.8	DUP 2a
BH21 1.0-1.2	DUP 5a
BH13 1.5-1.7	DUP 8a

BH5 1.3-1.5	DUP 11a
BH34 1.9-2.0	DUP Z2a
MW11 0.5-0.7	DUP Z6a
MW16 1.0-1.2	DUP Z9a
BH39 0.5-0.7	DUP Z11a
MW20 1.0-1.2	DUP Z13a
PRIMARY SAMPLE (GROUNDWATER)	INTRA-LABORATORY DUPLICATE SAMPLE
MW7	DUP 01
MW19	DUP 2
MW6	DUP 03
PRIMARY SAMPLE (GROUNDWATER)	INTER-LABORATORY DUPLICATE SAMPLE
MW7	DUP 01A
MW19	DUP 2A

One wash blank (identified as WB 1) was collected during soil sampling by pouring rinsate water onto the decontaminated hand auger. Runoff from the auger was collected in appropriate sampling bottles for analysis. The wash blank was collected to assess the efficacy of field decontamination procedures.

One wash blank (identified as WB 1) was collected during the groundwater sampling by pouring rinsate water onto the decontaminated interface probe. Runoff from the probe was collected in appropriate sampling bottles for analysis. The wash blank was collected to assess the efficacy of field decontamination procedures. A wash blank was not required for other groundwater sampling equipment (bailers etc) as dedicated sampling equipment was used for each well.

One trip spike (identified as TS 02/05/07) and one trip blank (identified as TB 02/05/07) was taken into the field during the soil sampling and analysed to assess potential loss or gain of volatiles as a result of sampling and handling procedures.

5.4 Laboratory Analysis

NATA-accredited analytical laboratories used by Coffey Environments for this investigation included:

- Primary Laboratory – ALS, Sydney
- Duplicate Laboratory – Labmark, Sydney
- Asbestos Laboratory – SGS, Sydney

The soil and groundwater analysis schedule is shown in the table in Appendix H.

5.4.1 Soil

Soil samples from the field investigations were dispatched to the laboratories in batches following the completion of fieldwork under chain of custody conditions.

In total, 137 primary soil samples were selected for a range of laboratory analysis, summarised in Table 4, below.

Table 4: Summary of Soil Laboratory Analysis

Contaminant of Concern	Number of samples analysed
PAH	54
TPH	137
BTEX	137
Metals	137
OCPs	14
Asbestos	50

In addition, twenty-three intra-laboratory and nine inter-laboratory duplicate soil samples were analysed to satisfy quality assurance/quality control requirements for environmental sampling (Section 6.4). The remaining samples were held by the laboratory for future analysis, if required.

The analysis suite was generally based on the chemicals of concern identified during the site history review, summarised in Section 5. The soil samples were selected for analysis on the basis of field and PID observations, targeted AECs, as well as providing lateral and vertical distribution of sampling across the investigation area.

5.4.2 Groundwater

Groundwater samples from the field investigations were dispatched to the laboratories on 6th June 2008 under chain of custody conditions. In total, fourteen primary groundwater samples were selected for a range of laboratory analysis, summarised in Table 5, below.

Table 5: Summary of Groundwater Laboratory Analysis

Contaminant of Concern	Number of samples analysed
PAH	MW2, MW8, MW12, MW13, MW14, MW16, MW19, MW20
TPH	MW2, MW3, MW4, MW6, MW7, MW8, MW9, MW10, MW11, MW12, MW13, MW14, MW15, MW16, MW19, MW20
BTEX	MW2, MW3, MW4, MW6, MW7, MW8, MW9, MW10, MW11, MW12, MW13, MW14, MW15, MW16, MW19, MW20
Metals	MW2, MW3, MW4, MW6, MW7, MW8, MW9, MW10, MW11, MW12, MW13, MW14, MW15, MW16, MW19, MW20
Phenolic Compounds	MW2, MW8, MW12, MW13, MW14, MW16, MW19, MW20
Ammonia	MW2, MW3, MW4, MW6, MW7, MW8, MW9, MW10, MW11, MW12, MW13, MW14, MW15, MW16, MW19, MW20

In addition, two intra-laboratory and two inter-laboratory duplicate samples were analysed to satisfy quality assurance/quality control requirements for environmental sampling (Section 6.4). This analytical suite was selected based on potential chemicals of concern identified in the site history review, particularly those associated with the former service station.

6 RESULTS

6.1 Subsurface Conditions

6.1.1 Soil

Based on borehole observations, the geology within the investigation area is consistent with the regional geology indicated by the 1:250,000 Sydney Geological Series Sheet (Geological Survey of New South Wales, 3rd ed.1966). Across the northern portions of the investigation area there are relatively shallow thicknesses of fill, overlying residual soil comprising sandy gravels and shale bedrock. The depth to fill increases across the site in a southerly direction with deep fill (up to 9m bgl) being present at the southern end of the Kennard site.

KAS Auto Site

Shallow fill was encountered in boreholes BH47, BH50, BH51, BH52, MW19 and MW20. Fill comprised gravely sandy clay to a maximum thickness of 0.8m bgl (MW20). Soil from BH51 had a slight hydrocarbon odour and some dark staining. This is in the area of the former bowser island of the service station. Boreholes BH47, BH50, BH51and BH52 were terminated at refusal of the hand auger on bedrock. MW19 and MW20 were progressed into the residual soils for the purpose of installing monitoring wells.

The top of a suspected UST was encountered in borehole BH48 at 0.35m depth within the fill material. Several holes were cored through the concrete around this location and all hand auger investigations terminated with a hollow metallic clunk on a slightly curved metal surface.

Fill comprising a suspected concrete slab and graded sand was encountered in the western portion of the site at MW17. The sand was saturated with some dark staining. Borehole MW17 was terminated at 2.8m bgl on another suspected concrete slab. It is considered that this area is likely to be an area of a former UST with the tank likely to be removed during the decommissioning of the service station. The hole was not progressed further down though the lower concrete layer due to the potential of creating a preferential pathway to potentially clean material below by the saturated sand fill.

Gravelly sand was encountered in boreholes MW19 and MW20. Shale was encountered in the boreholes extending beyond the residual soils from depths between 5-6 metres below ground level. The shale observed in the boreholes was typically moderately to extremely weathered with iron indurated bands.

Extensive fill material to a depth of 9m below ground level was present in MW18 in the eastern portion of the site. Fill comprised gravely sand with brick fragments, glass, concrete and metal pieces. It is considered that this indicates the edge of the former brick pit possibly filled with demolition and building rubble.

Evidence of significant contamination such as hydrocarbon odours or staining was not observed in the boreholes during the investigations.

Given that depth of fill across the site is shallow, it is considered that the base of the former UST pits (and potential remaining tanks) are likely to be within residual soils although it is possible that some USTs pits could have been extended into the top of shale bedrock.

The ground conditions encountered at the site have been summarised in Table 5.

Table 5: KAS Auto Summary of Ground Conditions

Unit	General Description	Depth Ranges from Top to Base (m bgl)
Fill	Gravelly Clay, Gravelly Sand, Sandy Gravel, Silty Sand with some brick, concrete and metal fragments	Ground level to 0.8m (with the exception of MW18 at 9m depth and MW17 at 2.8m due to a suspected UST)
Residual	Gravelly Sand, Gravelly Sandy Clay	0.4 to 5.0m
Bedrock	Shale with some bands of sandstone and ironstone	1.8 to a maximum proven depth of 13 m

Kennards Self Storage

Fill was encountered in all boreholes across the site with the exception of MW4, where residual soils were encountered directly below the asphalt surface. Depth of fill increased in the southern portions of the site (BH7, BH11, BH12, BH13, MW6 and MW8/BH10). Fill comprised gravely sand, sandy gravel, sandy clay and clayey sand. Depth of fill in BH8 was unproven due to refusal at 2.7m bgl. Fill in MW8 and BH12 comprised of gravely sand with landfill waste (clothing, metal, rubble and porcelain) from approximately 8m below ground level to the base of each hole.

Residual soil comprised gravelly sand and on occasion silty clay across the site. Shale was encountered in the boreholes extending beyond the residual soils from depths between 5-6 metres below ground level. The shale observed in the boreholes was typically moderately to extremely weathered with iron indurated bands.

Evidence of significant contamination such as hydrocarbon odours or staining was not observed in the boreholes during the investigations.

The ground conditions encountered at the site have been summarised in Table 6.

Table 6: Kennards Self Storage Summary of Ground Conditions

Unit	General Description	Depth Ranges from Top to Base (m bgl)
Fill	Gravelly Clay, Gravelly Sand, Silty Sand with brick, concrete and metal, clothes and porcelain (landfill waste).	Ground level to 12.5m
Residual	Gravelly Sand, Gravelly Sandy Clay	0.1 to 5.8m
Bedrock	Shale with some bands of sandstone and ironstone	0.1 to a maximum proven depth of 13m

Note 2:

Current Search

Folio Identifier Auto Consol 15441-102 (title attached)
Lot A DP 385209 & Lot E DP 385210 (plan attached)
Dated 29 May 2008
Registered Proprietor:
VALAD COMMERCIAL MANAGEMENT LIMITED

Title Tree
Lot A DP 385209 & Lot E DP 385210

Folio Identifier Auto Consol 15441-102

Certificate of Title Volume 15441 Folio 102

Certificate of Title Volume 6779 Folio 156

(a)	**(b)**
CTVol 6214 Folio 44	CTVol 6219 Fol 87

Certificate of Title Volume 5656 Folio 5

Certificate of Title Volume 3863 Folio 117

****

Summary of proprietor(s)
Lot A DP 385209 & Lot E DP 385210

Year **Proprietor**

	(Lot A DP 385209 & Lot E DP 385210 – A/C 15441-102)
2007 – todate	Valad Commercial Management Limited
(1992 – todate)	*(lease to Sydney County Council of Substation No 1360)*
2000 – 2007	Ateco Automotive Pty Limited
1995 – 2000	Ateco Properties Pty Limited
1994 – 1995	Southcorp Wines Asia Pty Limited
1992 – 1994	Penfold Management Services Pty Limited
	(Lot A DP 385209 & Lot E DP 385210 – CTVol 15441 Fol 102)
1986 – 1992	Penfold Management Services Pty Limited
	(Lot A DP 385209 & Lot E DP 385210 – Area 6 Acres 2 Roods 13 ¾ Perches - CTVol 6779 Fol 156)
1986 – 1986	Penfold Management Services Pty Limited
(1982 – 1992)	*(lease Penfold Management Services Pty Limited)*
(1956 – 1982)	*(lease Penfolds Wines Pty Limited)*
1956 – 1986	Dalwood Vineyards Pty Limited
1954 – 1956	Penfolds Wines Pty Limited

See Notes (a) & (b)

Note (a)

	(Lot B DP 368093 – Area 10 Acres 3 Roods 5 ¼ Perches - CTVol 6214 Fol 44)
1953 – 1954	W D & H O Wells (Australia) Limited
1950 – 1953	The Council of the Municipality of Marrickville
	(Part of Smyth's Grant – Area 28 Acres 1 Rood 13 ½ Perches – CTVol 5656 Fol 5)
1947 – 1950	W D & H O Wells (Australia) Limited
	(Part of Smyth's Grant – Area 28 Acres 1 Rood 13 ½ Perches & Part Portion 80 Parish Petersham – Area 7 Acres 0 Roods 32 ¼ Perches – CTVol 3863 Fol 117)
1940 – 1947	Perpetual Trustee Company (Limited) Grace Edith Rankine Wilson, spinster Victoria Emma Rankine Wilson, spinster William Robert Page, medical practioner
1926 – 1940	Grace Edith Wilson, widow

*****

Note (b)

	(Lot A DP 368093 – Area 17 Acres 2 Roods 6 ¼ Perches - CTVol 6219 Fol 87)
1950 – 1954	W D & H O Wells (Australia) Limited
	(Part of Smyth's Grant – Area 28 Acres 1 Rood 13 ½ Perches – CTVol 5656 Fol 5)
1947 – 1950	W D & H O Wells (Australia) Limited
	(Part of Smyth's Grant – Area 28 Acres 1 Rood 13 ½ Perches & Part Portion 80 Parish Petersham – Area 7 Acres 0 Roods 32 ¼ Perches – CTVol 3863 Fol 117)
1940 – 1947	Perpetual Trustee Company (Limited) Grace Edith Rankine Wilson, spinster Victoria Emma Rankine Wilson, spinster William Robert Page, medical practioner
1926 – 1940	Grace Edith Wilson, widow

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ADVANCE LEGAL SEARCH PTY LIMITED

(ACN 077 067 068)
ABN 49 077 067 068

P.O. Box 149
Yagoona NSW 2199

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

28 May 2008

COFFEY ENVIRONMENTS Pty Ltd
8/12 Mars Road
LANE COVE NSW 2066

Attention: Martina Carosi

RE: **632 Princess Highway**
TEMPE
Ref: ENVILCOV00315AH
PO S19125

Current Search

Folio Identifier B/399884 (title attached)
DP 399884 (plan attached)
Dated 27 May 2008
Registered Proprietor:
STORAGE EQUITIES PTY LIMITED

Title Tree
Lot B DP 399884

Folio Identifier B/399884

Certificate of Title Volume 7311 Folio 76

Certificate of Title Volume 6849 Folio 173

Certificate of Title Volume 3869 Folio 12

Certificate of Title Volume 2955 Folio 129

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Summary of proprietor(s)
Lot B DP 399884

Year	Proprietor
	(Lot B DP 399884)
1999 – todate	Storage Equities Pty Limited
1993 – 1999	Storage Equities Limited
1989 – 1993	Wolford Limited
	(Lot B DP 399884 – Area 4 Acres 1 Rood 27 ½ Perches – CTVol 7311 Fol 76)
1989 – 1989	Wolford Limited
1981 – 1989	Millers Self Storage Pty Limited
1973 – 1981	Kalang Pty Limited
1957 – 1973	Speare's Brick & Pipe Works Pty Limited
	(Part Lots 35 & 36 of a subdivision at Tempe – Area 4 Acres 2 Roods 15 ¾ Perches – CTVol 6849 Fol 173)
1953 – 1957	Speare's Brick & Pipe Works Pty Limited
	(Part Lots 35 & 36 of a subdivision at Tempe – Area 18 Acres 1 Roods 27 ½ Perches – CTVol 3869 Fol 12)
1926 – 1953	Speare's Brick & Pipe Works Pty Limited
	(Part Lots 35 & 36 of a subdivision at Tempe – Area 18 Acres 2 Roods 23 ¼ Perches – CTVol 2955 Fol 129)
1924 – 1926	Speare's Tempe Brick Tile & Pipe Works Limited
(1922 – 1926)	*(lease to Roofinf Titles Limited)*
1919 – 1924	Ernest Loftus Speare, brickmaker

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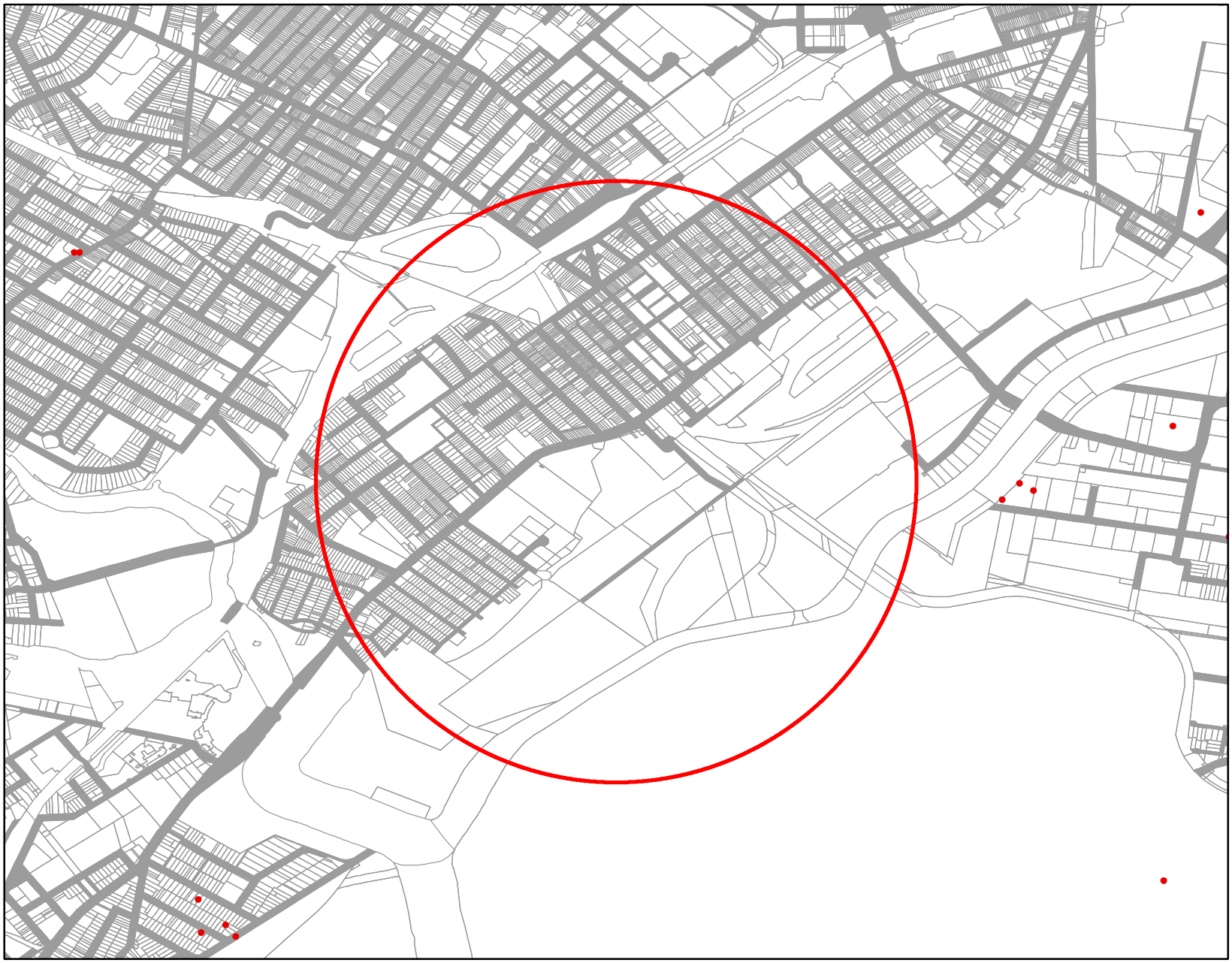
Appendix C
Work Cover Information and Council Records Search

Contamination Assessment
630 - 726 Princes Highway, Tempe

Groundwater Bores in the Area



N

Legend

- Groundwater Bores
- Road Parcels

0 0.375 0.75 1.5 2.25 3 Kilometers

NSW Government
Department of Water & Energy

Produced by the Department of Water and Energy
Environmental Evaluation and Performance Branch, Orange
Date: June 2008 Project Number: PN00799 WR2008-112
Projection : [Geographic] Datum : [GDA94]

SOURCES
This map has been compiled from data supplied by the:
Department of Water and Energy, NSW
© Base cadastre/topographic/orthorectified imagery data supplied by NSW Department of Lands
Bore data has been supplied to the Department by drillers, licensees and other sources.

DISCLAIMER
This map is to be used as a general guide for regional and local scale natural resource planning and management only, not for the assessment of specific sites which can only be assessed by investigation specific to those sites.

The field information contained on this map may not be verified or complete.

This map is published by the Department of Water and Energy. While every reasonable effort has been made to ensure the accuracy of the information contained in the map, you should satisfy yourself as to the accuracy of the information before relying on it. The State of New South Wales, its agents and employees, disclaim any and all liability to any person in respect of anything or the consequences of anything done or omitted to be done in reliance upon the whole or any part of this map.

Our Ref: D08/59031
Your Ref: Martina Carosi

20 June 2008

Attention: Ms Carosi
Coffey Environments
8/12 Mars Rd
Lane Cove West NSW 2065

Dear Ms Carosi

RE SITE: 630 Princes Hwy Tempe NSW 2065

I refer to your search request of 17 June 2008 requesting information on a Licence to Keep Dangerous Goods on the above site.

Enclosed are copies of the documents, which WorkCover holds on Dangerous Goods Licence **35/012926** relating to the storage of dangerous goods at the above-mentioned premises as listed on the Stored Chemical Information Database (SCID).

If you have any further queries, please contact WorkCover's Dangerous Goods Licensing staff on (02) 4321 5500.

Brent Jones
Senior Licence Officer
Dangerous Goods

PART A

WorkCover Authority

(Dangerous Goods Act 1975)

Application for new licence, amendment or transfer

1. Name of applicant ACN

2. Site to be licensed
   No Street
   Suburb/Town Postcode

3. Previous licence number (if known)

4. Nature of site

5. Emergency contact on site:
   Phone Name

6. Site staffing: Hours per day Days per week

7. Major supplier of dangerous goods

8. If new site or significant modification
   Plan stamped by: Accredited consultant's name: Date stamped

9. Number of dangerous goods depots at site

10. Trading name or occupier's name

11. Postal address of applicant Suburb/Town Postcode

12. Contact for licence enquiries:
    Phone Fax Name

I certify that the details contained in this application (or the accompanying computer disk) are true and correct

13. Signature of applicant Date

Please complete attached site sketch, depot listing and check sheet (if required) and return to WorkCover Authority in envelope provided

Form 2G1

LICENCE No.

DANGEROUS GOODS ACT 1975

APPLICATION FOR LICENCE (or AMENDMENT or TRANSFER of LICENCE) FOR THE KEEPING OF DANGEROUS GOODS

Application is hereby made for *a licence (or amendment of the licence) / *the transfer of the licence ~~a~~ as described below. for the keeping of dangerous goods in or on the premises

(*delete whichever is not required). [ ] $10.00 per depot for new licence. $10.00 for amendment or transfer.

