

BASELINE

BASELINE CONSULTING PTY LTD

Development Consultants and Engineers

A.C.N. 067 243 314

STAGE 1 & 2

SITE CONTAMINATION ASSESSMENT

RPM PTY LTD,

25-27 HOPE STREET

WEST END

sch 4 - signature

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04/06/03

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Executive Summary

Baseline Consulting has carried out an extensive Stage 1 & Stage 2 site contamination assessment of the site comprising 25 & 27 Hope Street, South Brisbane.

A stage 2 Site Investigation Report and site management plan (SMP) with annexured remediation action plan (RAP) has been prepared for the site in order to obtain a development approval from the Brisbane City Council

The whole site appears to have been filled with material that is now contaminated by heavy metals including lead, copper, arsenic and zinc.

The contaminated fill varies in depth over the site from $< 0.4\text{m}$ to $> 1.0\text{m}$ and contamination is erratic and wide spread.

TCLP (leaching Tests) for lead indicate that some proportion of the fill will require both pre-treatment prior to licensed landfill disposal and direct lined landfill disposal.

The residue, approximately 70 % of the fill material, will require on site stockpiling and sampling in order to classify the volumes for appropriate off site disposal, on site retention and licensed landfill disposal.

Following remediation and validation a validation report will be prepared on order to reclassify the site on the EMR as suitable for any use.

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1. Scope of Work

Baseline Consulting Pty Ltd was requested by Mr Doug Robertson of RPM Pty Ltd to prepare a Stage 2 Site Investigation Report together with a site management plan (SMP) and remediation action plan (RAP) for their property at Hope Street South Brisbane.

The purpose of the program was to develop an SMP acceptable to the EPA in order to obtain a suitability statement with respect to obtaining a Development Approval for the proposed redevelopment of the site for residential use

2. Site Information

a) Site location and description

The site comprises 2 adjacent lots at 25 and 27 Hope Street, South Brisbane the areas and real property descriptions of each Lot are as follows:

- 25 Hope Street – 448 m², Lot 2 on RP 96245
- 27 Hope Street – 455m², Lot 2 on RP 44397

Each Lot is completely covered by an industrial building of same design, with a 150mm concrete floor in good condition.

No 25 Hope Street is currently operated as a vehicle servicing and repair business, Kev Castle Mechanical Pty Ltd.

No. 27 Hope Street is used by the adjacent business Toad Show, an advertising and promotional production company, as a store room and vehicle parking area.

The properties are not listed on the EMR but the assessment is required in relation to conditions applying to IP97 with respect to a substantive change of use.

It is further known to the EPA that properties in Hope Street contain gas works affected fill material which is normally contaminated by heavy metals and PAH residues.

A scaled Plan of both sites is included in Site Layout Plan, Attachment 2 and site photographs are shown in Site photographs, Attachment 4

b) Proposed Use

It is proposed that the site be redeveloped for medium rise residential

c) Site history

Site history details were obtained from the following sources:

- Mrs Anne Jones of Toad Show phone 30047900
- Mr Kev Castle of Kev Castle Mechanical Pty Ltd phone 38462307 (KC Motors)
- Aerial photography 1946 - 1991
- Historical Titles search.

25 Hope Street is a vehicle service and repair centre and 27 Hope is a store room and vehicle parking building

Adjacent land use comprises the following features:

- SW boundary, Hope Street
- NE boundary, Fleet Lane
- SE boundary, Peel Street Place a modern commercial office block.
- NW Gambaro's seafood outlet and office block.

Land Ownership Summary

25 Hope Street, Lot 2 on RP 44397

- April 1927 (Subdivision, 1 allotment 17, section 18, plan 44397) – Frank Gollinker.
- November 1939 – Thomas Bell
- April 1950 – David McDonald
- January 1960 – Richard Mayo & Louis Szegedi
- May 1961- D McDonald & Sons Pty Ltd

27 Hope Street, Lot 2 on RP 96145

- April 1927 (subdivision 2, allotment 17, section 17, plan 44397 – James Redpath
- November 1928 – Alfred Dawson.
- August 1929 – George Pearce
- September 1951 – Ashbey Barton
- September 1958 – Fluorescent Lighting and Television Development Pty Ltd
- June 1961 – Henry H York & Co Pty Ltd
- May 1963 – Printers Machinery and Equipment Co Pty Ltd

Anecdotal evidence from Kev Castle of No 25 indicate that both 25 & 27 Hope Street had been occupied by company Called Genset for several years before his occupancy that commenced 5 years ago.