Name of Applicant in full (see over)	PANAGIDES PAUL & HELEN
Trading name or occupier's name (if any)	CALTEX SERVICE STATION
Postal address	Postcode
Address of the premises including street number (if any)	632 PRINCES HWY ST PETERS Postcode 2044
Name of premises (see over)	CALTEX SERVICE STATION
Telephone number of applicant	STD Code 02 Number 51 1635

Particulars of type of depots and maximum quantities of dangerous goods to be kept at any one time.

Depot number	Type of depot (see over)	Storage capacity Litres	Dangerous goods Product being stored	C & C Office use only
1	Underground tank	30,000	PETROL	
2	" " "	20,000	" "	
3	" " "	10,000	" "	
4				
5				
6				
7				
8				
9				
10				
11				
12	LPG Cylinder Store	200	LPG in excess	

Has site plan been approved? Yes ✓ No — If yes, no plans required. If no, please attach site plan.

Have premises previously been licensed? Yes ✓ No — If yes, state name of previous occupier. CHARKOTIS D.

Name of company supplying flammable liquid (if any) CTX

Signature of applicant Panides Date 12.1.83

For external explosives magazine(s), please fill in side 2.

FOR OFFICE USE ONLY

CERTIFICATE OF INSPECTION

I, being an Inspector under the Dangerous Goods Act, 1975, do hereby certify that the premises described above do comply with the requirements of the Dangerous Goods Act, 1975, and the Dangerous Goods Regulation with regard to their situation and construction for the keeping of dangerous goods of the nature and in the quantity specified.

LICENCE No.

DANGEROUS GOODS ACT, 1975

APPLICATION FOR LICENCE (or AMENDMENT or TRANSFER of LICENCE) FOR THE KEEPING OF DANGEROUS GOODS

Application is hereby made for— *a licence (or amendment of the licence) *the transfer of the licence for the keeping of dangerous goods in or on the premises described below.

(*delete whichever is not required)

FEE: $10.00 per Depot for new licence.
$10.00 for amendment or transfer.

Name of Applicant in full (see over)	
Trading name or occupier's name (if any)	
Postal address	Postcode
Address of the premises including street number (if any)	Postcode
Nature of premises (see over)	
Telephone number of applicant	STD Code Number

Particulars of type of depots and maximum quantities of dangerous goods to be kept at any one time.

Depot number	Type of depot (see over)	Storage capacity	Dangerous goods: Product being stored	C & C Office use only
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				

Has site plan been approved? Yes / No — If yes, no plans required. If no, please attach site plan.

Have premises previously been licensed? Yes / No — If yes, state name of previous occupier.

Name of company supplying flammable liquid (if any)

Signature of applicant ..... Date .....

For external explosives magazine(s), please fill in side 2.

FOR OFFICE USE ONLY

CERTIFICATE OF INSPECTION

I, being an inspector under the Dangerous Goods Act, 1975, do hereby certify that the premises described above do comply with the requirements of the Dangerous Goods Act, 1975, and the Dangerous Goods Regulation with regard to their situation and construction for the keeping of dangerous goods of the nature and in the quantity specified.

INFLAMMABLE LIQUID ACT, 1915

APPLICATION FOR REGISTRATION OF PREMISES / STORE LICENCE / AMENDMENT TO REGISTRATION OR LICENCE } FOR THE KEEPING OF INFLAMMABLE LIQUID AND/OR DANGEROUS GOODS

Name of Occupier ..... (Surname) ..... (First Names)

Trading Name (if any) .....

Postal Address ..... Postcode .....

Address of the premises in which the depot or depots are situated ..... Postcode .....

Occupation .....

Nature of Premises .....

Particulars of construction of depots and maximum quantities of inflammable liquid and/or dangerous goods to be kept at any one time.

PLEASE SKETCH SITE ON BACK OR ATTACH PLAN

Depot No.	Construction of depots *			Inflammable liquid		Dangerous Goods						
	Walls	Roof	Floor	Mineral spirit litres	Mineral oil litres	Class 1 litres	Class 2 litres	Class 3 kg	Class 4 m³	Class 5A# litres	Class 5B# litres	Class 6 litres
1												
2												
3												
4												
5												
6												
7												
8												
9												
10												
TOTAL												

* If kept in tanks describe depots as underground or aboveground tanks.

Insert water capacity of tanks or cylinders.

Name of Company supplying inflammable liquid .....

Have premises previously been licensed? .....

If known, state name of previous occupier .....

J.P. of Adelaide ..... Signature of applicant ..... Date .....

CERTIFICATE OF INSPECTION

I ..... being an Inspector under the Inflammable Liquid Act, 1915, do hereby certify that the premises or store described above does comply with the requirements of that Act and regulations with regard to its situation and construction for the keeping of inflammable liquid and/or dangerous goods in quantity and nature specified

Signature of Inspector

[illegible]

Application for Registration of Premises or Store Licence under Division [illegible] or for the transfer/alteration [illegible] of any Registration or Licence, for the keeping of Inflammable Liquid and/or Dangerous Goods, in accordance with the provisions of the Inflammable Liquid Act, 1915 (as amended), for the ensuing year.

SEE PAGE 4 FOR DETAILS OF FEES PAYABLE AND DISTANCES FROM PROTECTED WORKS

DIRECTIONS

1. Application [illegible] Chief Inspector of [illegible] Department, [illegible] 2000 [illegible]

[illegible] 300 [illegible] 800 [illegible]

[illegible]

[illegible] Dangerous Goods of Class 1, 2 and 3.

[illegible] 4,000 gallons [illegible] Class 1 and 2 [illegible] Class 3

For the [illegible] of Dangerous Goods of Class [illegible] and/or 4.

1. Name of occupier including full christian names. — CHALKIOTIS, Con & Demetrius

2. Trading Name (if any) — Con & Jim Service Station (Caltex)

3. Locality of the premises in which the depot or depots are situated — No. or Name: 632; Street: Princes Highway,; Town: ST PETERS

4. Postal address — Postcode: 2044

5. Occupation — service station proprietors

6. Nature of premises [illegible] — service station

7. Particulars of construction of depots and maximum quantities of Inflammable Liquid and/or Dangerous Goods to be [illegible].

PLEASE ATTACH PLAN OF PREMISES

Depot No.	Construction of depots*			Inflammable Liquid		Dangerous goods						
	Walls	Roof	Floor	Mineral spirit gallons	Mineral oil gallons	Class 1 gallons	Class 2 gallons	Class 3	Class 4	Class 5A	Class 5B	Class 9
				litres					litres			
1	underground tank			30000								
2	underground tank			20000								
3	underground tank			10000								
4	2 LPG cylinders									200		
5												
6												
7												
8												
9												
10												

*If product is kept in tanks describe depot as underground or aboveground tanks.

Signature of applicant [signature]

Date of application .... 19 ......

CERTIFICATE OF INSPECTION

[signature]

INFLAMMABLE LIQUID ACT, 1915 (AS AMENDED)

Application for Registration of Premises or Store Licence under Direction or alteration or amendment of any such Registration or Licence, for the keeping of Inflammable Liquid and or Dangerous Goods, in accordance with the provisions of the Inflammable Liquid Act, 1915 (as amended), for the ensuing year.

SEE PAGE 4 FOR DETAILS OF FEES PAYABLE AND DISTANCES FROM PROTECTED WORKS

DIRECTIONS

1. Applications must be forwarded to the Chief Inspector of Inflammable Liquids, Explosives Department, Box 3528 Royal Exchange Sydney, N.S.W. 2000 and must be accompanied by the prescribed fee.

Registration of Premises — For quantities not exceeding 250 gallons of mineral oil and 100 gallons of mineral spirit, or 200 gallons of mineral oil and 100 gallons of mineral spirit, or 200 gallons of mineral oil and 100 gallons of mineral spirit except in underground tank depots, or 800 gallons of mineral oil and 400 gallons of mineral spirit except in underground tank depots.

In addition to registration of the above, similar registration of Dangerous Goods of Classes 1 and 2 under the conditions, reading Dangerous Goods of Class 1 for the words Mineral Oil in the Dangerous Goods of Class 2 for the words Mineral Oil.

Store Licence, Div. A — For quantities in excess of those stated above, but not exceeding 4,000 gallons of mineral oil and/or mineral spirit, and/or Dangerous Goods of Classes 1, 2 and 3.

Store Licence, Div. B (Fee, See Regulation 7) — For quantities exceeding 4,000 gallons of mineral oil and/or mineral spirit, and/or Dangerous Goods of Classes 1 and 2 and or Dangerous Goods of Class 3.

For the keeping of Dangerous Goods of Classes 4 and 5.

1 Name of occupier including Christian names	
2 Trading Name (if any)	
3 Locality of the premises in which the depot or depots are situated	No. or house Street Town
4 Postal address	Postcode
5 Occupation	
6 Nature of premises (shop, factory, garage etc.)	

7. Particulars of construction of depots and maximum quantities of Inflammable Liquid and/or Dangerous Goods to be kept at any one time.

PLEASE ATTACH PLAN OF PREMISES

Depot No.	Construction of depots: Walls	Roof	Floor	Inflammable Liquid: Mineral oil in gallons	Mineral oil in gallons	Dangerous Goods: Class 1 gallons	Class 2 gallons	Class 3	Class 4	Class 5A	Class 5B	Class 5
1												
2												
3												
4												
5												
6												
7												
8												
9												
10												

PUBLIC REVENUE A/c

(Date)

Receipt No.

If required — Explosives Stores to be erected in accordance with plans and specifications.

Signature of applicant

Date of application 19

CERTIFICATE OF INSPECTION

INFLAMMABLE LIQUID ACT, 1915 (AS AMENDED)

Application for Registration of Premises or State Licence under Division or for the transfer alteration or amendment of any such Registration or Licence, for the keeping of Inflammable Liquid and/or Dangerous Goods, in accordance with the provisions of the Inflammable Liquid Act, 1915 (as amended), for the ensuing year.

DIRECTIONS

1. Applications must be forwarded to the Chief Inspector of Inflammable Liquid, Explosives Department, Box R 215, Royal Exchange Sydney, N.S.W. 2000 and must be accompanied by the prescribed fee, as set out hereunder:

Registration of Premises (Fee $4.50 p.a.) – For quantities not exceeding 300 gallons of mineral oil and 100 gallons of mineral spirit, if kept together, or 900 gallons of mineral oil and 100 gallons of mineral spirit, if kept in separate depots, or 500 gallons of mineral spirit, if kept in an underground tank depot, or 800 gallons of mineral oil and 500 gallons of mineral spirit, if mineral spirit is kept in an underground tank depot.

In addition to, or in lieu of the above, similar quantities of Dangerous Goods of Classes 1 and 2 may be kept under the like conditions; reading Dangerous Goods of Class 1 for the words "Mineral Spirit" and Dangerous Goods of Class 2 for the words "Mineral Oil".

State Licence, Div. A (Fee, $9.00 p.a.) – For quantities in excess of those stated above, but not exceeding 4,000 gallons mineral oil and/or mineral spirit, and/or Dangerous Goods of Classes 1, 2 and 9.

State Licence, Div. B (Fee, See Regulation 7) – For quantities exceeding 4,000 gallons of mineral spirit, and/or dangerous goods of Classes 1 and 2, and/or dangerous goods of Class 3.

For the keeping of Dangerous Goods of Classes 3 and/or 4 ($18.00 p.a.).

Fees for the keeping of inflammable liquid and dangerous goods in excess of the above stated quantities and also for Liquid Petroleum Gas storage are set out in Regulation 7.

1. Name of occupier including full christian names.	
2. Trading Name (if any)	
3. Locality of the premises in which the depot or depots are situated	No. or Name Street Town
4. Postal address	Postcode
5. Occupation	
6. Nature of premises (dwelling, garage etc.)	

7. Particulars of construction of depots and maximum quantities of inflammable liquid and/or Dangerous Goods to be kept at any one time.

PLEASE ATTACH PLAN OF PREMISES

Depot No.	Construction of depots*			Inflammable liquid		Dangerous goods					
	Walls	Roof	Floor	Mineral spirit gallons	Mineral oil gallons	Class 1 gallons	Class 2 gallons	Class 3 (b)	Class 3 (a) (i)	Class 3 (a) (ii) gallons	Class 9 gallons
1											
2											
3					2						
4											
5											
6											
7											
8											
9											
10											

* If produce is kept in tanks describe depots as underground or aboveground tanks.

Signature of applicant

Date of application 24-9, 1973

CERTIFICATE OF INSPECTION

Form B
Page 1

Register No. [illegible]

INFLAMMABLE LIQUID ACT, 1915 (AS AMENDED)

Application for Registration of Premises or Store Licence under Division B or for the transfer alteration or amendment of any such Registration or Licence, for the keeping of Inflammable Liquid and/or Dangerous Goods, in accordance with the provisions of the Inflammable Liquid Act, 1915 (as amended), for the ensuing year.

OFFICE

DIRECTIONS

1. Applications must be forwarded to the Chief Inspector of Inflammable Liquids, Explosives Department, Box R.216, Royal Exchange Sydney, N.S.W. 2000 and must be accompanied by the prescribed fee, as set out hereunder.

Registration of Premises (Fee $3.00 p.a.) – For quantities not exceeding 300 gallons of mineral oil and 100 gallons of mineral spirit, if kept together, or 800 gallons of mineral oil and 100 gallons of mineral spirit, if kept in separate depots, or 500 gallons of mineral spirit, if kept in an underground tank depot, or 300 gallons of mineral oil and 500 gallons of mineral spirit, if mineral spirit is kept in an underground tank depot.

In addition to, or in lieu of the above, similar quantities of Dangerous Goods of Classes 1 and 2 may be kept under the like conditions, reading Dangerous Goods of Class 1 for the words Mineral Spirit and Dangerous Goods of Class 2 for the words Mineral Oil.

– Store Licence, Div. A (Fee, $6.50 p.a.) – For quantities in excess of those stated above, but not exceeding 4,000 gallons mineral oil and/or mineral spirit, and/or Dangerous Goods of Classes 1, 2 and 9.

– Store Licence, Div. B (Fee, See Regulation 7) – For quantities exceeding 4,000 gallons of mineral spirit, and/or dangerous goods of Classes 1 and 2, and/or dangerous goods of Class 3.

For the keeping of Dangerous Goods of Classes 3 and/or 4 ($15.00 p.a.)

Fees for the keeping of inflammable liquid and dangerous goods in excess of the above stated quantities and also for Liquid Petroleum Gas storage are set out in Regulation 7.

1. Name of occupier including full christian names: OTTO FRIEDA SCHNEIDER

2. Trading Name (if any): OTTO SCHNEIDER P/L

3. Location of the premises in which the depot or depots are situated: No. or Name ... Street 630 PACIFIC HIGHWAY ... Town LT. PEIRCE N.S.W.

4. Postal address ... Postcode 2074

5. Occupation: Service Station

6. Nature of premises (shop, garage etc.): GARAGE

7. Particulars of construction of depots and maximum quantities of inflammable liquid and/or Dangerous Goods to be kept at any one time.

PLEASE ATTACH PLAN OF PREMISES

Depot No.	Construction of depots* Walls	Roof	Floor	Inflammable liquid Mineral spirit gallons	Mineral oil gallons	Dangerous goods Class 1 gallons	Class 2 gallons	Class 3 gallons	Class 4 cwt	Class 5A water gal	Class 9 gallons
1	Underground tank			400							
2				Secc							
3				400							
4											
5											
6											
7											
8											
9											
10											

* If product is kept in tanks describe depots as underground or aboveground tanks.

Signature of applicant X [signature]

Date of application 22 / 11 / 71

CERTIFICATE OF INSPECTION

INFLAMMABLE LIQUID ACT, 1915 (AS AMENDED)

Application for Registration of Premises or Store License under Division ..... or for the transfer, alteration or amendment of any such Registration or License, for the keeping of Inflammable Liquid and/or Dangerous Goods, in accordance with the provisions of the Inflammable Liquid Act, 1915 (as amended), for the ensuing year.

EXPLANATORY

Inflammable Liquid—

Mineral Oil—includes kerosene, mineral turpentine and white spirit (for cleaning), and compositions containing same.
Mineral Spirit—includes petrol, benzene, benzolene, benzol and naphtha, and compositions containing same.

Dangerous Goods—

Class 1.—Acetone, amyl acetate, butyl acetate, carbon bisulphide; any combination of substances of an inflammable character suitable for use as an industrial solvent and having a true flashing point of less than 73 degrees Fahrenheit.

Class 2.—Nitro-cellulose (also known as "pyroxyl" and "collection cotton") moistened with an alcohol, butyl alcohol (also known as "butanol"), methylated spirits, vegetable turpentine, and any liquid or solution containing methylated spirits having a true flashing point of less than 150 degrees Fahrenheit.

Class 3.—Nitro-cellulose product.

Class 4.—Compressed or dissolved acetylene contained in a porous substance.

DIRECTIONS

1. Application must be forwarded to the Chief Inspector of Inflammable Liquid, Explosives Department, No. 16 Grosvenor Street Sydney (Box 4B, G.P.O.), and must be accompanied by the prescribed fee, as set out hereunder:

Registration of Premises (Fee £3 10s. 0d. p.a.).—For quantities not exceeding 200 gallons of mineral oil and 100 gallons of mineral spirit, if kept together; or 800 gallons of mineral oil and 100 gallons of mineral spirit, if kept in separate depots; or 500 gallons of mineral spirit, if kept in an underground tank depot; or 800 gallons of mineral oil and 500 gallons of mineral spirit, if mineral spirit is kept in an underground tank depot.

In addition to or in lieu of the above, similar quantities of Dangerous Goods of Classes 1 and 2 may be kept under the like conditions, reading Dangerous Goods of Class 1 for the words Mineral Spirit and Dangerous Goods of Class 2 for the words Mineral Oil.

Store License, Div. A (Fee, £3 5s. 0d. p.a.).—For quantities in excess of those stated above, but not exceeding 4,000 gallons mineral oil and/or mineral spirit and/or Dangerous Goods of Classes 1 and 2.

Store License, Div. B (Fees, See Regulation 7).—For quantities exceeding 4,000 gallons of mineral and/or mineral spirit and/or dangerous goods of Classes 1 and 2, and/or dangerous goods of Class 3
For the keeping of Dangerous Goods of Classes 3 and/or 4. (£7 10s. 0d. p.a.).

2. The certificate of inspection at foot hereof must be signed by an Inspector under the Inflammable Liquid Act, 1915 (as amended), or Police Officer, or other officer duly authorised in that behalf, and where the premises are situated outside the Metropolitan Area of Sydney, it is requested that such certificate be obtained prior to forwarding application.

1. Name in full of occupier ... Otto Bride Petroleum Pty Ltd.

2. Occupation ... Service Station Prop.

3. Locality of the premises in which the depot or depots are situated
No. or No. 630
Street Princes Highway
Town St Peters

4. Nature of premises (Dwelling, Garage, Store, etc.) ... Service Station

5. Will mineral spirit be kept in a prescribed underground tank depot? ... Yes

6. Particulars of construction of depots and maximum quantities of inflammable liquid and/or Dangerous Goods to be kept at any one time

Depot No.	Construction of Depots: Walls	Roof	Floor	Inflammable Liquid: Mineral Spirit Gallons	Mineral Oil Gallons	Dangerous Goods: Class 1 Gallons	Class 2 Gallons	Class 3 lb.	Class 4 cub ft
1	Underground tank			3000	(1/4000 gallon tank sectioned				
2	"		"	1000	1/3000 "				
3					Only used for storage of Petroleum Kept				
4									
5									
6									
7									
8									
9									
10									

Date of Application 18th April 1963

Signature of Applicant ...

Postal Address ...

CERTIFICATE OF INSPECTION

I, ... being an Inspector under the Inflammable Liquid Act, 1915 (as amended), do hereby certify that the premises or store herein referred to and described is suitable with regard to its situation and construction for the safe keeping of inflammable liquid and/or dangerous goods in quantity

INFLAMMABLE LIQUID ACT, 1915 (AS AMENDED)

Application for Registration of Premises or Store License under Division P or for the transfer, alteration or amendment of any such Registration or License, for the keeping of Inflammable Liquid and/or Dangerous Goods in accordance with the provisions of the Inflammable Liquid Act, 1915 (as amended), for the ensuing year.

EXPLANATORY

Inflammable Liquid—

Mineral Oil—includes kerosene, mineral turpentine and white spirit (for cleaning), and compositions containing same.
Mineral Spirit—includes petrol, benzene, benzolene, benzol and naphtha, and compositions containing same.

Dangerous Goods—

Class 1.—Acetone, amyl acetate, butyl acetate, carbon bisulphide, any combination of substances of an inflammable character suitable for use as an industrial solvent and having a true flashing point of less than 73 degrees Fahrenheit.

Class 2.—Nitro-cellulose (also known as "pyroxylin" and "collodion cotton") moistened with an alcohol, butyl alcohol-(also known as "butanol"), methylated spirits, vegetable turpentine; and any liquid or solid containing methylated spirits, having a close flashing point of less than 150 degrees Fahrenheit.

Class 3.—Nitro-cellulose product.

Class 4.—Compressed or dissolved acetylene contained in a porous substance.

DIRECTIONS

1. Applications must be forwarded to the Chief Inspector of Inflammable Liquid, Explosives Department, No. 16 Grosvenor Street, Sydney (Box 46, G.P.O.), and must be accompanied by the prescribed fee, as set out hereunder:—

Registration of Premises (Fee £1 10s. 0d. p.a.)—For quantities not exceeding 200 gallons of mineral oil and 100 gallons of mineral spirit, if kept together; or 800 gallons of mineral oil and 100 gallons of mineral spirit, if kept in separate depots; or 500 gallons of mineral spirit, if kept in an underground tank depot; or 800 gallons of mineral oil and 500 gallons of mineral spirit, if mineral spirit is kept in an underground tank depot.

In addition to, or in lieu of the above, similar quantities of Dangerous Goods of Classes 1 and 2 may be kept under the like conditions, reading Dangerous Goods of Class 1 for the words Mineral Spirit and Dangerous Goods of Class 2 for the words Mineral Oil.

Store License, Div. A (Fee, £1 5s. 0d. p.a.)—For quantities in excess of those stated above, but not exceeding 4,000 gallons mineral oil and/or mineral spirit, and or Dangerous Goods of Classes 1 and 2.

Store License, Div. B (Fees, See Regulation 7)—For quantities exceeding 4,000 gallons of mineral and/or mineral spirit, and or dangerous goods of Classes 1 and 2, and or dangerous goods of Class 3.
For the keeping of Dangerous Goods of Classes 3 and/or 4. (£7 10s. 0d. p.a.).

2. The certificate of inspection at foot hereof must be signed by an Inspector under the Inflammable Liquid Act, 1915 (as amended), or Police Officer, or other officer duly authorised on that behalf, and where the premises are situated outside the Metropolitan Area of Sydney, it is requested that such certificate be obtained prior to forwarding application.

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1. Name in full of occupier KARL STAUDACH.

2. Occupation RESALER.

3. Locality of the premises in which the depot or depots are situated — No. or Name 63a. PRINCES HW ST. PETERS Street Town

4. Nature of premises (Dwelling, Garage, Store, etc.) GARAGE.

5. Will mineral spirit be kept in a prescribed underground tank depot? GASOLINE. KEROSINE.

6. Particulars of construction of depots and maximum quantities of inflammable liquid and or Dangerous Goods to be kept at any one time.

Depot No.	Construction of Depots: Walls	Roof	Floor	Inflammable Liquid: Mineral Spirit Gallons	Mineral Oil Gallons	Dangerous Goods: Class 1 Gallons	Class 2 Gallons	Class 3 lb.	Class 4 cub. ft.
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									

Signature of Applicant Karl Staudach

Date of Application 12. 4. 1961 Postal Address 63a Princes Hw. St Peters.

CERTIFICATE OF INSPECTION

I, [illegible] being an Inspector under the Inflammable Liquid Act, 1915 (as amended), do hereby certify that the premises or store herein referred to and described is suitable

FORM B.

Register No. 14746

INFLAMMABLE LIQUID ACT, 1915-1953.

Application for Registration of Premises or Store License under Division 6 or for the transfer, alteration or amendment of any such Registration or License, for the keeping of Inflammable Liquid and/or Dangerous Goods, in accordance with the provisions of the Inflammable Liquid Act, 1915-53, for the ensuing year.

EXPLANATORY

Inflammable Liquid—

Mineral Oil—includes kerosene, mineral turpentine and white spirit (for cleaning), and compositions containing same.
Mineral Spirit—includes petrol, benzene, benzole, benzol and naphtha, and compositions containing same.

Dangerous Goods—

Class 1.—Acetone, amyl acetate, butyl acetate, carbon bisulphide, any combination of substances of an inflammable character suitable for use as an industrial solvent and having a true flashing point of less than 73 degrees Fahrenheit.

Class 2.—Nitro-cellulose (also known as "pyroxylin" and "collodion cotton") moistened with alcohol, butyl alcohol (also known as "butanol"), methylated spirits, vegetable turpentine, and any liquid or solid containing methylated spirits, having a true flashing point of less than 150 degrees Fahrenheit.

Class 3.—Nitro-cellulose product.

Class 4.—Compressed or dissolved acetylene contained in a porous substance.

DIRECTIONS

1. Application must be forwarded to the Chief Inspector of Inflammable Liquid, Explosives Department, No. 4 Albert Street, off Phillip Street, Circular Quay, Sydney (Box 48, G.P.O.), and must be accompanied by the prescribed fee, as set out hereunder:—

Registration of Premises (Fee £1 10s. 0d. p.a.).—For quantities not exceeding 300 gallons of mineral oil and 300 gallons of mineral spirit, if kept together, or 800 gallons of mineral oil and 100 gallons of mineral spirit, kept in separate depots; or 500 gallons of mineral spirit, if kept in an underground tank depot; or 800 gallons of mineral oil and 500 gallons of mineral spirit, if mineral spirit is kept in an underground tank depot.

In addition to, or in lieu of the above, similar quantities of Dangerous Goods of Classes 1 and 2 may be kept under the like conditions: reading Dangerous Goods of Class 1 for the words Mineral Spirit and Dangerous Goods of Class 2 for the words Mineral Oil.

Store License, Div. A (Fee, £3 5s. 0d. p.a.).—For quantities in excess of those stated above, but not exceeding 4,000 gallons mineral oil and/or mineral spirit, and/or Dangerous Goods of Classes 1 and 2.

Store License, Div. B (Fees, See Regulation 7).—For quantities exceeding 4,000 gallons of mineral oil and/or mineral spirit, and/or dangerous goods of Classes 1 and 2, and/or dangerous goods of Class 3.
For the keeping of Dangerous Goods of Classes 3 and/or 4. (£7 10s. 0d. p.a.)

2. The certificate of inspection at foot hereof must be signed by an Inspector under the Inflammable Liquid Act, 1915-1951, no Police Officer or other officer duly authorised in that behalf, and where the premises are situated outside the Metropolitan Area of Sydney, it is requested that such certificate be obtained prior to forwarding application.

1. Name in full of occupier ... JOHN MILTON CURTIS JOHN CURTIS SERVICE STATION

2. Occupation ... 630 PRINCES HIGHWAY

3. Locality of the premises in which the depot or depots are situated — No. or Name of Street ... ST. PETERS — Town ...

4. Nature of premises (Dwelling, Garage, Store, etc.) ... Garage

5. Will mineral spirit be kept in a prescribed underground tank depot? Yes

6. Particulars of construction of depots and maximum quantities of inflammable liquid and/or Dangerous Goods to be kept at any one time.

Depot No.	Construction of Depots. Walls.	Roof.	Floor.	Inflammable Liquid. Mineral Spirit. Gallons.	Mineral Oil. Gallons.	Dangerous Goods. Class 1. Gallons.	Class 2. Gallons.	Class 3. lb.	Class 4. cub. ft.
1	Underground	Tank		4000					
2	✓	✓		3000					
3							Orig. £7.10.0		
4							7-3-57		
5									
6							13203		
7									
8									
9									
10									

Date of Application. 5-6-57 19

Signature of Applicant. John Curtis

Postal Address. JOHN CURTIS SERVICE STATION
630 PRINCES HIGHWAY
ST PETERS

CERTIFICATE OF INSPECTION.

Our Ref: D08/059031
Your Ref: Martina Carosi

20 June 2008

Attention: Ms Carosi
Coffey Environments
8/12 Mars Rd
Lane Cove West NSW 2065

Dear Ms Carosi

RE SITE: 632 Princes Hwy Tempe NSW 2044.

I refer to your search request of 26 May 2008 2008 requesting information on licences to Keep Dangerous Goods for the above site.

A search of the Stored Chemical Information Database (SCID) and the microfiche records held by WorkCover has not located any records pertaining to the above-mentioned premises.

If you have any further queries, please contact Dangerous Goods Licensing staff on (02) 4321 5500.

Brent Jones
Senior Licenceing Officer
Dangerous Goods

Ateco Site

Shallow fill was encountered in all boreholes across the site. Depth of fill increased slightly along the southern boundary of the site (BH38, BH39, MW15 and MW14). Fill comprised gravelly sand, sandy gravel, sandy clay and clayey sand. Fill in BH35 comprised clean graded sand suggesting it was part of a service trench. The borehole was terminated at 1.20m bgl with depth of fill unproven. Depth of fill in boreholes BH42, BH43 and BH46 remains unproven due to refusal of the drill rig and hand auger.

Residual soil comprised gravelly sand and on occasion silty clay across the site. Shale was encountered in the boreholes extending beyond the residual soils from depths between 5-6 metres below ground level. The shale observed in the boreholes was typically moderately to extremely weathered with iron indurated bands.

Evidence of significant contamination such as hydrocarbon odours or staining was not observed in the boreholes during the investigations.

The ground conditions encountered at the site have been summarised in Table 7.

Table 7: Ateco Site Summary of Ground Conditions

Unit	General Description	Depth Ranges from Top to Base (m bgl)
Fill	Gravelly Clay, Gravelly Sand, Silty Sand with some brick, concrete and metal.	0.30 – 3.10
Residual	Gravelly Sand, Gravelly Sandy Clay	0.3 to 11.6
Bedrock	Shale with some bands of sandstone and ironstone	0.3 to a maximum proven depth of 13 m

6.1.2 Groundwater

Groundwater Strikes

Groundwater was observed as steady inflow at between approximately 7m and 10m depth within the shale bedrock. The exact depths of groundwater strikes could not be determined from the rotary air blast techniques adopted to drill through rock as the air compressor pulverises any material encountered. However, once moisture had been noted in each hole drilling was halted at the end of the next run and the hole was dipped to estimate depth of strike. This was considered to be the best method to give an approximate indication of groundwater levels without introducing water to aid drilling progress.

Groundwater Monitoring Results

Groundwater levels were measured on 5th and 6th June 2008 at depths between 1.701m (MW12) and 10.335m (MW2) below the top of the casing from the fifteen monitoring wells as summarised in Table 8.

The elevation of the top of casing from each monitoring well was roughly estimated from the survey plans provided by the Client and using a GPS system.

Table 8: Groundwater Monitoring Levels

Well ID	BOC (m bgl)	Screened Interval (m bgl)	Estimated Elevation of TOC (m AHD)	Water Depth (m bgl)	Estimated Water Level (m AHD)
MW2	15	9.0	14.680	10.335	4.345
MW4	10	6.0	15.35	3.943	11.407
MW6	15	11.0	10.20	7.117	3.083
MW7	8.5	4.5	13.73	4.858	8.872
MW8	12.6	8.6	10.35	7.482	2.868
MW9	11.6	5.5	18.85	3.627	15.223
MW10	7	2.5	15.71	2.358	13.352
MW11	10	6.0	11.01	3.722	7.288
MW12	8.7	5.7	8.43	1.701	6.729
MW13	9	5.0	6.30	1.432	4.868
MW14	10.5	6.0	7.17	2.210	4.960
MW15	15	7.0	7.55	3.599	3.951
MW16	8	4.0	11.22	3.556	7.664
MW19	13	9.0	14.15	9.744	4.406
MW20	11.5	8.5	14.85	5.762	9.088

Note: Standing Water Levels Measured on 12 April, 2006
BOC – Bottom of Casing (i.e. well depth)
bgl – Below Ground Level
TOC – Top of Casing
AHD – Australian Height Datum

It is noted that in wells MW4, MW6, MW8, MW9, MW10, MW11, MW12, MW13, MW14, MW15, MW16 and MW20 the groundwater level has risen to above the top of the screen. This means the wells were not suitable to detect the presence of phase separated hydrocarbons (PSH), if present.

The rise in water levels indicates that groundwater may have been under pressure or the groundwater flow rates may have been too low to observe during drilling at shallower depths.

The groundwater levels appear to indicate flow in a general south easterly direction, towards the Tempe landfill, as shown in Figure 4 which is consistent with the general site topography. However, it should be noted that groundwater flow in the region is likely to be complex due to the adjacent landfill.

Groundwater Field Parameters

During the well sampling, groundwater was observed to be generally light grey to dark grey in colour and groundwater in all wells was of cloudy appearance. Hydrocarbon odours and a slight sheen were noted on samples from MW13, MW16, and MW19. A 'chemical' odour but no sheen was noted in the sample collected from MW8. It should be noted that the standing groundwater level in wells MW13, MW16 and MW8 is above the screening interval of the well, therefore PSH may not be detected in these wells.

Water quality parameters measured in the groundwater wells on 5th and 6th June 2008 are summarised as follows:

- pH ranged from approximately 4.45 (MW9) to 6.49 (MW19) indicating the groundwater was mildly acidic;
- EC ranged from approximately 510 μS/cm (MW10) and 8000μS/cm (MW9) indicating the groundwater was fresh to saline;
- Groundwater temperatures ranged from 17.07°C (MW13) to 21.99°C (MW19);
- Eh ranged from 201mV (MW8) to 468mV (MW19) indicating the groundwater conditions at the site were oxidising; and
- Dissolved oxygen (DO) ranged from 0.28ppm (MW19) to 5.0ppm (MW6) indicating both anaerobic and aerobic conditions in the groundwater.

A record of groundwater field measurements is included in Appendix G.

No phase separated hydrocarbons (PSH) were detected in the wells using an electronic oil water interface probe however it should be noted that in wells MW4, MW6, MW8, MW9, MW10, MW11, MW12, MW13, MW14, MW15, MW16 and MW20 the groundwater level has risen to above the top of the screen.

6.2 PID Results

A total of two hundred and seventy soil samples were subjected to PID headspace screening. Elevated PID readings were observed in some samples. Given the lack of odours / staining in the samples and that significant TPH / BTEX was generally not detected in these samples (see Section 7.5), it is considered that the elevated PID readings may be attributable to PID response factors such as moisture rather than volatile ionisable organic contamination. The remaining PID readings were generally detected between 0.0ppm and 27.0ppm indicating that volatile ionisable organic compounds were unlikely to be present at significant concentrations in the remaining samples screened. A record of PID field measurements is included in Appendix F.

6.3 Laboratory Results

The laboratory analytical reports are presented in Appendix H. The soil results are presented in Table LR1. The groundwater results are presented in Table LR2.

6.4 Quality Assurance and Quality Control (QAQC) Results and Data Usability

An assessment of whether data quality indicators (DQIs), as outlined in NSW DEC (2006), has been prepared and is presented in Appendix J. An assessment was made of data completeness, comparability, representativeness, precision and accuracy based on field and laboratory considerations.

Field quality control results are presented in Table LR4.

The assessment revealed that:

- Data Completeness – the data was adequately complete with the following exceptions:
- Access restrictions due to the presence of an overhead canopy and overhead services prevented drilling at depths beyond 1m on the KAS Auto site. Hand auger techniques in BH47, BH48, BH50, BH51 and BH52 could not penetrate the shallow bedrock. This meant that samples within the residual soils and the top of bedrock where the suspected USTs were located could not be sampled. Sample locations within the Ateco building could not be accessed with the drill rig due to height restrictions. Hand auger sampling was used at sample locations BH40, BH43 and BH46, however the technique did not allow significant penetration into the sub slab fill.
- Groundwater wells at locations MW4, MW6, MW8, MW9, MW10, MW11, MW12, MW13, MW14, MW15, MW16 and MW20 were screened below the depth of standing groundwater and hence shallow phase separated petroleum contamination in groundwater not detected in the wells could potentially be present.
- These have been considered in data interpretation.
- Data Comparability – the data is adequately comparable for the purposes of this assessment;
- Data Representativeness – the data is adequately representative for the purposes of this assessment;
- Data Precision and Accuracy – The precision and accuracy of some of the metals soil data appears to have been affected by the heterogeneity of contamination within the soils analysed. There were some exceedances in RPDs as indicated in appendix J. However none of the primary samples nor the duplicates were recorded as higher than the specified guideline thresholds and therefore are not considered to affect data interpretation and outcome accuracy.

6.5 Comparison of Soil Results with Investigation Levels

The results from the investigations have been compared to the relevant soil investigation levels, as discussed in Section 5 of this report, and are summarised below:

- Arsenic was recorded below the HIL in all samples analysed. It was below the laboratory EQL in sixteen of the samples analysed.
- Cadmium was detected in four samples at concentrations above the laboratory EQL. All samples analysed returned concentrations below the HIL;
- Chromium was detected at low concentrations in all samples analysed;
- Copper was recorded below the HIL in all samples analysed. It was below the laboratory EQL in twenty-six of the samples analysed;
- Lead was recorded below the HIL in all samples analysed. It was below the laboratory EQL in four of the samples analysed;
- Mercury was detected above the laboratory EQL in twenty-one samples. All samples analysed recorded concentration significantly below the HIL;
- Nickel was detected below the HIL in all samples analysed. It was below the laboratory EQL in fifty-five of the samples analysed;
- Zinc was detected below the HIL in all samples analysed. It was below the laboratory EQL in twenty-nine of the samples analysed;
- TPH (C6-C9) was detected in BH5 1.3-1.5 and MW17 0.5-0.7 at concentrations of 14 mg/kg and 18 mg/kg, respectively, which are below the soil investigation level of 65 mg/kg. All other samples tested were at concentrations below the laboratory EQL;
- TPH (C10 – C36) was detected at concentrations above the HIL in four samples (BH10 10.0-10.2 5010 mg/kg, BH5 1.0-1.2 1050 mg/kg, BH5 1.3-1.5 6490 mg/kg and MW17 1.5-1.7 2605 mg/kg). TPH (C10 – C36) was also detected in BH3 1.0-1.2, BH30 0.5-0.7, BH25 0.3-0.5, BH11 3.3-3.5, BH13 1.5-1.4, MW14 1.0-1.2, BH51 0.5-0.7 and MW18 4.3-4.4, but at concentrations below the HIL. The remaining samples tested were at concentrations below the laboratory detection limit;
- BTEX compounds were not detected in the any of the soil samples analysed;
- Benzo(a)pyrene was detected in six samples at concentrations below the HIL. Benzo(a)pyrene was at concentrations below the laboratory detection limit in all other samples analysed;
- PCBs were not detected in the samples analysed;
- OCP's (Aldrin and Dieldrin) were detected in three samples at concentrations below the HIL;
- Asbestos, in the form of fibre bundles and /or fragments of fibre-cement sheeting was detected by the laboratory in two out of fifty soil samples analysed at BH24 1.0-1.2m, and BH30 0.5-0.7.

6.6 Comparison of Groundwater Results with Investigation Levels

The results from the investigations have been compared to the relevant groundwater investigation levels, as discussed in Section 5 of this report, and are summarised below.

- Arsenic was exceeded the marine water GIL in MW4, MW8 and MW19. Concentrations exceeded the GIL for recreational water in MW9.
- Cadmium exceeded the GIL for marine water in MW20;
- Copper exceeded the GIL for marine water in MW2, MW6, MW7, MW8, MW9, MW10 MW11, MW12, MW13, MW14 MW15 and MW16;
- Lead exceeded the GIL for marine water in MW1 and exceeded the GIL for recreational water in MW8;
- Mercury exceeded the GIL for marine water in MW8;
- Nickel exceeded the GIL for marine water in MW6, MW7,MW8, MW9 and MW19;
- Zinc exceeded the GIL for marine water in MW2, MW4, MW6, MW7,MW8, MW9, MW10, MW11, MW12, MW13 MW14, MW15 and MW19;
- Chromium was not detected in groundwater samples analysed from the monitoring wells collected during this investigation;
- TPH (C6 – C9 and C10 – C14) was present in detectable concentrations in MW19. TPH (C15 – C28 and C29 – C36) was present in detectable concentrations in MW8. There is no IL established for these analytes. The LOR is considered to be the default IL;
- BTEX, PAHs and phenols were not detected in groundwater samples analysed from the monitoring wells collected during this investigation;
- Reported concentrations of ammonia were found to exceed the GILs for marine water and recreational water quality in MW6, MW7 and MW8.

7 DISCUSSION

7.1 TPH in Soil and Groundwater

The soil results indicate elevated levels of TPH (C10 – C36) in the soil within the fill material in BH5, MW8 and MW17. The site history review indicates that the KAS Auto site used to be a service station with several underground storage tanks within its boundary (although the exact location of these is not known). Samples taken from MW17 are thought to represent the fill within a concrete lined tank pit, in the eastern portion of the KAS Auto site. The sample comprised graded sand with heavy dark staining, although limited odour was noted within the samples. The sand was saturated suggesting perched water held within the pit. The borehole itself was terminated at 2.8m bgl due to refusal on concrete. This is considered to be the base of the former tank pit. It was not progressed further in order to avoid the completion of a preferential pathway of potentially impacted material and water in the former pit with the natural material below.

Groundwater results from MW19 indicate levels of TPH (C6-C9) and TPH (C10-C14) in the order of approximately 6 and 7 times the default GIL respectively. This sample represents groundwater that is on the boundary of the former service station at KAS Auto and Princes Highway. It is thought that there may be some slurry filled UST's present just to the east of the well location.

The elevated levels of TPH in MW8 occur at a depth of approximately 10m bgl. Material in this hole can be associated with the former landfill adjacent to the Kennards storage site. The fill material comprises gravely sand with brick fragments. At depth organic material and other landfill waste such as porcelain and glass was present. The source of the exceedance is most likely to come from localised material that is present within the landfill at this location. Samples from higher in the profile do not exhibit the same levels of TPH suggesting that the exceedance in this location is localised within the landfill waste and has not migrated from sources up gradient. The source could also be associated with organic matter within the landfill waste and not be from a mineral oil origin.

Groundwater results from MW8 marginally exceed the default GILs for the TPH (C15-C28) and TPH (C29-C36). The location of the well represents material that is on the margin of the former landfill. The water is likely to be heavily influenced by the presence of the fill in this area of the site.

7.2 Heavy Metals within the Soil and Groundwater

Across the extent of the site, no exceedances were noted in soil samples tested for heavy metals. All values were below the adopted HILs.

Concentrations of a number of heavy metals in groundwater exceeded the relevant GILs in all monitoring wells. The majority of these exceedances were slight, although some high levels of arsenic were encountered in MW9 and lead in MW8.

The source of the elevated metal concentrations is most likely to be from the fill material and previous on-site activities across all the sites. The source of the fill across much of the southern portion of the Kennards and Ateco sites is unknown. It is likely to be the spoil and tailings from the work undertaken in the former brick pit and brick work site, and in the case of the material around MW8, a relatively small quantity of landfill waste.

7.3 Asbestos

Asbestos was detected in the form of fibre bundles and /or fragments of fibre-cement sheeting in BH24 and BH30. The distribution appears to be random and isolated to the shallow fill material. The occurrence of the asbestos is most likely due to the demolition of the brick works site and the development of the Kennards property and the Ateco building. It is considered that the hotspots of asbestos impacted material will require remediation or management during the site development in order for the site to be considered suitable for use as a commercial development.