Genset was involved in the maintenance and sale of electrical generators with No 25 the workshop and No 27 the sales, display and storage section

Aerial photographs

1946: The site appears to be largely tree covered and undeveloped with the exception of a small structure possibly residential fronting onto Hope Street

1972: The current buildings are established and appear to cover the whole site

1991: There is little discernable change from the 1972 photo

There are few details of raw materials used and other than site history occupancy of products stored, maintained or used i.e. fluorescent lighting, television, printing supplies, generator maintenance and sales and latterly the current vehicle workshop activities.

The analytes selected for investigation which include heavy metals, TPH, PAH and OC residues would cover the present operations on a filled site with a past activity range as listed above.

There are no records of spills and details of raw materials and wastes produced other than the current workshop wastes.

KC Motors have a current Environmental license there is no storage of fuel on site

d) Site inspection

Site inspection did not reveal issues that would contradict the known site history details as the entire ground area is occupied by two identical side by side buildings.

The topography is essentially flat with a slight rise on the NE end which exits directly onto Fleet Lane

The 2 arms of the Brisbane River are 200m to the NE and 250m to the NW respectively and the water table in this area is usually below 4.0m.

The flood potential would be significant in at least a 1:100 event, there are no indications of contamination other than normal oil staining on the workshop building floor which is concrete in good condition

There are no roads associated with the site but the buildings although old are in good condition as is the concrete floors covering the whole site.

Other than some *waste oil collection drums* associated with the mechanical workshop there is no evidence of any other waste storage, no stormwater or sewage plans were available for the site.

e) Geology and hydrogeology

The regional and site soil types are alluvial dark brown stiff silt clays and the geology in the area indicate that the site would be underlain by undifferentiated alluvial plains of the Pleistocene and Holocene eras consisting of sands, silt clay and gravels.

The underlying rock types would most probably be the Bunya Phyllite Group consisting mainly of phyllite and chert.

Representative Bore logs are shown in Attachment 8 and details of contamination zones and fill extent are shown in Contamination Zones & Fill Extent Plan, Attachment 9

The sample bore holes were generally only taken to the top 0.2m of natural ground which occurred mainly between < 0.5m to 1.0m.

One sample bore, KC 3, Table 1 was progressed to 3.0m into the natural underlying brown stiff silt clays and there was no indication of intersection of the water table.

Any surface run off would be limited as the whole site is covered by buildings but natural flow direction would be into storm water drains along Hope Street.

3. Sampling Procedures

The sampling objective was to identify if fill were present and in particular ash fill as it is common component in the Hope Street South Brisbane area.

Data from the sampling would be used to define the total fill zone and areas containing ash in order to excavate and directly load for disposal all ash fill and ash affected fill (assuming contaminants are present at levels of concern).

Remaining fill would be stockpiled and tested on a 50m² basis for landfill disposal or as daily cover.

Analytes of expected concern and indeed found on 5 other lots in Hope Street remediation and Stage 2 investigations are Heavy metals and PAH associated with both ash and other fill material and to a lesser degree TPH and Oc's are included as a precaution

There were a total of 20 sample locations for this investigation which are more than statistically significant for an area of 900m².

Samples were taken by a fixed flighted hydraulic drill and a 50mm hand augur with implements cleaned between samples where necessary.

Sample material was collected in Teflon sealed glass jars placed into a car Engels refrigerator and transferred under chain of custody documentation to Gribbles NATA registered Analytical Laboratories at Hawthorne, Victoria.

4. Quality Assurance

All laboratory assurance is included in the Analytical Certificates, Attachment 10 and a field duplicate result is included in Table 3 below.

5. Results

An initial sampling was carried out on 26 / 8 / 02 as adue diligence exercise for RPM to determine if contamination was present and to design a follow up Stage 2 Site Investigation Report and associated site management plan.