7.4 Ammonia in Groundwater

Ammonia was encountered in groundwater samples from MW6, MW7 and MW8. Monitoring wells MW6 and MW8 are in close proximity to the boundary of the landfill site. Some deep fill material in MW8 could be identified as landfill waste. The groundwater flow is in a general southerly direction, towards the Tempe landfill, which has been found to contain groundwater/leachate containing ammonia well in excess of the investigation levels.

7.5 Waste Classification

Offsite disposal of soil will likely be required as part of the proposed development of the site.

The procedures for classifying waste are detailed in the NSW DECC *Waste Classification Guidelines (2008*). Non-virgin excavated material and material excavated from a contaminated area must be classified using the procedures outlined in Part 1 of the guidelines prior to offsite disposal to an appropriately licensed landfill.

Contaminated soil requiring disposal is classified by comparing analytical results from the material to threshold criteria provided in the guidelines. The guidelines provide threshold concentrations for six different waste categories, namely; general solid waste (non-putrescible), general solid waste (putrescible), restricted solid waste, hazardous waste, liquid waste and special waste. For wastes that are not classified into a waste category, the guidelines provide threshold values for total concentrations and leachable concentrations based on toxicity characteristics leaching procedures (TCLP) test. These threshold levels are given for about 50 contaminants and groups of contaminants. For a waste to be classified under a given category, either total concentrations or leachable concentrations of the waste should meet the respective threshold concentrations.

The waste may be classified solely based on total concentrations (i.e. without undertaking leachability testing), but the applicable threshold concentrations when leachability testing is not undertaken are significantly lower (i.e. more stringent) than would apply when leachability testing is undertaken.

A limited number of samples were selected for TCLP analysis in order for them to be compared against current NSW waste disposal guidelines to give an indicative assessment of the likely classification of waste at the site.

All samples returned results within the levels for the waste to be classified as general solid waste (putrescible). However, in the case of asbestos impacted soil, the soil would be classed as special waste and should be disposed of accordingly.

However, it should also be noted that the possibility of other contaminants being present at the site cannot be precluded. The waste classification provided by Coffey Environments in this report is not designed to be used for the purpose of disposal of waste during any potential development of the site.

It is purely to give an indication of the character of the waste that may be encountered should development be undertaken. Any materials excavated during development should be subject to waste classification in order to appropriately dispose of it.

8 CONCLUSIONS AND RECOMMENDATIONS

Based on the results of the Environmental Site Assessment Coffey Environments conclude that:

- Heavy metals were not detected above adopted investigation levels in soil samples tested;
- Petroleum hydrocarbon contamination is present within the north eastern portion of the site (KAS Auto) and is likely to be residual contamination associated with the former service station infrastructure in the area;
- Asbestos, in the form of fibre bundles and /or fragments of fibre-cement sheeting was detected by the laboratory in two out of fifty soil samples analysed;
- Slightly elevated concentrations of heavy metals in groundwater exceeding the adopted marine GIL are present in numerous groundwater samples from across the site. In the case of arsenic and lead the recreational water GIL is exceeded in samples from wells MW9 and MW8 respectively;
- The source of the heavy metals detected in the groundwater across the site is thought to be the fill material and the previous on-site activities. The exceedances are considered to be in keeping with background levels expected in the local area of industrial and commercial development;
- Ammonia was at concentrations exceeding the investigation levels in three groundwater samples. This is considered to be due to the presence of some landfill material present in the area;
- Material removed off-site is likely to be classified as general solid waste (non-putrescible), with the exception of any asbestos containing soil.

Based on the above findings, Coffey Environments considers the site can, with some limited localised remedial work, be made suitable for the proposed commercial development. The localised areas of asbestos impact would need to be excavated and removed to a suitable licensed facility. The presence of asbestos is seemingly not widespread. The shallow hotspot areas (area of former tank pits and area around BH5) could be excavated and disposed of to a suitably licensed landfill. These works require the development of a Remediation Action Plan.

9 LIMITATIONS

The findings within this report are the result of discreet/specific sampling methodologies used in accordance with normal practices and standards. To the best of our knowledge they represent a reasonable interpretation of the general conditions of the site. Under no circumstances, however, can it be considered that these findings represent the actual state of the site at all points.

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

The investigations undertaken were preliminary only and the possibility that other, as yet unidentified, contamination is present at the site cannot be precluded.

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

Information within the report including borehole logs should not be used for geotechnical investigation purposes.

10 REFERENCES

Geological Survey of NSW (1966) 1:100,000 Sydney Geology Sheet

NSW EPA (1995) Sampling Design Guidelines. ISBN 0-7310-3756-1.

NSW EPA (1997) Guidelines for Consultants Reporting on Contaminated Sites. ISBN 0 7310 3892 4.

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Netherlands (1994) Environmental Quality Objectives in the Netherlands. Ministry of Housing, Spatial Planning and the Environment, Netherlands Government. ISBN 90-6092-783-4.

Department of Land and Water Conservation (DLWC) Water Data Services, Hunter Valley

NSW DECC (2008) Waste Classification Guidelines

Tables

Contamination Assessment
630 - 726 Princes Highway, Tempe

Table LR1 - Soil Results
630 - 726 Princes Hwy Environmental Assessment

Field_ID	MW6 0.5-0.7	MW6 1.0-1.2	MW6 1.5-1.7	MW6 2.5-2.7	MW6 4.5-4.7	MW6 7.5-7.7	BH2 0.5-0.8	BH2 1.5-1.7	BH4 0.5-0.7	BH4 1.5-1.7	BH4 2.5-2.7	DUP 2	BH7 0.5-0.7	BH7 1.0-1.2	BH7 2.5-2.7	BH7 4.0-4.2	BH7 6.8-7.0	BH10 0.5-0.7	BH10 1.0-1.2
Sampled_Date-Time	20/05/2008	16/06/2008	20/05/2008	20/05/2008	20/05/2008	20/05/2008	20/05/2008	20/05/2008	20/05/2008	20/05/2008	20/05/2008	20/05/2008	20/05/2008	20/05/2008	20/05/2008	20/05/2008	20/05/2008	20/05/2008	20/05/2008
Sample Origin	FILL	FILL	FILL	FILL	FILL	RESIDUAL	FILL	RESIDUAL	FILL	FILL	RESIDUAL		FILL	FILL	FILL	FILL	FILL	FILL	FILL

Group	Chemical Name	Units	EQL	NEPM 1999 HIL F	WASTE CLASSIFICATION																			
					General Solid [2]		Restricted Solid [2]																	
Metals	Arsenic	mg/kg	5	**500**	**500**		**2000**		8	-	7	10	10	6	6	14	8	7	10	8	8	17	13	8	8	8	8
	Cadmium	mg/kg	1	**100**	**100**		**400**		<1	-	<1	<1	<1	3	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Chromium (total)	mg/kg	2		**1900**		**7600**		8	-	8	7	28	8	7	15	15	8	9	8	9	4	46	13	11	9	9
	Copper	mg/kg	5	**5000**					42	-	40	32	165	11	12	14	37	24	30	18	50	14	24	8	38	48	42
	Lead	mg/kg	5	**1500**	**1500**		**6000**		26	-	30	26	267	16	8	10	94	24	10	8	28	11	26	24	159	22	22
	Mercury	mg/kg	0.1	**75**	**50**		**200**		<0.1	-	<0.1	<0.1	0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	0.1	<0.1
	Nickel	mg/kg	2	**3000**	**1050**		**4200**		16	-	20	14	25	<2	5	<2	26	6	5	5	13	15	8	<2	4	25	33
	Zinc	mg/kg	5	**35000**					86	-	174	88	553	11	43	<5	193	1330	28	55	82	26	368	12	225	87	116
TPH	TPH C 6 - C 9 Fraction	mg/kg	10	**65** [1]	**650** [3]		**2600** [3]		<10	-	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
	TPH C10 - C14 Fraction	mg/kg	50						<50	-	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
	TPH C15 - C28 Fraction	mg/kg	100						<100	-	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
	TPH C29-C36 Fraction	mg/kg	100						<100	-	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	200	<100	<100
	TPH+C10 - C36 (Sum of total)	mg/kg		**1000** [1]	**10000** [3]		**40000** [3]		<250	-	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	275	<250	<250
BTEX	Benzene	mg/kg	0.2	**1** [1]	**10** [3]		**40** [3]		<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Ethylbenzene	mg/kg	0.5	**50** [1]	**600** [3]		**2400** [3]		<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Toluene	mg/kg	0.5	**130** [1]	**288** [3]		**1152** [3]		<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Xylene (m & p)	mg/kg	0.5						<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Xylene (o)	mg/kg	0.5						<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Xylene Total	mg/kg		**25** [1]	**1000** [3]		**4000** [3]		<1	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
PAH	Acenaphthene	mg/kg	0.5						<0.5	-	<0.5	-	-	-	<0.5	-	<0.5	-	-	<0.5	<0.5	-	<0.5	-	<0.5	-	<0.5
	Acenaphthylene	mg/kg	0.5						<0.5	-	<0.5	-	-	-	<0.5	-	<0.5	-	-	<0.5	<0.5	-	<0.5	-	<0.5	-	<0.5
	Anthracene	mg/kg	0.5						<0.5	-	<0.5	-	-	-	<0.5	-	<0.5	-	-	<0.5	<0.5	-	<0.5	-	<0.5	-	<0.5
	Benz(a)anthracene	mg/kg	0.5						<0.5	-	<0.5	-	-	-	<0.5	-	<0.5	-	-	<0.5	<0.5	-	<0.5	-	0.7	-	<0.5
	Benzo(a) pyrene	mg/kg	0.5	**5**	**0.8** [3]		**3.2** [3]		<0.5	-	<0.5	-	-	-	<0.5	-	<0.5	-	-	<0.5	<0.5	-	<0.5	-	0.7	-	<0.5
	Benzo(b)fluoranthene	mg/kg	0.5						<0.5	-	<0.5	-	-	-	<0.5	-	<0.5	-	-	<0.5	<0.5	-	<0.5	-	0.9	-	<0.5
	Benzo(g,h,i)perylene	mg/kg	0.5						<0.5	-	<0.5	-	-	-	<0.5	-	<0.5	-	-	<0.5	<0.5	-	<0.5	-	0.6	-	<0.5
	Benzo(k)fluoranthene	mg/kg	0.5						<0.5	-	<0.5	-	-	-	<0.5	-	<0.5	-	-	<0.5	<0.5	-	<0.5	-	<0.5	-	<0.5
	Chrysene	mg/kg	0.5						<0.5	-	<0.5	-	-	-	<0.5	-	<0.5	-	-	<0.5	<0.5	-	<0.5	-	0.7	-	<0.5
	Dibenz(a,h)anthracene	mg/kg	0.5						<0.5	-	<0.5	-	-	-	<0.5	-	<0.5	-	-	<0.5	<0.5	-	<0.5	-	<0.5	-	<0.5
	Fluoranthene	mg/kg	0.5						<0.5	-	<0.5	-	-	-	<0.5	-	<0.5	-	-	<0.5	<0.5	-	<0.5	-	1.2	-	<0.5
	Fluorene	mg/kg	0.5						<0.5	-	<0.5	-	-	-	<0.5	-	<0.5	-	-	<0.5	<0.5	-	<0.5	-	<0.5	-	<0.5
	Indeno(1,2,3-c,d)pyrene	mg/kg	0.5						<0.5	-	<0.5	-	-	-	<0.5	-	<0.5	-	-	<0.5	<0.5	-	<0.5	-	<0.5	-	<0.5
	Naphthalene	mg/kg	0.5						<0.5	-	<0.5	-	-	-	<0.5	-	<0.5	-	-	<0.5	<0.5	-	<0.5	-	<0.5	-	<0.5
	Phenanthrene	mg/kg	0.5						<0.5	-	<0.5	-	-	-	<0.5	-	<0.5	-	-	<0.5	<0.5	-	<0.5	-	0.6	-	<0.5
	Pyrene	mg/kg	0.5						<0.5	-	<0.5	-	-	-	<0.5	-	<0.5	-	-	<0.5	<0.5	-	<0.5	-	1.2	-	<0.5
	Total PAH	mg/kg			**200**		**800**		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.6	-	-
OCP	4,4-DDE	mg/kg	0.05						<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	a-BHC	mg/kg	0.05						<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Aldrin	mg/kg	0.05						<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Aldrin + Dieldrin	mg/kg		**50**					0.075	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	b-BHC	mg/kg	0.05						<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	cis-Chlordane	mg/kg	0.05						<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	d-BHC	mg/kg	0.05						<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	DDD	mg/kg	0.05						<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	DDT	mg/kg	0.2						<0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	DDT+DDE+DDD	mg/kg		**1000**					<0.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Dieldrin	mg/kg	0.05						0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Endosulfan I	mg/kg	0.05						<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Endosulfan II	mg/kg	0.05						<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Endosulfan sulphate	mg/kg	0.05		**60** [3]		**240** [3]		<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Endrin	mg/kg	0.05						<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Endrin aldehyde	mg/kg	0.05						<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Endrin ketone	mg/kg	0.05						<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	g-BHC (Lindane)	mg/kg	0.05						<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Heptachlor	mg/kg	0.05	**50**					<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Heptachlor epoxide	mg/kg	0.05						<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Hexachlorobenzene	mg/kg	0.05						<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Methoxychlor	mg/kg	0.2						<0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	trans-chlordane	mg/kg	0.05						<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PCB	PCBs (Sum of total)	mg/kg	0.1	**50**					<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Asbestos		na	na	**Detected**					ND	-	-	-	-	-	-	-	ND	-	-	-	ND	-	-	-	-	ND	-
Leachable Metals by ICPAES (mg/L)																										
	Arsenic	mg/L	0.1		**5**		**20**		-	<0.1	-	-	-	-	-	-	<0.1	-	-	-	-	-	-	-	-	-	-
	Cadmium	mg/L	0.05		**1**		**4**		-	<0.05	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-
	Chromium	mg/L	0.1		**5**		**20**		-	<0.1	-	-	-	-	-	-	<0.1	-	-	-	-	-	-	-	-	-	-
	Copper	mg/L	0.1						-	<0.1	-	-	-	-	-	-	<0.1	-	-	-	-	-	-	-	-	-	-
	Lead	mg/L	0.1		**5**		**20**		-	<0.1	-	-	-	-	-	-	<0.1	-	-	-	-	-	-	-	-	-	-
	Mercury	mg/L	0.001		**0.2**		**0.8**		-	<0.001	-	-	-	-	-	-	<0.0001	-	-	-	-	-	-	-	-	-	-
	Nickel	mg/L	0.1		**2**		**8**		-	<0.1	-	-	-	-	-	-	<0.1	-	-	-	-	-	-	-	-	-	-
	Zinc	mg/L	0.1						-	0.2	-	-	-	-	-	-	0.2	-	-	-	-	-	-	-	-	-	-

[1] NSW EPA (1994) Guidelines for Assessing Service Station Sites, Table

Table LR1 - Soil Results
630 - 726 Princes Hwy Environmental Assessment

Field_ID	BH10 5.5-5.7	BH10 10.0-10.2	BH3 0.5-0.7	BH3 1.0-1.2	BH3 1.4-1.5	BH3 2.5-2.7	BH9 1.0-1.2	BH9 2.5-2.7	BH9 4.2-4.4	MW2 D1 0.5	MW2 D2 1.0	MW2 D3 1.5	MW2 D4 2.5	DUP 1	BH6 0.5-0.7	BH6 1.0-1.2	BH6 1.5-1.7	BH6 4.5-4.7	BH6 7.0-7.2
Sampled_Date-Time	20/05/2008	20/05/2008	19/05/2008	19/05/2008	19/05/2008	19/05/2008	19/05/2008	19/05/2008	19/05/2008	19/05/2008	19/05/2008	19/05/2008	19/05/2008	19/05/2008	19/05/2008	19/05/2008	19/05/2008	19/05/2008	19/05/2008
Sample Origin	FILL	FILL	FILL	FILL	FILL	RESIDUAL	FILL	FILL	FILL	FILL	FILL	RESIDUAL	RESIDUAL		FILL	FILL	FILL	RESIDUAL	RESIDUAL

Group	Chemical Name	Units	EQL	NEPM 1999 HIL F	WASTE CLASSIFICATION																		
					General Solid [2]		Restricted Solid [2]																
Metals	Arsenic	mg/kg	5	**500**		**500**		**2000**	7	28	-	10	9	9	7	8	18	6	-	9	<5	9	7	-	9	11	<5
	Cadmium	mg/kg	1	**100**		**100**		**400**	<1	9	-	<1	<1	<1	<1	<1	<1	<1	-	<1	<1	<1	<1	-	<1	<1	<1
	Chromium (total)	mg/kg	2			**1900**		**7600**	9	148	-	9	14	10	16	16	18	13	-	7	4	19	8	-	15	14	9
	Copper	mg/kg	5	**5000**					46	759	-	54	15	24	53	32	185	13	-	15	10	30	32	-	14	36	74
	Lead	mg/kg	5	**1500**		**1500**		**6000**	19	835	-	24	16	9	27	93	232	46	-	12	11	97	35	-	20	9	8
	Mercury	mg/kg	0.1	**75**		**50**		**200**	<0.1	4.6	-	0.2	<0.1	<0.1	<0.1	0.2	<0.1	0.1	-	<0.1	<0.1	0.1	<0.1	-	<0.1	<0.1	<0.1
	Nickel	mg/kg	2	**3000**		**1050**		**4200**	30	77	-	6	<2	<2	43	6	32	3	-	<2	<2	6	18	-	4	<2	18
	Zinc	mg/kg	5	**35000**					119	3770	-	71	36	8	94	119	181	85	-	6	<5	118	68	-	36	12	67
TPH	TPH C 6 - C 9 Fraction	mg/kg	10	**65** [1]		**650** [3]		**2600** [3]	<10	<10	-	<10	<10	<10	<10	<10	<10	<10	-	<10	<10	<10	<10	-	<10	<10	<10
	TPH C10 - C14 Fraction	mg/kg	50						<50	240	-	<50	<50	<50	<50	<50	<50	<50	-	<50	<50	<50	<50	-	<50	<50	<50
	TPH C15 - C28 Fraction	mg/kg	100						<100	2370	-	180	<100	<100	<100	<100	<100	<100	-	<100	<100	<100	<100	-	<100	<100	<100
	TPH C29-C36 Fraction	mg/kg	100						<100	2400	-	<100	<100	<100	<100	<100	<100	<100	-	<100	<100	<100	<100	-	<100	<100	<100
	TPH+C10 - C36 (Sum of total)	mg/kg		**1000** [1]		**10000** [3]		**40000** [3]	<250	5010	-	255	<250	<250	<250	<250	<250	<250	-	<250	<250	<250	<250	-	<250	<250	<250
BTEX	Benzene	mg/kg	0.2	**1** [1]		**10** [3]		**40** [3]	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	-	<0.2	<0.2	<0.2
	Ethylbenzene	mg/kg	0.5	**50** [1]		**600** [3]		**2400** [3]	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5
	Toluene	mg/kg	0.5	**130** [1]		**288** [3]		**1152** [3]	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5
	Xylene (m & p)	mg/kg	0.5						<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5
	Xylene (o)	mg/kg	0.5						<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5
	Xylene Total	mg/kg		**25** [1]		**1000** [3]		**4000** [3]	<1	<1	-	<1	<1	<1	<1	<1	<1	<1	-	<1	<1	<1	<1	-	<1	<1	<1
PAH	Acenaphthene	mg/kg	0.5						-	-	-	<0.5	-	-	<0.5	-	-	<0.5	-	-	-	-	<0.5	-	<0.5	<0.5	-
	Acenaphthylene	mg/kg	0.5						-	-	-	<0.5	-	-	<0.5	-	-	<0.5	-	-	-	-	<0.5	-	<0.5	<0.5	-
	Anthracene	mg/kg	0.5						-	-	-	<0.5	-	-	<0.5	-	-	<0.5	-	-	-	-	<0.5	-	<0.5	<0.5	-
	Benz(a)anthracene	mg/kg	0.5						-	-	-	<0.5	-	-	<0.5	-	-	<0.5	-	-	-	-	<0.5	-	<0.5	<0.5	-
	Benzo(a) pyrene	mg/kg	0.5	**5**		**0.8** [3]		**3.2** [3]	-	-	-	<0.5	-	-	<0.5	-	-	<0.5	-	-	-	-	<0.5	-	<0.5	<0.5	-
	Benzo(b)fluoranthene	mg/kg	0.5						-	-	-	0.5	-	-	<0.5	-	-	<0.5	-	-	-	-	<0.5	-	<0.5	<0.5	-
	Benzo(g,h,i)perylene	mg/kg	0.5						-	-	-	<0.5	-	-	<0.5	-	-	<0.5	-	-	-	-	<0.5	-	<0.5	<0.5	-
	Benzo(k)fluoranthene	mg/kg	0.5						-	-	-	<0.5	-	-	<0.5	-	-	<0.5	-	-	-	-	<0.5	-	<0.5	<0.5	-
	Chrysene	mg/kg	0.5						-	-	-	0.9	-	-	<0.5	-	-	<0.5	-	-	-	-	<0.5	-	<0.5	<0.5	-
	Dibenz(a,h)anthracene	mg/kg	0.5						-	-	-	<0.5	-	-	<0.5	-	-	<0.5	-	-	-	-	<0.5	-	<0.5	<0.5	-
	Fluoranthene	mg/kg	0.5						-	-	-	0.9	-	-	<0.5	-	-	<0.5	-	-	-	-	<0.5	-	<0.5	<0.5	-
	Fluorene	mg/kg	0.5						-	-	-	<0.5	-	-	<0.5	-	-	<0.5	-	-	-	-	<0.5	-	<0.5	<0.5	-
	Indeno(1,2,3-c,d)pyrene	mg/kg	0.5						-	-	-	<0.5	-	-	<0.5	-	-	<0.5	-	-	-	-	<0.5	-	<0.5	<0.5	-
	Naphthalene	mg/kg	0.5						-	-	-	<0.5	-	-	<0.5	-	-	<0.5	-	-	-	-	<0.5	-	<0.5	<0.5	-
	Phenanthrene	mg/kg	0.5						-	-	-	2.4	-	-	<0.5	-	-	<0.5	-	-	-	-	<0.5	-	<0.5	<0.5	-
	Pyrene	mg/kg	0.5						-	-	-	0.9	-	-	<0.5	-	-	<0.5	-	-	-	-	<0.5	-	<0.5	<0.5	-
	Total PAH	mg/kg				**200**		**800**	-	-	-	5.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OCP	4,4-DDE	mg/kg	0.05						-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-
	a-BHC	mg/kg	0.05						-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-
	Aldrin	mg/kg	0.05						-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-
	Aldrin + Dieldrin	mg/kg		**50**					-	-	-	-	-	-	0.105	-	-	-	-	-	-	-	-	-	-	-	-
	b-BHC	mg/kg	0.05						-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-
	cis-Chlordane	mg/kg	0.05						-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-
	d-BHC	mg/kg	0.05						-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-
	DDD	mg/kg	0.05						-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-
	DDT	mg/kg	0.2						-	-	-	-	-	-	<0.2	-	-	-	-	-	-	-	-	-	-	-	-
	DDT+DDE+DDD	mg/kg		**1000**					-	-	-	-	-	-	<0.3	-	-	-	-	-	-	-	-	-	-	-	-
	Dieldrin	mg/kg	0.05						-	-	-	-	-	-	0.08	-	-	-	-	-	-	-	-	-	-	-	-
	Endosulfan I	mg/kg	0.05						-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-
	Endosulfan II	mg/kg	0.05						-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-
	Endosulfan sulphate	mg/kg	0.05			**60** [3]		**240** [3]	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-
	Endrin	mg/kg	0.05						-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-
	Endrin aldehyde	mg/kg	0.05						-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-
	Endrin ketone	mg/kg	0.05						-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-
	g-BHC (Lindane)	mg/kg	0.05						-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-
	Heptachlor	mg/kg	0.05	**50**					-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-
	Heptachlor epoxide	mg/kg	0.05						-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-
	Hexachlorobenzene	mg/kg	0.05						-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-
	Methoxychlor	mg/kg	0.2						-	-	-	-	-	-	<0.2	-	-	-	-	-	-	-	-	-	-	-	-
	trans-chlordane	mg/kg	0.05						-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-
PCB	PCBs (Sum of total)	mg/kg	0.1	**50**					-	-	-	-	-	-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-
Asbestos		na	na	**Detected**					-	-	ND	-	-	-	ND	-	-	-	ND	-	-	-	-	ND	-	-	-
Leachable Metals by ICPAES (mg/L)																											
	Arsenic	mg/L	0.1		**5**		**20**		-	-	-	-	-	-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-
	Cadmium	mg/L	0.05		**1**		**4**		-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-
	Chromium	mg/L	0.1		**5**		**20**		-	-	-	-	-	-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-
	Copper	mg/L	0.1						-	-	-	-	-	-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-
	Lead	mg/L	0.1		**5**		**20**		-	-	-	-	-	-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-
	Mercury	mg/L	0.001		**0.2**		**0.8**		-	-	-	-	-	-	<0.001	-	-	-	-	-	-	-	-	-	-	-	-
	Nickel	mg/L	0.1		**2**		**8**		-	-	-	-	-	-	0.1	-	-	-	-	-	-	-	-	-	-	-	-
	Zinc	mg/L	0.1						-	-	-	-	-	-	0.9	-	-	-	-	-	-	-	-	-	-	-	-

[1] NSW EPA (1994) Guidelines for Assessing Service Station Sites, Table

Table LR1 - Soil Results
630 - 726 Princes Hwy Environmental Assessment

Field_ID	BH21 0.5-0.7	BH21 1.0-1.2	BH21 1.5-1.7	BH23 0.5-0.7	BH23 2.5-2.7	BH24 1.0-1.2	BH24 2.5-2.7	BH22 0.5-0.7	BH22 1.5-1.7	BH17 1.0-1.2	BH18 1.0-1.2	DUP 4	DUP 5	DUP 6	BH25 0.5-0.7	BH25 1.0-1.2	BH25 2.5-2.7	BH28 0.5-0.7	BH29 0.5-0.7
Sampled_Date-Time	21/05/2008	21/05/2008	21/05/2008	21/05/2008	21/05/2008	21/05/2008	21/05/2008	21/05/2008	21/05/2008	21/05/2008	21/05/2008	21/05/2008	21/05/2008	21/05/2008	26/05/2008	26/05/2008	26/05/2008	26/05/2008	26/05/2008
Sample Origin	FILL	FILL	RESIDUAL	FILL	RESIDUAL	FILL	RESIDUAL	FILL	RESIDUAL	FILL	FILL				FILL	FILL	RESIDUAL	RESIDUAL	RESIDUAL
Group	Chemical Name	Units	EQL	NEPM 1999 HIL F	WASTE CLASSIFICATION														
					General Solid [2]		Restricted Solid [2]												
Metals	Arsenic	mg/kg	5	**500**	**500**		**2000**	6	6	12	11	11	7	13	-	10	-	7	8	9	6	-	8	9	11	12
	Cadmium	mg/kg	1	**100**	**100**		**400**	<1	<1	<1	<1	<1	<1	<1	-	<1	-	<1	<1	<1	<1	-	<1	<1	<1	<1
	Chromium (total)	mg/kg	2		**1900**		**7600**	7	10	16	11	6	8	10	-	7	-	12	13	15	13	-	12	9	15	22
	Copper	mg/kg	5	**5000**				32	37	22	28	13	30	23	-	19	-	58	26	62	46	-	14	<5	16	<5
	Lead	mg/kg	5	**1500**	**1500**		**6000**	60	51	<5	32	<5	22	<5	-	7	-	78	36	66	427	-	98	19	14	20
	Mercury	mg/kg	0.1	**75**	**50**		**200**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.1	-	0.1	<0.1	<0.1	<0.1	-	0.1	<0.1	<0.1	<0.1
	Nickel	mg/kg	2	**3000**	**1050**		**4200**	7	9	<2	14	<2	7	<2	-	<2	-	10	14	9	6	-	<2	<2	<2	<2
	Zinc	mg/kg	5	**35000**				70	42	12	127	<5	121	20	-	7	-	136	120	49	86	-	51	6	<5	<5
TPH	TPH C 6 - C 9 Fraction	mg/kg	10	**65** [1]	**650** [3]		**2600** [3]	<10	<10	<10	<10	<10	<10	<10	-	<10	-	<10	<10	<10	<10	-	<10	<10	<10	<10
	TPH C10 - C14 Fraction	mg/kg	50					<50	<50	<50	<50	<50	<50	<50	-	<50	-	<50	<50	<50	<50	-	<50	<50	<50	<50
	TPH C15 - C28 Fraction	mg/kg	100					<100	<100	<100	<100	<100	<100	<100	-	<100	-	<100	<100	<100	<100	-	<100	<100	<100	<100
	TPH C29-C36 Fraction	mg/kg	100					<100	<100	<100	<100	<100	<100	<100	-	<100	-	<100	<100	<100	<100	-	<100	<100	<100	<100
	TPH+C10 - C36 (Sum of total)	mg/kg		**1000** [1]	**10000** [3]		**40000** [3]	<250	<250	<250	<250	<250	<250	<250	-	<250	-	<250	<250	<250	<250	-	<250	<250	<250	<250
BTEX	Benzene	mg/kg	0.2	**1** [1]	**10** [3]		**40** [3]	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	-	<0.2	-	<0.2	<0.2	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2
	Ethylbenzene	mg/kg	0.5	**50** [1]	**600** [3]		**2400** [3]	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	-	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5
	Toluene	mg/kg	0.5	**130** [1]	**288** [3]		**1152** [3]	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	-	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5
	Xylene (m & p)	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	-	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5
	Xylene (o)	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	-	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5
	Xylene Total	mg/kg		**25** [1]	**1000** [3]		**4000** [3]	<1	<1	<1	<1	<1	<1	<1	-	<1	-	<1	<1	<1	<1	-	<1	<1	<1	<1
PAH	Acenaphthene	mg/kg	0.5					-	<0.5	-	-	-	<0.5	-	-	-	-	<0.5	-	<0.5	-	-	<0.5	-	-	<0.5
	Acenaphthylene	mg/kg	0.5					-	<0.5	-	-	-	<0.5	-	-	-	-	<0.5	-	<0.5	-	-	<0.5	-	-	<0.5
	Anthracene	mg/kg	0.5					-	<0.5	-	-	-	<0.5	-	-	-	-	<0.5	-	<0.5	-	-	<0.5	-	-	<0.5
	Benz(a)anthracene	mg/kg	0.5					-	<0.5	-	-	-	<0.5	-	-	-	-	1.1	-	<0.5	-	-	<0.5	-	-	<0.5
	Benzo(a) pyrene	mg/kg	0.5	**5**	**0.8** [3]		**3.2** [3]	-	<0.5	-	-	-	<0.5	-	-	-	-	1.2	-	<0.5	-	-	<0.5	-	-	<0.5
	Benzo(b)fluoranthene	mg/kg	0.5					-	<0.5	-	-	-	<0.5	-	-	-	-	1.2	-	<0.5	-	-	<0.5	-	-	<0.5
	Benzo(g,h,i)perylene	mg/kg	0.5					-	<0.5	-	-	-	<0.5	-	-	-	-	0.7	-	<0.5	-	-	<0.5	-	-	<0.5
	Benzo(k)fluoranthene	mg/kg	0.5					-	<0.5	-	-	-	<0.5	-	-	-	-	<0.5	-	<0.5	-	-	<0.5	-	-	<0.5
	Chrysene	mg/kg	0.5					-	<0.5	-	-	-	<0.5	-	-	-	-	1	-	<0.5	-	-	<0.5	-	-	<0.5
	Dibenz(a,h)anthracene	mg/kg	0.5					-	<0.5	-	-	-	<0.5	-	-	-	-	<0.5	-	<0.5	-	-	<0.5	-	-	<0.5
	Fluoranthene	mg/kg	0.5					-	<0.5	-	-	-	<0.5	-	-	-	-	1.7	-	<0.5	-	-	<0.5	-	-	<0.5
	Fluorene	mg/kg	0.5					-	<0.5	-	-	-	<0.5	-	-	-	-	<0.5	-	<0.5	-	-	<0.5	-	-	<0.5
	Indeno(1,2,3-c,d)pyrene	mg/kg	0.5					-	<0.5	-	-	-	<0.5	-	-	-	-	0.6	-	<0.5	-	-	<0.5	-	-	<0.5
	Naphthalene	mg/kg	0.5					-	<0.5	-	-	-	<0.5	-	-	-	-	<0.5	-	<0.5	-	-	<0.5	-	-	<0.5
	Phenanthrene	mg/kg	0.5					-	<0.5	-	-	-	<0.5	-	-	-	-	0.6	-	<0.5	-	-	<0.5	-	-	<0.5
	Pyrene	mg/kg	0.5					-	<0.5	-	-	-	<0.5	-	-	-	-	1.7	-	<0.5	-	-	<0.5	-	-	<0.5
	Total PAH	mg/kg			**200**		**800**	-	-	-	-	-	-	-	-	-	-	9.8	-	-	-	-	-	-	-	-
OCP	4,4-DDE	mg/kg	0.05					<0.05	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05
	a-BHC	mg/kg	0.05					<0.05	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05
	Aldrin	mg/kg	0.05					<0.05	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05
	Aldrin + Dieldrin	mg/kg		**50**				<0.1	-	-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1
	b-BHC	mg/kg	0.05					<0.05	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05
	cis-Chlordane	mg/kg	0.05					<0.05	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05
	d-BHC	mg/kg	0.05					<0.05	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05
	DDD	mg/kg	0.05					<0.05	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05
	DDT	mg/kg	0.2					<0.2	-	-	<0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.2
	DDT+DDE+DDD	mg/kg		**1000**				<0.3	-	-	<0.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.3
	Dieldrin	mg/kg	0.05					<0.05	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05
	Endosulfan I	mg/kg	0.05					<0.05	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05
	Endosulfan II	mg/kg	0.05					<0.05	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05
	Endosulfan sulphate	mg/kg	0.05		**60** [3]		**240** [3]	<0.05	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05
	Endrin	mg/kg	0.05					<0.05	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05
	Endrin aldehyde	mg/kg	0.05					<0.05	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05
	Endrin ketone	mg/kg	0.05					<0.05	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05
	g-BHC (Lindane)	mg/kg	0.05					<0.05	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05
	Heptachlor	mg/kg	0.05	**50**				<0.05	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05
	Heptachlor epoxide	mg/kg	0.05					<0.05	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05
	Hexachlorobenzene	mg/kg	0.05					<0.05	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05
	Methoxychlor	mg/kg	0.2					<0.2	-	-	<0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.2
	trans-chlordane	mg/kg	0.05					<0.05	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05
PCB	PCBs (Sum of total)	mg/kg	0.1	**50**				<0.1	-	-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1
Asbestos		na	na	**Detected**				ND	-	-	ND	-	**Detected**	-	ND	-	ND	ND	-	-	-	ND	-	-	ND	-
Leachable Metals by ICPAES (mg/L)																										
	Arsenic	mg/L	0.1		**5**		**20**	-	-	-	-	-	-	-	-	-	-	<0.1	-	-	-	-	-	-	<0.1	-
	Cadmium	mg/L	0.05		**1**		**4**	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	<0.05	-
	Chromium	mg/L	0.1		**5**		**20**	-	-	-	-	-	-	-	-	-	-	<0.1	-	-	-	-	-	-	<0.1	-
	Copper	mg/L	0.1					-	-	-	-	-	-	-	-	-	-	<0.1	-	-	-	-	-	-	<0.1	-
	Lead	mg/L	0.1		**5**		**20**	-	-	-	-	-	-	-	-	-	-	<0.1	-	-	-	-	-	-	<0.1	-
	Mercury	mg/L	0.001		**0.2**		**0.8**	-	-	-	-	-	-	-	-	-	-	<0.0001	-	-	-	-	-	-	<0.0001	-
	Nickel	mg/L	0.1		**2**		**8**	-	-	-	-	-	-	-	-	-	-	<0.1	-	-	-	-	-	-	<0.1	-
	Zinc	mg/L	0.1					-	-	-	-	-	-	-	-	-	-	0.2	-	-	-	-	-	-	<0.1	-

[1] NSW EPA (1994) Guidelines for Assessing Service Station Sites, Table

Table LR1 - Soil Results
630 - 726 Princes Hwy Environmental Assessment

Field_ID	BH29 1.5-1.7	BH30 0.5-0.7	BH30 2.5-2.7	BH31 0.5-0.7	BH31 1.0-1.2	BH33 0.5-0.7	BH33 1.0-1.2	BH33 2.32.4	BH34 0.5-0.7	BH35 0.5-0.7	BH38 0.5-0.7	BH38 2.5-2.7	BH38 3.9-4.0	BH45 0.5-0.7	BH45 1.5-1.7	BH37 0.5-0.7	BH37 1.5-1.7	BH37 2.5-2.7	DUP Z 1
Sampled_Date-Time	26/05/2008	26/05/2008	26/05/2008	26/05/2008	26/05/2008	26/05/2008	26/05/2008	26/05/2008	26/05/2008	26/05/2008	26/05/2008	26/05/2008	26/05/2008	26/05/2008	26/05/2008	26/05/2008	26/05/2008	26/05/2008	26/05/2008
Sample Origin	RESIDUAL	FILL	RESIDUAL	FILL	RESIDUAL	FILL	FILL	FILL	FILL	FILL	FILL	FILL	RESIDUAL	FILL	RESIDUAL	FILL	FILL	RESIDUAL	

Group	Chemical Name	Units	EQL	NEPM 1999 HIL F	WASTE CLASSIFICATION																			
					General Solid [2]		Restricted Solid [2]																	
Metals	Arsenic	mg/kg	5	**500**	**500**		**2000**		10	7	11	7	<5	-	8	6	7	6	8	5	9	5	7	<5	10	6	7
	Cadmium	mg/kg	1	**100**	**100**		**400**		<1	<1	<1	<1	<1	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Chromium (total)	mg/kg	2		**1900**		**7600**		13	55	12	16	7	-	19	9	99	26	14	17	12	10	19	155	26	15	15
	Copper	mg/kg	5	**5000**					15	26	12	<5	<5	-	34	6	26	9	8	39	7	16	<5	42	<5	<5	26
	Lead	mg/kg	5	**1500**	**1500**		**6000**		17	328	14	23	11	-	208	11	35	97	36	47	15	26	15	<5	21	28	538
	Mercury	mg/kg	0.1	**75**	**50**		**200**		<0.1	0.1	<0.1	<0.1	<0.1	-	0.8	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Nickel	mg/kg	2	**3000**	**1050**		**4200**		<2	33	<2	<2	<2	-	6	<2	79	16	3	4	<2	4	<2	131	<2	<2	8
	Zinc	mg/kg	5	**35000**					<5	146	<5	5	<5	-	46	<5	75	31	43	69	6	92	<5	64	<5	<5	184
TPH	TPH C 6 - C 9 Fraction	mg/kg	10	**65** [1]	**650** [3]		**2600** [3]		<10	<10	<10	<10	<10	-	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
	TPH C10 - C14 Fraction	mg/kg	50						<50	<50	<50	<50	<50	-	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
	TPH C15 - C28 Fraction	mg/kg	100						<100	120	<100	<100	<100	-	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	120
	TPH C29-C36 Fraction	mg/kg	100						<100	<100	<100	<100	<100	-	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
	TPH+C10 - C36 (Sum of total)	mg/kg		**1000** [1]	**10000** [3]		**40000** [3]		<250	195	<250	<250	<250	-	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	195
BTEX	Benzene	mg/kg	0.2	**1** [1]	**10** [3]		**40** [3]		<0.2	<0.2	<0.2	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Ethylbenzene	mg/kg	0.5	**50** [1]	**600** [3]		**2400** [3]		<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Toluene	mg/kg	0.5	**130** [1]	**288** [3]		**1152** [3]		<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Xylene (m & p)	mg/kg	0.5						<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Xylene (o)	mg/kg	0.5						<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Xylene Total	mg/kg		**25** [1]	**1000** [3]		**4000** [3]		<1	<1	<1	<1	<1	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
PAH	Acenaphthene	mg/kg	0.5						-	-	-	-	-	-	<0.5	-	-	-	-	-	-	<0.5	-	<0.5	-	-	-
	Acenaphthylene	mg/kg	0.5						-	-	-	-	-	-	<0.5	-	-	-	-	-	-	<0.5	-	<0.5	-	-	-
	Anthracene	mg/kg	0.5						-	-	-	-	-	-	<0.5	-	-	-	-	-	-	<0.5	-	<0.5	-	-	-
	Benz(a)anthracene	mg/kg	0.5						-	-	-	-	-	-	<0.5	-	-	-	-	-	-	<0.5	-	<0.5	-	-	-
	Benzo(a) pyrene	mg/kg	0.5	**5**	**0.8** [3]		**3.2** [3]		-	-	-	-	-	-	<0.5	-	-	-	-	-	-	<0.5	-	<0.5	-	-	-
	Benzo(b)fluoranthene	mg/kg	0.5						-	-	-	-	-	-	<0.5	-	-	-	-	-	-	<0.5	-	<0.5	-	-	-
	Benzo(g,h,i)perylene	mg/kg	0.5						-	-	-	-	-	-	<0.5	-	-	-	-	-	-	<0.5	-	<0.5	-	-	-
	Benzo(k)fluoranthene	mg/kg	0.5						-	-	-	-	-	-	<0.5	-	-	-	-	-	-	<0.5	-	<0.5	-	-	-
	Chrysene	mg/kg	0.5						-	-	-	-	-	-	<0.5	-	-	-	-	-	-	<0.5	-	<0.5	-	-	-
	Dibenz(a,h)anthracene	mg/kg	0.5						-	-	-	-	-	-	<0.5	-	-	-	-	-	-	<0.5	-	<0.5	-	-	-
	Fluoranthene	mg/kg	0.5						-	-	-	-	-	-	0.7	-	-	-	-	-	-	<0.5	-	<0.5	-	-	-
	Fluorene	mg/kg	0.5						-	-	-	-	-	-	<0.5	-	-	-	-	-	-	<0.5	-	<0.5	-	-	-
	Indeno(1,2,3-c,d)pyrene	mg/kg	0.5						-	-	-	-	-	-	<0.5	-	-	-	-	-	-	<0.5	-	<0.5	-	-	-
	Naphthalene	mg/kg	0.5						-	-	-	-	-	-	<0.5	-	-	-	-	-	-	<0.5	-	<0.5	-	-	-
	Phenanthrene	mg/kg	0.5						-	-	-	-	-	-	<0.5	-	-	-	-	-	-	<0.5	-	<0.5	-	-	-
	Pyrene	mg/kg	0.5						-	-	-	-	-	-	0.7	-	-	-	-	-	-	<0.5	-	<0.5	-	-	-
	Total PAH	mg/kg			**200**		**800**		-	-	-	-	-	-	1.4	-	-	-	-	-	-	-	-	-	-	-	-
OCP	4,4-DDE	mg/kg	0.05						-	-	-	-	-	<0.05	-	-	<0.05	-	-	-	-	<0.05	-	<0.05	-	-	-
	a-BHC	mg/kg	0.05						-	-	-	-	-	<0.05	-	-	<0.05	-	-	-	-	<0.05	-	<0.05	-	-	-
	Aldrin	mg/kg	0.05						-	-	-	-	-	<0.05	-	-	<0.05	-	-	-	-	<0.05	-	<0.05	-	-	-
	Aldrin + Dieldrin	mg/kg		**50**					-	-	-	-	-	<0.1	-	-	<0.1	-	-	-	-	<0.1	-	<0.1	-	-	-
	b-BHC	mg/kg	0.05						-	-	-	-	-	<0.05	-	-	<0.05	-	-	-	-	<0.05	-	<0.05	-	-	-
	cis-Chlordane	mg/kg	0.05						-	-	-	-	-	<0.05	-	-	<0.05	-	-	-	-	<0.05	-	<0.05	-	-	-
	d-BHC	mg/kg	0.05						-	-	-	-	-	<0.05	-	-	<0.05	-	-	-	-	<0.05	-	<0.05	-	-	-
	DDD	mg/kg	0.05						-	-	-	-	-	<0.05	-	-	<0.05	-	-	-	-	<0.05	-	<0.05	-	-	-
	DDT	mg/kg	0.2						-	-	-	-	-	<0.2	-	-	<0.2	-	-	-	-	<0.2	-	<0.2	-	-	-
	DDT+DDE+DDD	mg/kg		**1000**					-	-	-	-	-	<0.3	-	-	<0.3	-	-	-	-	<0.3	-	<0.3	-	-	-
	Dieldrin	mg/kg	0.05						-	-	-	-	-	<0.05	-	-	<0.05	-	-	-	-	<0.05	-	<0.05	-	-	-
	Endosulfan I	mg/kg	0.05						-	-	-	-	-	<0.05	-	-	<0.05	-	-	-	-	<0.05	-	<0.05	-	-	-
	Endosulfan II	mg/kg	0.05						-	-	-	-	-	<0.05	-	-	<0.05	-	-	-	-	<0.05	-	<0.05	-	-	-
	Endosulfan sulphate	mg/kg	0.05		**60** [3]		**240** [3]		-	-	-	-	-	<0.05	-	-	<0.05	-	-	-	-	<0.05	-	<0.05	-	-	-
	Endrin	mg/kg	0.05						-	-	-	-	-	<0.05	-	-	<0.05	-	-	-	-	<0.05	-	<0.05	-	-	-
	Endrin aldehyde	mg/kg	0.05						-	-	-	-	-	<0.05	-	-	<0.05	-	-	-	-	<0.05	-	<0.05	-	-	-
	Endrin ketone	mg/kg	0.05						-	-	-	-	-	<0.05	-	-	<0.05	-	-	-	-	<0.05	-	<0.05	-	-	-
	g-BHC (Lindane)	mg/kg	0.05						-	-	-	-	-	<0.05	-	-	<0.05	-	-	-	-	<0.05	-	<0.05	-	-	-
	Heptachlor	mg/kg	0.05	**50**					-	-	-	-	-	<0.05	-	-	<0.05	-	-	-	-	<0.05	-	<0.05	-	-	-
	Heptachlor epoxide	mg/kg	0.05						-	-	-	-	-	<0.05	-	-	<0.05	-	-	-	-	<0.05	-	<0.05	-	-	-
	Hexachlorobenzene	mg/kg	0.05						-	-	-	-	-	<0.05	-	-	<0.05	-	-	-	-	<0.05	-	<0.05	-	-	-
	Methoxychlor	mg/kg	0.2						-	-	-	-	-	<0.2	-	-	<0.2	-	-	-	-	<0.2	-	<0.2	-	-	-
	trans-chlordane	mg/kg	0.05						-	-	-	-	-	<0.05	-	-	<0.05	-	-	-	-	<0.05	-	<0.05	-	-	-
PCB	PCBs (Sum of total)	mg/kg	0.1	**50**					-	-	-	-	-	<0.1	-	-	<0.1	-	-	-	-	<0.1	-	<0.1	-	-	-
Asbestos		na	na	**Detected**					-	**Detected**	-	ND	-	ND	-	-	ND	ND	ND	-	-	ND	-	ND	-	-	-
Leachable Metals by ICPAES (mg/L)																											
	Arsenic	mg/L	0.1		**5**		**20**		-	<0.1	-	-	-	-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-
	Cadmium	mg/L	0.05		**1**		**4**		-	<0.05	-	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-
	Chromium	mg/L	0.1		**5**		**20**		-	<0.1	-	-	-	-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-
	Copper	mg/L	0.1						-	<0.1	-	-	-	-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-
	Lead	mg/L	0.1		**5**		**20**		-	0.4	-	-	-	-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-
	Mercury	mg/L	0.001		**0.2**		**0.8**		-	<0.001	-	-	-	-	<0.001	-	-	-	-	-	-	-	-	-	-	-	-
	Nickel	mg/L	0.1		**2**		**8**		-	<0.1	-	-	-	-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-
	Zinc	mg/L	0.1						-	0.9	-	-	-	-	0.2	-	-	-	-	-	-	-	-	-	-	-	-