5.1 Sampling

Sample locations are shown in Site sampling Plan, Attachment 3 and analytical results are presented in Tables 1 & 2 below:

HEAVY METALS IN SOIL

Sample	Depth m	Profile	Arsenic mg/kg	Cadmium mg/kg	Chromium mg/kg	Copper mg/kg	Lead mg/kg	Nickel mg/kg	Zinc mg/kg	Mercury mg/kg
KC1	0.65-0.90	Deco/gravel clay fill	4.0	< 1.0	8.7	3.5	25	< 2.0	10	0.06
KC1	0.90-1.15	Ash/clay fill	NT	NT	NT	NT	NT	NT	NT	NT
KC1	1.15	Ash/natural	7.5	< 1.0	16	58	860	5.3	610	0.30
KC2	0.20-0.50	Gravel /sand fill	2.4	< 1.0	7.4	3.2	38	4.3	22	0.04
KC3	0.25-0.55	Gravel/sand fill	2.6	< 1.0	7.9	4.4	28	< 2.0	15	0.08
KC3	0.85-1.15	Sand/clay fill	11	< 1.0	19	32	680	12	470	0.56
KC4	0.25-0.55	Sand/gravel fill	2.5	< 1.0	7.6	2.6	17	2.5	11	0.07
KC5	0.35-0.65	Sand ash fill	3.1	< 1.0	9.5	36	2600	4.5	230	0.41
NKC1	0.35-0.65	Sand/ash fill	7.2	< 1.0	16	15	38	12	52	0.10
NKC2	0.20-0.50	Sand / gravel fill	2.8	1.1	13	14	220	11	70	0.17
NKC3	0.20-0.50	Sand ash fill	66	2.5	8.3	5600	2500	110	1800	34

TABLE 1

Comments:

- (i) Data indicate significant contamination with respect to lead at 4 locations KC1, KC3, KC5 and NKC3.
- (ii) There is moderate zinc contamination above EIL but well below HBIT residential at the same 4 locations.
- (iii) Copper is significantly elevated at location NKC3

In three cases there was evidence of significant ash component in each of the samples with elevated heavy metals.

TPH, PAH & OC's IN SOIL

Sample Location	Sample Depth mm	C ₆ - C ₉ mg/kg	C ₁₀ - C ₁₄ mg/kg	C ₁₅ - C ₂₈ mg/kg	C ₂₉ - C ₃₆ mg/kg	PAH mg/kg	OC's mg/kg
KC1	500-750	<20	<20	<20	<20	NT	NT
KC1	750-1000	NT	NT	NT	NT	6	NT
KC1	1000	NT	NT	NT	NT	24 B(a)P - 1	NT
KC2	50-350	<20	<20	24	<20	NT	<LOR
KC3	400-700	NT	NT	NT	NT	NT	<LOR
KC3	700-1000	NT	NT	NT	NT	8	<LOR
KC4	100-400	NT	NT	NT	NT	NT	NT
KC5	200-500	<20	<20	26	<20	NT	<LOR
KC5	500-750	NT	NT	NT	NT	2	NT
NKC1	200-500	NT	NT	NT	NT	4	NT
NKC2	50-350	<20	<20	36	<20	2	NT
NKC3	50-350	NT	NT	NT	NT	2	NT
EPA - EIT		100	100	1000	1000	-	-
HBIT Residential		100	100	1000	1000	20 Benzo A pyrene -1	0.2

TABLE 2

Comments:

- (i) There is no contamination at any of the locations tested with respect to Total Petroleum Hydrocarbon residues.
- (ii) There is no contamination at any of the locations tested with respect to Organo Chlorine Pesticide residues.
- (iii) There is evidence of minor contamination with respect to Poly Aromatic Hydrocarbons at location KC1 (1000).

5.2 Sampling (7/5/03)

A further 12 samples (KC1 – KC6 & NKC 7- NKC12) were recovered on the above date to better quantify the contamination profile over the whole site.

The analytes selected were heavy metals on all samples and PAH only where there was significant ash as previous data indicate that PAH contamination does not represent a problem on this site.

Note:

In the previous sampling KC1 – KC5 went from the NE end to the SW end of the site and in this sampling KC1 – KC 6 went from the SW end to the NE end, see Site Sampling Plan, Attachment 3 – there are different location roundels for each series.