[1] NSW EPA (1994) Guidelines for Assessing Service Station Sites, Table

Table LR1 - Soil Results
630 - 726 Princes Hwy Environmental Assessment

Field_ID	DUP Z 3	DUP Z 5	MW4 0.3-0.5	MW4 1.3-1.5	BH5 0.3-0.5	BH5 1.0-1.2	BH5 1.3-1.5	BH5 2.5-2.7	BH11 0.5-0.7	BH11 1.5-1.7	BH11 3.3-3.5	BH12 0.3-0.5	BH12 0.7-1.0	BH12 1.5-1.7	BH12 3.8-4.0	BH13 0.3-0.5	BH13 1.5-1.7	BH13 2.5-2.7	BH20 0.5-0.7
Sampled_Date-Time	26/05/2008	26/05/2008	26/05/2008	26/05/2008	23/05/2008	23/05/2008	23/05/2008	23/05/2008	23/05/2008	23/05/2008	23/05/2008	23/05/2008	23/05/2008	23/05/2008	23/05/2008	23/05/2008	23/05/2008	23/05/2008	23/05/2008
Sample Origin			RESIDUAL	RESIDUAL	FILL	FILL	FILL	RESIDUAL	FILL	FILL	FILL	FILL	FILL	FILL	FILL	FILL	FILL	FILL	RESIDUAL

Group	Chemical Name	Units	EQL	NEPM 1999 HIL F	WASTE CLASSIFICATION																				
					General Solid [2]		Restricted Solid [2]																		
Metals	Arsenic	mg/kg	5	**500**	**500**		**2000**		<5	<5	14	11	9	8	<5	12	7	13	7	-	8	9	12	7	8	6	9
	Cadmium	mg/kg	1	**100**	**100**		**400**		<1	<1	<1	<1	<1	6	<1	<1	<1	<1	<1	-	<1	<1	<1	<1	<1	<1	<1
	Chromium (total)	mg/kg	2		**1900**		**7600**		44	134	9	25	10	10	6	10	6	14	11	-	10	8	9	6	5	5	20
	Copper	mg/kg	5	**5000**					33	32	17	19	70	38	14	26	19	16	61	-	46	66	37	25	47	26	8
	Lead	mg/kg	5	**1500**	**1500**		**6000**		47	<5	9	17	53	42	8	9	30	57	59	-	25	21	24	7	19	12	21
	Mercury	mg/kg	0.1	**75**	**50**		**200**		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Nickel	mg/kg	2	**3000**	**1050**		**4200**		28	106	4	<2	26	13	4	3	10	8	9	-	40	20	19	16	18	12	12
	Zinc	mg/kg	5	**35000**					60	61	14	6	248	341	80	20	79	79	150	-	220	132	97	32	81	63	13
TPH	TPH C 6 - C 9 Fraction	mg/kg	10	**65** [1]	**650** [3]		**2600** [3]		<10	<10	<10	<10	<10	<10	14	<10	<10	<10	<10	-	<10	<10	<10	<10	<10	<10	<10
	TPH C10 - C14 Fraction	mg/kg	50						<50	<50	<50	<50	<50	110	2060	<50	<50	<50	<50	-	<50	<50	<50	<50	<50	<50	<50
	TPH C15 - C28 Fraction	mg/kg	100						<100	<100	<100	<100	130	890	4380	<100	<100	<100	130	-	<100	<100	<100	<100	130	<100	<100
	TPH C29-C36 Fraction	mg/kg	100						<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	-	<100	<100	<100	<100	<100	<100	<100
	TPH+C10 - C36 (Sum of total)	mg/kg		**1000** [1]	**10000** [3]		**40000** [3]		<250	<250	<250	<250	205	1050	6490	<250	<250	<250	205	-	<250	<250	<250	<250	205	<250	<250
BTEX	Benzene	mg/kg	0.2	**1** [1]	**10** [3]		**40** [3]		<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Ethylbenzene	mg/kg	0.5	**50** [1]	**600** [3]		**2400** [3]		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Toluene	mg/kg	0.5	**130** [1]	**288** [3]		**1152** [3]		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Xylene (m & p)	mg/kg	0.5						<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Xylene (o)	mg/kg	0.5						<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Xylene Total	mg/kg		**25** [1]	**1000** [3]		**4000** [3]		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	<1	<1	<1	<1	<1	<1
PAH	Acenaphthene	mg/kg	0.5						-	<0.5	<0.5	-	<0.5	-	-	-	<0.5	-	-	-	<0.5	-	-	-	-	<0.5	-
	Acenaphthylene	mg/kg	0.5						-	<0.5	<0.5	-	<0.5	-	-	-	<0.5	-	-	-	<0.5	-	-	-	-	<0.5	-
	Anthracene	mg/kg	0.5						-	<0.5	<0.5	-	<0.5	-	-	-	<0.5	-	-	-	<0.5	-	-	-	-	<0.5	-
	Benz(a)anthracene	mg/kg	0.5						-	<0.5	<0.5	-	<0.5	-	-	-	<0.5	-	-	-	<0.5	-	-	-	-	<0.5	-
	Benzo(a) pyrene	mg/kg	0.5	**5**	**0.8** [3]		**3.2** [3]		-	<0.5	<0.5	-	<0.5	-	-	-	<0.5	-	-	-	<0.5	-	-	-	-	<0.5	-
	Benzo(b)fluoranthene	mg/kg	0.5						-	<0.5	<0.5	-	<0.5	-	-	-	<0.5	-	-	-	<0.5	-	-	-	-	<0.5	-
	Benzo(g,h,i)perylene	mg/kg	0.5						-	<0.5	<0.5	-	<0.5	-	-	-	<0.5	-	-	-	<0.5	-	-	-	-	<0.5	-
	Benzo(k)fluoranthene	mg/kg	0.5						-	<0.5	<0.5	-	<0.5	-	-	-	<0.5	-	-	-	<0.5	-	-	-	-	<0.5	-
	Chrysene	mg/kg	0.5						-	<0.5	<0.5	-	<0.5	-	-	-	<0.5	-	-	-	<0.5	-	-	-	-	<0.5	-
	Dibenz(a,h)anthracene	mg/kg	0.5						-	<0.5	<0.5	-	<0.5	-	-	-	<0.5	-	-	-	<0.5	-	-	-	-	<0.5	-
	Fluoranthene	mg/kg	0.5						-	<0.5	<0.5	-	<0.5	-	-	-	<0.5	-	-	-	<0.5	-	-	-	-	<0.5	-
	Fluorene	mg/kg	0.5						-	<0.5	<0.5	-	<0.5	-	-	-	<0.5	-	-	-	<0.5	-	-	-	-	<0.5	-
	Indeno(1,2,3-c,d)pyrene	mg/kg	0.5						-	<0.5	<0.5	-	<0.5	-	-	-	<0.5	-	-	-	<0.5	-	-	-	-	<0.5	-
	Naphthalene	mg/kg	0.5						-	<0.5	<0.5	-	<0.5	-	-	-	<0.5	-	-	-	<0.5	-	-	-	-	<0.5	-
	Phenanthrene	mg/kg	0.5						-	<0.5	<0.5	-	<0.5	-	-	-	<0.5	-	-	-	<0.5	-	-	-	-	<0.5	-
	Pyrene	mg/kg	0.5						-	<0.5	<0.5	-	<0.5	-	-	-	<0.5	-	-	-	<0.5	-	-	-	-	<0.5	-
	Total PAH	mg/kg			**200**		**800**		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OCP	4,4-DDE	mg/kg	0.05						-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	a-BHC	mg/kg	0.05						-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Aldrin	mg/kg	0.05						-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Aldrin + Dieldrin	mg/kg		**50**					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	b-BHC	mg/kg	0.05						-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	cis-Chlordane	mg/kg	0.05						-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	d-BHC	mg/kg	0.05						-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	DDD	mg/kg	0.05						-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	DDT	mg/kg	0.2						-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	DDT+DDE+DDD	mg/kg		**1000**					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Dieldrin	mg/kg	0.05						-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Endosulfan I	mg/kg	0.05						-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Endosulfan II	mg/kg	0.05						-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Endosulfan sulphate	mg/kg	0.05		**60** [3]		**240** [3]		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Endrin	mg/kg	0.05						-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Endrin aldehyde	mg/kg	0.05						-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Endrin ketone	mg/kg	0.05						-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	g-BHC (Lindane)	mg/kg	0.05						-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Heptachlor	mg/kg	0.05	**50**					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Heptachlor epoxide	mg/kg	0.05						-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Hexachlorobenzene	mg/kg	0.05						-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Methoxychlor	mg/kg	0.2						-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	trans-chlordane	mg/kg	0.05						-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PCB	PCBs (Sum of total)	mg/kg	0.1	**50**					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Asbestos		na	na	**Detected**					-	-	ND	-	ND	-	-	-	ND	-	-	ND	-	-	-	ND	-	-	ND
Leachable Metals by ICPAES (mg/L)																											
	Arsenic	mg/L	0.1		**5**		**20**		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Cadmium	mg/L	0.05		**1**		**4**		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Chromium	mg/L	0.1		**5**		**20**		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Copper	mg/L	0.1						-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Lead	mg/L	0.1		**5**		**20**		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Mercury	mg/L	0.001		**0.2**		**0.8**		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Nickel	mg/L	0.1		**2**		**8**		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Zinc	mg/L	0.1						-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

[1] NSW EPA (1994) Guidelines for Assessing Service Station Sites, Table

Table LR1 - Soil Results
630 - 726 Princes Hwy Environmental Assessment

Field_ID	BH20 1.0-1.2	BH8 0.5-0.7	BH8 2.5-2.7	DUP2	DUP7	DUP8	DUP10	DUP11	MW11 0.5-0.7	MW11 1.5-1.7	MW11 3.9-4.0	MW12 0.5-0.7	MW12 1.0-1.2	MW12 3.4-3.5	MW15 0.5-0.7	MW15 1.5-1.7	MW15 4.5-4.7	DUPZ 7	DUPZ 6
Sampled_Date-Time	23/05/2008	23/05/2008	23/05/2008	23/05/2008	23/05/2008	23/05/2008	23/05/2008	23/05/2008	27/05/2008	27/05/2008	27/05/2008	27/05/2008	27/05/2008	27/05/2008	27/05/2008	27/05/2008	27/05/2008	27/05/2008	27/05/2008
Sample Origin	RESIDUAL	FILL	FILL						FILL	FILL	RESIDUAL	FILL	FILL	RESIDUAL	FILL	FILL	RESIDUAL		

Group	Chemical Name	Units	EQL	NEPM 1999 HIL F	WASTE CLASSIFICATION																			
					General Solid [2]			Restricted Solid [2]																
Metals	Arsenic	mg/kg	5	500		500		2000	8	6	6	10	10	9	10	<5	9	6	<5	11	10	12	8	13	32	6	10
	Cadmium	mg/kg	1	100		100		400	<1	<1	<1	<1	<1	<1	4	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Chromium (total)	mg/kg	2			1900		7600	12	10	8	20	10	5	11	6	43	17	9	21	15	9	16	23	19	14	49
	Copper	mg/kg	5	5000					8	39	37	<5	16	55	31	10	16	<5	26	6	<5	<5	6	7	5	7	16
	Lead	mg/kg	5	1500		1500		6000	16	27	31	27	42	17	48	9	85	21	10	27	26	10	27	36	16	34	61
	Mercury	mg/kg	0.1	75		50		200	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Nickel	mg/kg	2	3000		1050		4200	4	28	9	<2	10	18	10	3	22	<2	<2	3	<2	<2	<2	<2	<2	<2	28
	Zinc	mg/kg	5	35000					<5	77	50	<5	79	70	346	80	68	8	<5	14	9	<5	9	19	<5	19	56
TPH	TPH C 6 - C 9 Fraction	mg/kg	10	65 [1]		650 [3]		2600 [3]	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
	TPH C10 - C14 Fraction	mg/kg	50						<50	<50	<50	<50	<50	<50	160	3180	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
	TPH C15 - C28 Fraction	mg/kg	100						<100	<100	<100	<100	<100	<100	860	5020	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
	TPH C29-C36 Fraction	mg/kg	100						<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
	TPH+C10 - C36 (Sum of total)	mg/kg		1000 [1]		10000 [3]		40000 [3]	<250	<250	<250	<250	<250	<250	1070	8250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250
BTEX	Benzene	mg/kg	0.2	1 [1]		10 [3]		40 [3]	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Ethylbenzene	mg/kg	0.5	50 [1]		600 [3]		2400 [3]	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Toluene	mg/kg	0.5	130 [1]		288 [3]		1152 [3]	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Xylene (m & p)	mg/kg	0.5						<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Xylene (o)	mg/kg	0.5						<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Xylene Total	mg/kg		25 [1]		1000 [3]		4000 [3]	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
PAH	Acenaphthene	mg/kg	0.5						-	<0.5	-	-	-	-	-	-	<0.5	-	-	<0.5	-	-	<0.5	-	-	-	-
	Acenaphthylene	mg/kg	0.5						-	<0.5	-	-	-	-	-	-	<0.5	-	-	<0.5	-	-	<0.5	-	-	-	-
	Anthracene	mg/kg	0.5						-	<0.5	-	-	-	-	-	-	<0.5	-	-	<0.5	-	-	<0.5	-	-	-	-
	Benz(a)anthracene	mg/kg	0.5						-	<0.5	-	-	-	-	-	-	<0.5	-	-	<0.5	-	-	<0.5	-	-	-	-
	Benzo(a) pyrene	mg/kg	0.5	5		0.8 [3]		3.2 [3]	-	<0.5	-	-	-	-	-	-	<0.5	-	-	<0.5	-	-	<0.5	-	-	-	-
	Benzo(b)fluoranthene	mg/kg	0.5						-	<0.5	-	-	-	-	-	-	<0.5	-	-	<0.5	-	-	<0.5	-	-	-	-
	Benzo(g,h,i)perylene	mg/kg	0.5						-	<0.5	-	-	-	-	-	-	<0.5	-	-	<0.5	-	-	<0.5	-	-	-	-
	Benzo(k)fluoranthene	mg/kg	0.5						-	<0.5	-	-	-	-	-	-	<0.5	-	-	<0.5	-	-	<0.5	-	-	-	-
	Chrysene	mg/kg	0.5						-	<0.5	-	-	-	-	-	-	<0.5	-	-	<0.5	-	-	<0.5	-	-	-	-
	Dibenz(a,h)anthracene	mg/kg	0.5						-	<0.5	-	-	-	-	-	-	<0.5	-	-	<0.5	-	-	<0.5	-	-	-	-
	Fluoranthene	mg/kg	0.5						-	<0.5	-	-	-	-	-	-	<0.5	-	-	<0.5	-	-	<0.5	-	-	-	-
	Fluorene	mg/kg	0.5						-	<0.5	-	-	-	-	-	-	<0.5	-	-	<0.5	-	-	<0.5	-	-	-	-
	Indeno(1,2,3-c,d)pyrene	mg/kg	0.5						-	<0.5	-	-	-	-	-	-	<0.5	-	-	<0.5	-	-	<0.5	-	-	-	-
	Naphthalene	mg/kg	0.5						-	<0.5	-	-	-	-	-	-	<0.5	-	-	<0.5	-	-	<0.5	-	-	-	-
	Phenanthrene	mg/kg	0.5						-	<0.5	-	-	-	-	-	-	<0.5	-	-	<0.5	-	-	<0.5	-	-	-	-
	Pyrene	mg/kg	0.5						-	<0.5	-	-	-	-	-	-	<0.5	-	-	<0.5	-	-	<0.5	-	-	-	-
	Total PAH	mg/kg				200		800	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OCP	4,4-DDE	mg/kg	0.05						-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	a-BHC	mg/kg	0.05						-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Aldrin	mg/kg	0.05						-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Aldrin + Dieldrin	mg/kg		50					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	b-BHC	mg/kg	0.05						-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	cis-Chlordane	mg/kg	0.05						-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	d-BHC	mg/kg	0.05						-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	DDD	mg/kg	0.05						-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	DDT	mg/kg	0.2						-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	DDT+DDE+DDD	mg/kg		1000					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Dieldrin	mg/kg	0.05						-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Endosulfan I	mg/kg	0.05						-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Endosulfan II	mg/kg	0.05						-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Endosulfan sulphate	mg/kg	0.05			60 [3]		240 [3]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Endrin	mg/kg	0.05						-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Endrin aldehyde	mg/kg	0.05						-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Endrin ketone	mg/kg	0.05						-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	g-BHC (Lindane)	mg/kg	0.05						-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Heptachlor	mg/kg	0.05	50					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Heptachlor epoxide	mg/kg	0.05						-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Hexachlorobenzene	mg/kg	0.05						-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Methoxychlor	mg/kg	0.2						-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	trans-chlordane	mg/kg	0.05						-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PCB	PCBs (Sum of total)	mg/kg	0.1	50					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Asbestos		na	na	Detected					-	ND	-	-	-	-	-	-	ND	-	-	ND	-	-	ND	-	-	-	-
Leachable Metals by ICPAES (mg/L)																										
	Arsenic	mg/L	0.1		5		20		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Cadmium	mg/L	0.05		1		4		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Chromium	mg/L	0.1		5		20		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Copper	mg/L	0.1						-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Lead	mg/L	0.1		5		20		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Mercury	mg/L	0.001		0.2		0.8		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Nickel	mg/L	0.1		2		8		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Zinc	mg/L	0.1						-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

[1] NSW EPA (1994) Guidelines for Assessing Service Station Sites, Table

Table LR1 - Soil Results
630 - 726 Princes Hwy Environmental Assessment

Field_ID	MW16 0.5-0.7	MW16 1.0-1.2	MW16 2.5-2.7	BH36 0.3-0.4	BH36 1.5-1.7	MW14 0.5-0.7	MW14 1.0-1.2	MW14 2.5-2.7	BH27 0.5-0.7	BH27 1.0-1.2	MW10 0.5-0.7	MW10 1.9-2.0	DUPZ 8	DUPZ 9	MW10 1.0-1.2	BH41_1.5-1.7	DUPZ 12	BH40 _0.5-0.7	BH40 _1.3-1.4
Sampled_Date-Time	28/05/2008	28/05/2008	28/05/2008	28/05/2008	28/05/2008	28/05/2008	28/05/2008	28/05/2008	28/05/2008	28/05/2008	28/05/2008	28/05/2008	28/05/2008	28/05/2008	28/05/2008	30/05/2008	30/05/2008	30/05/2008	30/05/2008
Sample Origin	FILL	FILL	RESIDUAL	FILL	RESIDUAL	FILL	FILL	RESIDUAL	FILL	FILL	FILL	RESIDUAL			RESIDUAL	RESIDUAL		FILL	FILL

Group	Chemical Name	Units	EQL	NEPM 1999 HIL F	WASTE CLASSIFICATION																			
					General Solid [2]			Restricted Solid [2]																
Metals	Arsenic	mg/kg	5	**500**		**500**		**2000**	6	6	10	<5	9	-	5	8	-	7	5	<5	6	6	9	10	7	<5	10
	Cadmium	mg/kg	1	**100**		**100**		**400**	<1	<1	<1	<1	<1	-	2	<1	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Chromium (total)	mg/kg	2			**1900**		**7600**	11	14	28	10	24	-	22	28	-	12	25	18	10	14	19	10	13	12	29
	Copper	mg/kg	5	**5000**					<5	<5	<5	8	<5	-	280	<5	-	<5	<5	<5	6	<5	<5	9	<5	12	<5
	Lead	mg/kg	5	**1500**		**1500**		**6000**	11	13	23	24	18	-	240	17	-	15	15	14	21	15	18	14	12	41	20
	Mercury	mg/kg	0.1	**75**		**50**		**200**	<0.1	<0.1	<0.1	0.1	<0.1	-	0.6	<0.1	-	<0.1	<0.1	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Nickel	mg/kg	2	**3000**		**1050**		**4200**	<2	2	<2	4	<2	-	81	<2	-	<2	13	3	2	<2	7	<2	<2	6	<2
	Zinc	mg/kg	5	**35000**					<5	<5	<5	40	<5	-	992	<5	-	18	10	6	136	<5	5	<5	<5	36	<5
TPH	TPH C 6 - C 9 Fraction	mg/kg	10	**65** [1]		**650** [3]		**2600** [3]	<10	<10	<10	<10	<10	-	<10	<10	-	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
	TPH C10 - C14 Fraction	mg/kg	50						<50	<50	<50	<50	<50	-	<50	<50	-	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
	TPH C15 - C28 Fraction	mg/kg	100						<100	<100	<100	<100	<100	-	190	<100	-	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
	TPH C29-C36 Fraction	mg/kg	100						<100	<100	<100	<100	<100	-	220	<100	-	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
	TPH+C10 - C36 (Sum of total)	mg/kg		**1000** [1]		**10000** [3]		**40000** [3]	<250	<250	<250	<250	<250	-	435	<250	-	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250
BTEX	Benzene	mg/kg	0.2	**1** [1]		**10** [3]		**40** [3]	<0.2	<0.2	<0.2	<0.2	<0.2	-	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Ethylbenzene	mg/kg	0.5	**50** [1]		**600** [3]		**2400** [3]	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Toluene	mg/kg	0.5	**130** [1]		**288** [3]		**1152** [3]	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Xylene (m & p)	mg/kg	0.5						<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Xylene (o)	mg/kg	0.5						<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Xylene Total	mg/kg		**25** [1]		**1000** [3]		**4000** [3]	<1	<1	<1	<1	<1	-	<1	<1	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
PAH	Acenaphthene	mg/kg	0.5						<0.5	-	-	<0.5	-	-	-	-	-	<0.5	-	-	-	-	-	-	<0.5	<0.5	-
	Acenaphthylene	mg/kg	0.5						<0.5	-	-	<0.5	-	-	-	-	-	<0.5	-	-	-	-	-	-	<0.5	<0.5	-
	Anthracene	mg/kg	0.5						<0.5	-	-	<0.5	-	-	-	-	-	<0.5	-	-	-	-	-	-	<0.5	<0.5	-
	Benz(a)anthracene	mg/kg	0.5						<0.5	-	-	<0.5	-	-	-	-	-	<0.5	-	-	-	-	-	-	<0.5	<0.5	-
	Benzo(a) pyrene	mg/kg	0.5	**5**		**0.8** [3]		**3.2** [3]	<0.5	-	-	<0.5	-	-	-	-	-	<0.5	-	-	-	-	-	-	<0.5	<0.5	-
	Benzo(b)fluoranthene	mg/kg	0.5						<0.5	-	-	<0.5	-	-	-	-	-	<0.5	-	-	-	-	-	-	<0.5	<0.5	-
	Benzo(g,h,i)perylene	mg/kg	0.5						<0.5	-	-	<0.5	-	-	-	-	-	<0.5	-	-	-	-	-	-	<0.5	<0.5	-
	Benzo(k)fluoranthene	mg/kg	0.5						<0.5	-	-	<0.5	-	-	-	-	-	<0.5	-	-	-	-	-	-	<0.5	<0.5	-
	Chrysene	mg/kg	0.5						<0.5	-	-	<0.5	-	-	-	-	-	<0.5	-	-	-	-	-	-	<0.5	<0.5	-
	Dibenz(a,h)anthracene	mg/kg	0.5						<0.5	-	-	<0.5	-	-	-	-	-	<0.5	-	-	-	-	-	-	<0.5	<0.5	-
	Fluoranthene	mg/kg	0.5						<0.5	-	-	<0.5	-	-	-	-	-	<0.5	-	-	-	-	-	-	<0.5	<0.5	-
	Fluorene	mg/kg	0.5						<0.5	-	-	<0.5	-	-	-	-	-	<0.5	-	-	-	-	-	-	<0.5	<0.5	-
	Indeno(1,2,3-c,d)pyrene	mg/kg	0.5						<0.5	-	-	<0.5	-	-	-	-	-	<0.5	-	-	-	-	-	-	<0.5	<0.5	-
	Naphthalene	mg/kg	0.5						<0.5	-	-	<0.5	-	-	-	-	-	<0.5	-	-	-	-	-	-	<0.5	<0.5	-
	Phenanthrene	mg/kg	0.5						<0.5	-	-	<0.5	-	-	-	-	-	<0.5	-	-	-	-	-	-	<0.5	<0.5	-
	Pyrene	mg/kg	0.5						<0.5	-	-	<0.5	-	-	-	-	-	<0.5	-	-	-	-	-	-	<0.5	<0.5	-
	Total PAH	mg/kg				**200**		**800**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OCP	4,4-DDE	mg/kg	0.05						<0.05	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	a-BHC	mg/kg	0.05						<0.05	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Aldrin	mg/kg	0.05						<0.05	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Aldrin + Dieldrin	mg/kg		**50**					<0.1	-	-	0.085	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	b-BHC	mg/kg	0.05						<0.05	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	cis-Chlordane	mg/kg	0.05						<0.05	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	d-BHC	mg/kg	0.05						<0.05	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	DDD	mg/kg	0.05						<0.05	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	DDT	mg/kg	0.2						<0.2	-	-	<0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	DDT+DDE+DDD	mg/kg		**1000**					<0.3	-	-	<0.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Dieldrin	mg/kg	0.05						<0.05	-	-	0.06	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Endosulfan I	mg/kg	0.05						<0.05	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Endosulfan II	mg/kg	0.05						<0.05	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Endosulfan sulphate	mg/kg	0.05			**60** [3]		**240** [3]	<0.05	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Endrin	mg/kg	0.05						<0.05	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Endrin aldehyde	mg/kg	0.05						<0.05	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Endrin ketone	mg/kg	0.05						<0.05	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	g-BHC (Lindane)	mg/kg	0.05						<0.05	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Heptachlor	mg/kg	0.05	**50**					<0.05	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Heptachlor epoxide	mg/kg	0.05						<0.05	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Hexachlorobenzene	mg/kg	0.05						<0.05	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Methoxychlor	mg/kg	0.2						<0.2	-	-	<0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	trans-chlordane	mg/kg	0.05						<0.05	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PCB	PCBs (Sum of total)	mg/kg	0.1	**50**					<0.1	-	-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Asbestos		na	na	**Detected**					ND	-	-	ND	-	ND	-	-	ND	-	-	-	-	-	-	-	-	ND	-
Leachable Metals by ICPAES (mg/L)																										
	Arsenic	mg/L	0.1		**5**		**20**		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Cadmium	mg/L	0.05		**1**		**4**		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Chromium	mg/L	0.1		**5**		**20**		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Copper	mg/L	0.1						-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Lead	mg/L	0.1		**5**		**20**		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Mercury	mg/L	0.001		**0.2**		**0.8**		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Nickel	mg/L	0.1		**2**		**8**		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Zinc	mg/L	0.1						-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

[1] NSW EPA (1994) Guidelines for Assessing Service Station Sites, Table

coffey environments
SPECIALISTS IN LIVING AND WORKING PLACES

Table LR2 - Groundwater Results
630 - 726 Princes Hwy Environmental Assessment

				THRESHOLD CONCENTRATIONS																		
				Marine water		Recreational		Other														
Group	Chemical Name	Units	EQL																			
Field_ID										MW20	MW19	MW2	MW4	MW7	MW6	MW8	MW9	MW10	MW11	MW12	MW14	MW15	MW16	MW13
Sample_Date-Time										05/06/2008	05/06/2008	05/06/2008	05/06/2008	05/06/2008	05/06/2008	05/06/2008	05/06/2008	05/06/2008	06/06/2008	06/06/2008	06/06/2008	06/06/2008	06/06/2008	06/06/2008
Sample Origin										Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Metals	Arsenic	µg/L	1	2.3	2	50	3			<1	**3**	<1	**4**	<1	1	**16**	**92**	<1	2	<1	<1	<1	<1	<1
	Cadmium	µg/L	0.1	0.7	1	5	3			**0.8**	<0.1	<0.1	<0.1	0.2	0.2	0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2
	Chromium (as Cr III)	µg/L	1	27.4	1	50	3			<1	<1	<1	<5	<1	<1	<5	<1	<1	<1	<1	<1	<1	<1	<1
	Copper	µg/L	1	1.3	1	1000	3			1	1	**3**	1	**20**	**2**	**38**	**3**	**4**	**3**	**4**	**6**	**3**	**3**	**5**
	Lead	µg/L	1	4.4	1	50	3			<1	1	<1	<1	**6**	<1	**160**	<1	<1	3	<1	<1	<1	<1	<1
	Mercury (inorganic)	µg/L	0.1	0.1	1	1	3			<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**0.2**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Nickel	µg/L	1	7	1	100	3			<1	**7**	4	3	**29**	**23**	**12**	**53**	1	2	4	4	5	2	4
	Zinc	µg/L	5	15	1	5000	3			10	**19**	**31**	**27**	**144**	**143**	**262**	**47**	**39**	**71**	**45**	**19**	**38**	13	**48**
TPH	C6 - C9 Fraction	µg/L	20	20	4					<20	**130**	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20
	C10 - C14 Fraction	µg/L	50	50	4					<50	**360**	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
	C15 - C28 Fraction	µg/L	100	100	4					<100	<100	<100	<100	<100	<100	**200**	<100	<100	<100	<100	<100	<100	<100	<100
	C29 - C36 Fraction	µg/L	50	50	4					<50	<50	<50	<50	<50	<50	**100**	<50	<50	<50	<50	<50	<50	<50	<50
	Total C10 - C36	µg/L						375	5	0	490	0	0	0	0	300	0	0	0	0	0	0	0	0
BTEX	Benzene	µg/L	1	500	1	10	3			<1	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Toluene	µg/L	2	180	2					<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
	Ethylbenzene	µg/L	2	80	2					<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
	meta & para-Xylene	µg/L	2							<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
	ortho-Xylene	µg/L	2							<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
	Total Xylenes	µg/L	4	75	2					<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
PAH	Naphthalene	µg/L	1	50	1					<1	1.1	<1	-	-	-	<1	-	-	-	<1	<1	-	<1	<1
	Acenaphthylene	µg/L	1							<1	<1	<1	-	-	-	<1	-	-	-	<1	<1	-	<1	<1
	Acenaphthene	µg/L	1							<1	<1	<1	-	-	-	<1	-	-	-	<1	<1	-	<1	<1
	Fluorene	µg/L	1							<1	<1	<1	-	-	-	<1	-	-	-	<1	<1	-	<1	<1
	Phenanthrene	µg/L	1	0.6	2					<1	<1	<1	-	-	-	<1	-	-	-	<1	<1	-	<1	<1
	Anthracene	µg/L	1	0.01	2					<1	<1	<1	-	-	-	<1	-	-	-	<1	<1	-	<1	<1
	Fluoranthene	µg/L	1	1	2					<1	<1	<1	-	-	-	<1	-	-	-	<1	<1	-	<1	<1
	Pyrene	µg/L	1							<1	<1	<1	-	-	-	<1	-	-	-	<1	<1	-	<1	<1
	Benza[a]anthracene	µg/L	1							<1	<1	<1	-	-	-	<1	-	-	-	<1	<1	-	<1	<1
	Chrysene	µg/L	1							<1	<1	<1	-	-	-	<1	-	-	-	<1	<1	-	<1	<1
	Benzo[b]fluoranthene	µg/L	1							<1	<1	<1	-	-	-	<1	-	-	-	<1	<1	-	<1	<1
	Benzo[k]fluoranthene	µg/L	1							<1	<1	<1	-	-	-	<1	-	-	-	<1	<1	-	<1	<1
	Benzo[a]pyrene	µg/L	0.5	0.1	2	0.01	3			<0.5	<0.5	<0.5	-	-	-	<0.5	-	-	-	<0.5	<0.5	-	<0.5	<0.5
	Indeno[123-cd]pyrene	µg/L	1							<1	<1	<1	-	-	-	<1	-	-	-	<1	<1	-	<1	<1
	Dibenzo[ah]anthracene	µg/L	1							<1	<1	<1	-	-	-	<1	-	-	-	<1	<1	-	<1	<1
	Benzo[ghi]perylene	µg/L	1							<1	<1	<1	-	-	-	<1	-	-	-	<1	<1	-	<1	<1
Phenols	Phenol	µg/L	1	400	1					<1.0	<1.0	<1.0	-	-	-	<1.0	-	-	-	<1.0	<1.0	-	<1.0	<1.0
	2-Chlorophenol	µg/L	1	340	2					<1.0	<1.0	<1.0	-	-	-	<1.0	-	-	-	<1.0	<1.0	-	<1.0	<1.0
	2-Methylphenol	µg/L	1							<1.0	<1.0	<1.0	-	-	-	<1.0	-	-	-	<1.0	<1.0	-	<1.0	<1.0
	3,4-Methylphenol	µg/L	2							<1.0	<1.0	<1.0	-	-	-	<1.0	-	-	-	<1.0	<1.0	-	<1.0	<1.0
	2-Nitrophenol	µg/L	1	2	2					<1.0	<1.0	<1.0	-	-	-	<1.0	-	-	-	<1.0	<1.0	-	<1.0	<1.0
	2,4-Dimethylphenol	µg/L	1	2	2					<1.0	<1.0	<1.0	-	-	-	<1.0	-	-	-	<1.0	<1.0	-	<1.0	<1.0
	2,4-Dichlorophenol	µg/L	1	120	2					<1.0	<1.0	<1.0	-	-	-	<1.0	-	-	-	<1.0	<1.0	-	<1.0	<1.0
	2,6-Dichlorophenol	µg/L	1	34	2					<1.0	<1.0	<1.0	-	-	-	<1.0	-	-	-	<1.0	<1.0	-	<1.0	<1.0
	4 Chloro 3 Methylphenol	µg/L	1							<1.0	<1.0	<1.0	-	-	-	<1.0	-	-	-	<1.0	<1.0	-	<1.0	<1.0
	2,4,6-Trichlorophenol	µg/L	1	3	2	10	3			<1.0	<1.0	<1.0	-	-	-	<1.0	-	-	-	<1.0	<1.0	-	<1.0	<1.0
	2,4,5-Trichlorophenol	µg/L	1	4	2	1	3			<1.0	<1.0	<1.0	-	-	-	<1.0	-	-	-	<1.0	<1.0	-	<1.0	<1.0
	Pentachlorophenol	µg/L	2	22	1	10	3			<2.0	<2.0	<2.0	-	-	-	<2.0	-	-	-	<2.0	<2.0	-	<2.0	<2.0
Ammonia	Ammonia (sampled 13/6/2008)	µg/L	0.010	0.91		0.010				-	-	<0.010	-	**2.31**	**0.243**	**78.1**	-	-	-	-	<0.010	<0.010	<0.010	<0.020
	Ammonia (sampled 18/6/2008)	µg/L	0.010	0.91		0.010				<0.050	<0.050	<0.050	<0.050	**1.86**	**0.285**	**73.9**	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050

Notes:

Concentration exceeds Marine Water Guidelines
Concentration exceeds ANZECC Recreational Use Guidelines
Concentration exceeds Dutch Intervention Values

[1] Based on ANZECC (2000) Marine Guidelines for protection of 95% species
[2] Based on ANZECC (2000) Low Reliability Trigger Values for Marine Water
[3] Based on ANZECC (2000) guideline for recreational water quality and aesthetics
[4] Based on LORs in accordance with the DECC (2007) Guidelines for the Assessment and Management of Groundwater Contamination
[5] Based on Dutch Intervention Values
- Not Analysed
ND Not Detected

1/3 Rider Boulevard
Rhodes, NSW 2138
Ph: 02 8083 1600

Table LR3 - Soil Duplicate RPDs
630-726 Princes Hwy Environmental Assessment

Results in mg/kg unless otherwise specified

Sample ID	BH9 2.5-2.7	DUP 1	RPD %	BH2 0.5-0.8	DUP 2	RPD%	BH2 0.5-0.8	DUP 2a	RPD%	BH23 0.5-0.7	DUP 4	RPD%	BH21 1.0-1.2	DUP 5	RPD%	BH21 1.0-1.2	DUP 5a	RPD%	BH18 1.0-1.2	DUP 6	RPD%	BH11 1.5-1.7
Duplicate	19/05/2008	19/05/2008		20/05/2008	20/05/2008		20/05/2008	20/05/2008		21/05/2008	21/05/2008		21/05/2008	21/05/2008		21/05/2008	21/05/2008		21/05/2008	21/05/2008		23/05/2008
Date of Sampling	FILL			FILL			FILL			FILL			FILL			FILL			FILL			FILL
HEAVY METALS																						
Arsenic	8	9	12	6	8	29	6	6	0	11	8	32	6	9	40	6	6	0	7	6	15	13
Cadmium	<1	<1	ND	<1	<1	ND	<1	<0.1	ND	<1	<1	ND	<1	<1	ND	<1	0	NC	<1	<1	ND	<1
Chromium (total)	16	19	17	7	8	13	7	5	33	11	13	17	10	15	40	10	8	22	12	13	8	14
Copper	32	30	6	12	18	40	12	10	18	28	26	7	37	62	51	37	24	43	58	46	23	16
Lead	93	97	4	8	8	0	8	6	29	32	36	12	51	66	26	51	31	49	78	427	138	57
Mercury	0.2	0.1	67	<0.1	<0.1	ND	<0.1	-	NC	<0.1	<0.1	ND	<0.1	<0.1	ND	<0.1	-	NC	0.1	<0.1	ND	<0.1
Nickel	6	6	0	5	5	0	5	3	50	14	14	0	9	9	0	9	5	57	10	6	50	8
Zinc	119	118	1	43	55	24	43	36	18	127	120	6	42	49	15	42	39	7	136	86	45	79
TOTAL PETROLEUM HYDROCARBONS																						
C6 - C9 Fraction	<10	<10	ND	<10	<10	ND	<10	-	NC	<10	<10	ND	<10	<10	ND	<10	-	NC	<10	<10	ND	<10
C10 - C14 Fraction	<50	<50	ND	<50	<50	ND	<50	<50	ND	<50	<50	ND	<50	<50	ND	<50	<50	ND	<50	<50	ND	<50
C15 - C28 Fraction	<100	<100	ND	<100	<100	ND	<100	<100	ND	<100	<100	ND	<100	<100	ND	<100	<100	ND	<100	<100	ND	<100
C29 - C36 Fraction	<100	<100	ND	<100	<100	ND	<100	<100	ND	<100	<100	ND	<100	<100	ND	<100	<100	ND	<100	<100	ND	<100
Total C6-C36	<250	<250	ND	<250	<250	ND	<250	-	NC	<250	<250	ND	<250	<250	ND	<250	-	NC	<250	<250	ND	<250
BTEX																						
Benzene	<0.2	<0.2	ND	<0.2	<0.2	ND	<0.2	<0.2	ND	<0.2	<0.2	ND	<0.2	<0.2	ND	<0.2	<0.2	ND	<0.2	<0.2	ND	<0.2
Toluene	<0.5	<0.5	ND	<0.5	<0.5	ND	<0.5	<0.5	ND	<0.5	<0.5	ND	<0.5	<0.5	ND	<0.5	<0.5	ND	<0.5	<0.5	ND	<0.5
Ethylbenzene	<0.5	<0.5	ND	<0.5	<0.5	ND	<0.5	<0.5	ND	<0.5	<0.5	ND	<0.5	<0.5	ND	<0.5	<0.5	ND	<0.5	<0.5	ND	<0.5
meta & para-Xylene	<0.5	<0.5	ND	<0.5	<0.5	ND	<0.5	<1	ND	<0.5	<0.5	ND	<0.5	<0.5	ND	<0.5	<1	ND	<0.5	<0.5	ND	<0.5
ortho-Xylene	<0.5	<0.5	ND	<0.5	<0.5	ND	<0.5	<0.5	ND	<0.5	<0.5	ND	<0.5	<0.5	ND	<0.5	<0.5	ND	<0.5	<0.5	ND	<0.5
Total Xylenes	<1	<1	ND	<1	<1	ND	<1	-	NC	<1	<1	ND	<1	<1	ND	<1	-	NC	<1	<1	ND	<1
POLYCYCLIC AROMATIC HYDROCARBONS																						
Acenaphthene	-	-	-	<0.5	<0.5	ND	<0.5	<0.5	ND	-	-	-	<0.5	<0.5	ND	<0.5	<0.5	ND	<0.5	-	NC	-
Acenaphthylene	-	-	-	<0.5	<0.5	ND	<0.5	<0.5	ND	-	-	-	<0.5	<0.5	ND	<0.5	<0.5	ND	<0.5	-	NC	-
Anthracene	-	-	-	<0.5	<0.5	ND	<0.5	<0.5	ND	-	-	-	<0.5	<0.5	ND	<0.5	<0.5	ND	<0.5	-	NC	-
Benz(a)anthracene	-	-	-	<0.5	<0.5	ND	<0.5	<0.5	ND	-	-	-	<0.5	<0.5	ND	<0.5	<0.5	ND	1.1	-	NC	-
Benzo(a) pyrene	-	-	-	<0.5	<0.5	ND	<0.5	<0.5	ND	-	-	-	<0.5	<0.5	ND	<0.5	<0.5	ND	1.2	-	NC	-
Benzo(b)fluoranthene	-	-	-	<0.5	<0.5	ND	<0.5	<1	ND	-	-	-	<0.5	<0.5	ND	<0.5	<1	ND	1.2	-	NC	-
Benzo(g,h,i)perylene	-	-	-	<0.5	<0.5	ND	<0.5	<0.5	ND	-	-	-	<0.5	<0.5	ND	<0.5	<0.5	ND	0.7	-	NC	-
Benzo(k)fluoranthene	-	-	-	<0.5	<0.5	ND	<0.5	<1	ND	-	-	-	<0.5	<0.5	ND	<0.5	<1	ND	<0.5	-	NC	-
Chrysene	-	-	-	<0.5	<0.5	ND	<0.5	<0.5	ND	-	-	-	<0.5	<0.5	ND	<0.5	<0.5	ND	1	-	NC	-
Dibenz(a,h)anthracene	-	-	-	<0.5	<0.5	ND	<0.5	<0.5	ND	-	-	-	<0.5	<0.5	ND	<0.5	<0.5	ND	<0.5	-	NC	-
Fluoranthene	-	-	-	<0.5	<0.5	ND	<0.5	<0.5	ND	-	-	-	<0.5	<0.5	ND	<0.5	<0.5	ND	1.7	-	NC	-
Fluorene	-	-	-	<0.5	<0.5	ND	<0.5	<0.5	ND	-	-	-	<0.5	<0.5	ND	<0.5	<0.5	ND	<0.5	-	NC	-
Indeno(1,2,3-c,d)pyrene	-	-	-	<0.5	<0.5	ND	<0.5	<0.5	ND	-	-	-	<0.5	<0.5	ND	<0.5	<0.5	ND	0.6	-	NC	-
Naphthalene	-	-	-	<0.5	<0.5	ND	<0.5	<0.5	ND	-	-	-	<0.5	<0.5	ND	<0.5	<0.5	ND	<0.5	-	NC	-
Phenanthrene	-	-	-	<0.5	<0.5	ND	<0.5	<0.5	ND	-	-	-	<0.5	<0.5	ND	<0.5	<0.5	ND	0.6	-	NC	-
Pyrene	-	-	-	<0.5	<0.5	ND	<0.5	<0.5	ND	-	-	-	<0.5	<0.5	ND	<0.5	<0.5	ND	1.7	-	NC	-
Total PAH	-	-	-	-	-	ND	-	-	-	-	-	-	-	-	ND	-	-	-	9.8	-	NC	-
ORGANOCHLORINE PESTICIDES																						
4,4-DDE	-	-	-	-	-	-	-	-	-	<0.05	-	NC	-	-	-	-	-	-	-	-	-	-
a-BHC	-	-	-	-	-	-	-	-	-	<0.05	-	NC	-	-	-	-	-	-	-	-	-	-
Aldrin	-	-	-	-	-	-	-	-	-	<0.05	-	NC	-	-	-	-	-	-	-	-	-	-
Aldrin + Dieldrin	-	-	-	-	-	-	-	-	-	<0.1	-	NC	-	-	-	-	-	-	-	-	-	-
b-BHC	-	-	-	-	-	-	-	-	-	<0.05	-	NC	-	-	-	-	-	-	-	-	-	-
cis-Chlordane	-	-	-	-	-	-	-	-	-	<0.05	-	NC	-	-	-	-	-	-	-	-	-	-
d-BHC	-	-	-	-	-	-	-	-	-	<0.05	-	NC	-	-	-	-	-	-	-	-	-	-
DDD	-	-	-	-	-	-	-	-	-	<0.05	-	NC	-	-	-	-	-	-	-	-	-	-
DDT	-	-	-	-	-	-	-	-	-	<0.2	-	NC	-	-	-	-	-	-	-	-	-	-
DDT+DDE+DDD	-	-	-	-	-	-	-	-	-	<0.3	-	NC	-	-	-	-	-	-	-	-	-	-
Dieldrin	-	-	-	-	-	-	-	-	-	<0.05	-	NC	-	-	-	-	-	-	-	-	-	-
Endosulfan I	-	-	-	-	-	-	-	-	-	<0.05	-	NC	-	-	-	-	-	-	-	-	-	-
Endosulfan II	-	-	-	-	-	-	-	-	-	<0.05	-	NC	-	-	-	-	-	-	-	-	-	-
Endosulfan sulphate	-	-	-	-	-	-	-	-	-	<0.05	-	NC	-	-	-	-	-	-	-	-	-	-
Endrin	-	-	-	-	-	-	-	-	-	<0.05	-	NC	-	-	-	-	-	-	-	-	-	-
Endrin aldehyde	-	-	-	-	-	-	-	-	-	<0.05	-	NC	-	-	-	-	-	-	-	-	-	-
Endrin ketone	-	-	-	-	-	-	-	-	-	<0.05	-	NC	-	-	-	-	-	-	-	-	-	-
g-BHC (Lindane)	-	-	-	-	-	-	-	-	-	<0.05	-	NC	-	-	-	-	-	-	-	-	-	-
Heptachlor	-	-	-	-	-	-	-	-	-	<0.05	-	NC	-	-	-	-	-	-	-	-	-	-
Heptachlor epoxide	-	-	-	-	-	-	-	-	-	<0.05	-	NC	-	-	-	-	-	-	-	-	-	-
Hexachlorobenzene	-	-	-	-	-	-	-	-	-	<0.05	-	NC	-	-	-	-	-	-	-	-	-	-
Methoxychlor	-	-	-	-	-	-	-	-	-	<0.2	-	NC	-	-	-	-	-	-	-	-	-	-
trans-chlordane	-	-	-	-	-	-	-	-	-	<0.05	-	NC	-	-	-	-	-	-	-	-	-	-
PCBs			-																			
Total PCBs	-	-	-	-	-	-	-	-	-	<0.1	-	NC	-	-	-	-	-	-	-	-	-	-

Notes:

RPD exceeds contol limit of 50%

ND Both primary and duplicate samples were not detected

NC RPD not calculated as primary sample was not detected, while the duplicate sample produced values above detection limits, or vice versa

- Sample not analysed or one of either primary or duplicate sample were not analysed

1/3 Rider Boulevard
Rhodes, NSW 2138
Ph: 02 8083 1600

Table LR3 - Soil Duplicate RPDs
630-726 Princes Hwy Environmental Assessment

Results in mg/kg unless otherwise specified

Sample ID	DUP7	RPD%	BH13 1.5-1.7	DUP8	RPD%	BH13 1.5-1.7	DUP8a	RPD%	BH5 1.0-1.2	DUP10	RPD%	BH5 1.3-1.5	DUP11	RPD%	BH5 1.3-1.5	DUP11a	RPD%	MW11 0.5-0.7	DUPZ 6	RPD%	MW15 1.5-1.7	DUPZ 7
Duplicate	23/05/2008		23/05/2008	23/05/2008		23/05/2008	23/05/2008		23/05/2008	23/05/2008		23/05/2008	23/05/2008		23/05/2008	23/05/2008		27/05/2008	27/05/2008		27/05/2008	27/05/2008
Date of Sampling			FILL			FILL			FILL			FILL			FILL			FILL			FILL	
HEAVY METALS																						
Arsenic	10	26	8	9	12	8	7	13	8	10	22	<5	<5	ND	<5	4	NC	9	10	11	13	6
Cadmium	<1	ND	<1	<1	ND	<1	0	NC	6	4	40	<1	<1	ND	<1	1	NC	<1	<1	ND	<1	<1
Chromium (total)	10	33	5	5	0	5	4	22	10	11	10	6	6	0	6	6	0	43	49	13	23	14
Copper	16	0	47	55	16	47	41	14	38	31	20	14	10	33	14	16	13	16	16	0	7	7
Lead	42	30	19	17	11	19	15	24	42	48	13	8	9	12	8	22	93	85	61	33	36	34
Mercury	<0.1	ND	<0.1	<0.1	ND	<0.1	-	NC	<0.1	<0.1	ND	<0.1	<0.1	ND	<0.1	-	NC	<0.1	<0.1	ND	<0.1	<0.1
Nickel	10	22	18	18	0	18	13	32	13	10	26	4	3	29	4	5	22	22	28	24	<2	<2
Zinc	79	0	81	70	15	81	70	15	341	346	1	80	80	0	80	153	63	68	56	19	19	19
TOTAL PETROLEUM HYDROCARBONS																						
C6 - C9 Fraction	<10	ND	<10	<10	ND	<10	-	NC	<10	<10	ND	14	<10	NC	14	-	NC	<10	<10	ND	<10	<10
C10 - C14 Fraction	<50	ND	<50	<50	ND	<50	<50	ND	110	160	37	2060	3180	43	2060	2030	1	<50	<50	ND	<50	<50
C15 - C28 Fraction	<100	ND	130	<100	NC	130	<100	NC	890	860	3	4380	5020	14	4380	3860	13	<100	<100	ND	<100	<100
C29 - C36 Fraction	<100	ND	<100	<100	ND	<100	110	NC	<100	<100	ND	<100	<100	ND	<100	<100	ND	<100	<100	ND	<100	<100
Total C6-C36	<250	ND	205	<250	NC	205	-	NC	1050	1070	2	6490	8250	24	6490	-	NC	<250	<250	ND	<250	<250
BTEX																						
Benzene	<0.2	ND	<0.2	<0.2	ND	<0.2	<0.2	ND	<0.2	<0.2	ND	<0.2	<0.2	ND	<0.2	<0.2	ND	<0.2	<0.2	ND	<0.2	<0.2
Toluene	<0.5	ND	<0.5	<0.5	ND	<0.5	<0.5	ND	<0.5	<0.5	ND	<0.5	<0.5	ND	<0.5	<0.5	ND	<0.5	<0.5	ND	<0.5	<0.5
Ethylbenzene	<0.5	ND	<0.5	<0.5	ND	<0.5	<0.5	ND	<0.5	<0.5	ND	<0.5	<0.5	ND	<0.5	<0.5	ND	<0.5	<0.5	ND	<0.5	<0.5
meta & para-Xylene	<0.5	ND	<0.5	<0.5	ND	<0.5	<1	ND	<0.5	<0.5	ND	<0.5	<0.5	ND	<0.5	<1	ND	<0.5	<0.5	ND	<0.5	<0.5
ortho-Xylene	<0.5	ND	<0.5	<0.5	ND	<0.5	<0.5	ND	<0.5	<0.5	ND	<0.5	<0.5	ND	<0.5	<0.5	ND	<0.5	<0.5	ND	<0.5	<0.5
Total Xylenes	<1	ND	<1	<1	ND	<1	-	NC	<1	<1	ND	<1	<1	ND	<1	-	NC	<1	<1	ND	<1	<1
POLYCYCLIC AROMATIC HYDROCARBONS																						
Acenaphthene	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	NC	-	-
Acenaphthylene	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	NC	-	-
Anthracene	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	NC	-	-
Benz(a)anthracene	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	NC	-	-
Benzo(a) pyrene	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	NC	-	-
Benzo(b)fluoranthene	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	NC	-	-
Benzo(g,h,i)perylene	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	NC	-	-
Benzo(k)fluoranthene	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	NC	-	-
Chrysene	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	NC	-	-
Dibenz(a,h)anthracene	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	NC	-	-
Fluoranthene	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	NC	-	-
Fluorene	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	NC	-	-
Indeno(1,2,3-c,d)pyrene	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	NC	-	-
Naphthalene	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	NC	-	-
Phenanthrene	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	NC	-	-
Pyrene	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	NC	-	-
Total PAH	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ORGANOCHLORINE PESTICIDES																						
4,4-DDE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
a-BHC	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Aldrin	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Aldrin + Dieldrin	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
b-BHC	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
cis-Chlordane	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
d-BHC	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DDD	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DDT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DDT+DDE+DDD	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dieldrin	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Endosulfan I	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Endosulfan II	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Endosulfan sulphate	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Endrin	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Endrin aldehyde	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Endrin ketone	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
g-BHC (Lindane)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Heptachlor	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Heptachlor epoxide	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hexachlorobenzene	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Methoxychlor	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
trans-chlordane	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PCBs																						
Total PCBs	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

1/3 Rider Boulevard
Rhodes, NSW 2138
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Table LR3 - Soil Duplicate RPDs
630-726 Princes Hwy Environmental Assessment

Results in mg/kg unless otherwise specified

Sample ID	RPD%	BH27 1.0-1.2	DUPZ 8	RPD%	MW16 1.0-1.2	DUPZ 9	RPD%	MW13 0.5-0.7	DUPZ 10	RPD%	BH39 _0.5-0.7	DUPZ 11	RPD%	BH41 0.5-0.7	DUPZ 12	RPD%	MW20 1.0-1.2	DUP Z13	RPD%	MW20 1.0-1.2	DUP Z13a	RPD%
Duplicate		28/05/2008	28/05/2008		28/05/2008	28/05/2008		29/05/2008	29/05/2008		29/05/2008	29/05/2008		30/05/2008	30/05/2008		3/06/2008	3/06/2008		3/06/2008	3/06/2008	
Date of Sampling		FILL			FILL			FILL			FILL			FILL			RESIDUAL			RESIDUAL		
HEAVY METALS																						
Arsenic	74	7	6	15	6	6	0	8	7	13	9	<5	NC	6	7	15	7	9	25	7	7	0
Cadmium	ND	<1	<1	ND	<1	<1	ND	<1	<1	ND	<1	<1	ND	<1	<1	ND	<1	<1	ND	<1	<0.1	ND
Chromium (total)	49	12	10	18	14	14	0	79	28	95	14	10	33	12	13	8	15	17	13	15	15	0
Copper	0	<5	6	NC	<5	<5	ND	21	9	80	23	28	20	<5	<5	ND	17	20	16	17	16	6
Lead	6	15	21	33	13	15	14	21	30	35	64	59	8	14	12	15	32	24	29	32	24	29
Mercury	ND	<0.1	<0.1	ND	<0.1	<0.1	ND	<0.1	<0.1	ND	0.2	0.1	67	<0.1	<0.1	ND	<0.1	<0.1	ND	<0.1	-	NC
Nickel	ND	<2	2	NC	2	<2	NC	56	11	134	19	7	92	5	<2	NC	<2	<2	ND	<2	1	NC
Zinc	0	18	136	153	<5	<5	ND	51	20	87	95	87	9	10	<5	NC	61	42	37	61	34	57
TOTAL PETROLEUM HYDROCARBONS																						
C6 - C9 Fraction	ND	<10	<10	ND	<10	<10	ND	<10	<10	ND	<10	<10	ND	<10	<10	ND	<10	<10	ND	<10	-	NC
C10 - C14 Fraction	ND	<50	<50	ND	<50	<50	ND	<50	<50	ND	<50	<50	ND	<50	<50	ND	<50	<50	ND	<50	<50	ND
C15 - C28 Fraction	ND	<100	<100	ND	<100	<100	ND	<100	<100	ND	<100	<100	ND	<100	<100	ND	<100	<100	ND	<100	<100	ND
C29 - C36 Fraction	ND	<100	<100	ND	<100	<100	ND	<100	<100	ND	<100	<100	ND	<100	<100	ND	<100	<100	ND	<100	<100	ND
Total C6-C36	ND	<250	<250	ND	<250	<250	ND	<250	<250	ND	<250	<250	ND	<250	<250	ND	<250	<250	ND	<250	-	NC
BTEX																						
Benzene	ND	<0.2	<0.2	ND	<0.2	<0.2	ND	<0.2	<0.2	ND	<0.2	<0.2	ND	<0.2	<0.2	ND	<0.2	<0.2	ND	<0.2	<0.2	ND
Toluene	ND	<0.5	<0.5	ND	<0.5	<0.5	ND	<0.5	<0.5	ND	<0.5	<0.5	ND	<0.5	<0.5	ND	<0.5	<0.5	ND	<0.5	<0.5	ND
Ethylbenzene	ND	<0.5	<0.5	ND	<0.5	<0.5	ND	<0.5	<0.5	ND	<0.5	<0.5	ND	<0.5	<0.5	ND	<0.5	<0.5	ND	<0.5	<0.5	ND
meta & para-Xylene	ND	<0.5	<0.5	ND	<0.5	<0.5	ND	<0.5	<0.5	ND	<0.5	<0.5	ND	<0.5	<0.5	ND	<0.5	<0.5	ND	<0.5	<1	ND
ortho-Xylene	ND	<0.5	<0.5	ND	<0.5	<0.5	ND	<0.5	<0.5	ND	<0.5	<0.5	ND	<0.5	<0.5	ND	<0.5	<0.5	ND	<0.5	1	NC
Total Xylenes	ND	<1	<1	ND	<1	<1	ND	<1	<1	ND	<1	<1	ND	<1	<1	ND	<1	<1	ND	<1	1	NC
POLYCYCLIC AROMATIC HYDROCARBONS																						
Acenaphthene	-	<0.5	-	NC	-	-	-	<0.5	-	NC	<0.5	<0.5	ND	<0.5	<0.5	ND	-	-	-	-	-	-
Acenaphthylene	-	<0.5	-	NC	-	-	-	<0.5	-	NC	<0.5	<0.5	ND	<0.5	<0.5	ND	-	-	-	-	-	-
Anthracene	-	<0.5	-	NC	-	-	-	<0.5	-	NC	<0.5	<0.5	ND	<0.5	<0.5	ND	-	-	-	-	-	-
Benz(a)anthracene	-	<0.5	-	NC	-	-	-	<0.5	-	NC	<0.5	<0.5	ND	<0.5	<0.5	ND	-	-	-	-	-	-
Benzo(a) pyrene	-	<0.5	-	NC	-	-	-	<0.5	-	NC	<0.5	<0.5	ND	<0.5	<0.5	ND	-	-	-	-	-	-
Benzo(b)fluoranthene	-	<0.5	-	NC	-	-	-	<0.5	-	NC	<0.5	<0.5	ND	<0.5	<0.5	ND	-	-	-	-	-	-
Benzo(g,h,i)perylene	-	<0.5	-	NC	-	-	-	<0.5	-	NC	<0.5	<0.5	ND	<0.5	<0.5	ND	-	-	-	-	-	-
Benzo(k)fluoranthene	-	<0.5	-	NC	-	-	-	<0.5	-	NC	<0.5	<0.5	ND	<0.5	<0.5	ND	-	-	-	-	-	-
Chrysene	-	<0.5	-	NC	-	-	-	<0.5	-	NC	<0.5	<0.5	ND	<0.5	<0.5	ND	-	-	-	-	-	-
Dibenz(a,h)anthracene	-	<0.5	-	NC	-	-	-	<0.5	-	NC	<0.5	<0.5	ND	<0.5	<0.5	ND	-	-	-	-	-	-
Fluoranthene	-	<0.5	-	NC	-	-	-	<0.5	-	NC	<0.5	<0.5	ND	<0.5	<0.5	ND	-	-	-	-	-	-
Fluorene	-	<0.5	-	NC	-	-	-	<0.5	-	NC	<0.5	<0.5	ND	<0.5	<0.5	ND	-	-	-	-	-	-
Indeno(1,2,3-c,d)pyrene	-	<0.5	-	NC	-	-	-	<0.5	-	NC	<0.5	<0.5	ND	<0.5	<0.5	ND	-	-	-	-	-	-
Naphthalene	-	<0.5	-	NC	-	-	-	<0.5	-	NC	<0.5	<0.5	ND	<0.5	<0.5	ND	-	-	-	-	-	-
Phenanthrene	-	<0.5	-	NC	-	-	-	<0.5	-	NC	<0.5	<0.5	ND	<0.5	<0.5	ND	-	-	-	-	-	-
Pyrene	-	<0.5	-	NC	-	-	-	<0.5	-	NC	<0.5	<0.5	ND	<0.5	<0.5	ND	-	-	-	-	-	-
Total PAH	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ORGANOCHLORINE PESTICIDES																						
4,4-DDE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
a-BHC	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Aldrin	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Aldrin + Dieldrin	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
b-BHC	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
cis-Chlordane	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
d-BHC	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DDD	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DDT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DDT+DDE+DDD	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dieldrin	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Endosulfan I	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Endosulfan II	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Endosulfan sulphate	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Endrin	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Endrin aldehyde	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Endrin ketone	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
g-BHC (Lindane)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Heptachlor	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Heptachlor epoxide	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hexachlorobenzene	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Methoxychlor	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
trans-chlordane	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PCBs																						
Total PCBs	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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