Analytical Data are presented in Table 3 below:

HEAVY METALS & PAH IN SOIL

Sample	Depth m	Leaching	Arsenic mg/kg	Cadmium mg/kg	Chromium mg/kg	Copper mg/kg	Lead mg/kg	Nickel mg/kg	Zinc mg/kg	PAH mg/kg
KC1	0.15-0.30	NT	6.4	< 1.0	20	47	980	13	330	NT
KC1	0.30-0.50	NT	7.6	< 1.0	20	1500	630	21	890	NT
KC2	0.15-0.45	NT	5.2	< 1.0	19	75	460	8.9	170	NT
KC3	0.15-0.45	NT	8.3	< 1.0	12	2.2	8.5	<2.0	6.0	NT
KC3 Dup	0.15-0.45	NT	12	< 1.0	16	< 2.0	10	2.5	2.2	NT
KC5	0.15-0.45	NT	4.1	< 1.0	8.8	< 2.0	14	< 2.0	7.8	NT
KC6	0.20-0.50	NT	3.7	< 1.0	10	< 2.0	6.9	< 2.0	4.8	NT
NKC7	0.10-0.40	NT	1.30 130	6.4	24	600	10 000	100	500	NT
NKC7	0.40-0.60	NT	19	< 1.0	15	120	1100	56	130	< 2
NKC8	0.15-0.35	NT	140	< 1.0	41	1200	790	120	450	NT
NKC8	0.35-0.55	NT	44	< 1.0	15	230	300	30	150	< 2
NKC9	0.15-0.45	NT	41	1.1	58	910	5100	24	360	NT
NKC10	0.30-0.50	NT	3.0	51	22	100	67	16	100	NT
NKC10	0.5-0.70	NT	2.3	< 1.0	13	51	79	18	66	< 2
NKC11	0.25-0.50	NT	9.4	1.9	20	2900	280	22	1000	NT
NKC11Dup	0.25-0.50	NT	4.4	2.0	19	880	160	19	650	NT
NKC 11	0.50-0.70	NT	6.0	< 1.0	9.5	560	180	17	580	NT
NKC12	0.2-0.40	NT	4.2	< 1.0	11	49	130	14	96	NT
NKC12	0.40-0.60	NT	7.6	< 1.0	21	51	59	19	150	NT
KC1	0.15-0.30	NT					3.6			
KC1	0.30-0.50	NT				3.1				
NKC7	0.10-0.40	TCLPmg/L					240			
NKC9	0.15-0.45	TCLPmg/L					36			

TABLE 3

Comment:

- (i) There is evidence of erratic wide spread contamination with respect to lead and copper associated with both lots.
- (ii) There is some of moderate contamination with respect to arsenic at 2 locations.
- (iii) TCLP data with respect to lead confirm that both pre-treatment and lined landfill disposal will be necessary for some spoil.
- (iv) There is satisfactory agreement between field duplicates at location KC3 but not surprising variation at higher levels for Cu and Zn at NK11.

6. Remediation Plan (where applicable)

The remediation plan will require the excavation and disposal of heavy metal contaminated imported fill that covers the site from a depth of < 0.04m at the SW, Hope Street boundary to slightly > 1.0m at the NE Fleet Lane Boundary.

The most serious contaminant is the presence of lead at significant to very high concentrations that exhibits high to very high TCLPL values.

Disposal will need to address 3 different landfill criteria the details of are presented below and location of the areas involved are shown in Site Contamination Zones and Fill Extent Plan, Attachment 10

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Area A (pre-treatment then landfill disposal):

- Maximum Lead Concentration 10 000 mg/kg
- Maximum TCLP value 240 mg/L
- Estimated area affected 150 m²
- Estimated depth 0.7 m
- Estimated in ground volume affected 100 m³
-

Area B (Lined landfill disposal)

- Maximum lead concentration 2600 mg/kg
- TCLP value 3.6 mg/L
- Estimated affected area 80 m²
- Estimated depth 0.5 m
- Estimated affected in ground volume 40 m³

Area C (Excavation, stockpile, sample / 50m³ and classify for disposal criteria)

- Maximum lead concentration 2500 mg/kg
- TCLP to be measured after stockpile sampling
- Estimated affected area 770 m²
- Estimated depth 0.9 m
- Estimated affected in ground volume 700 m³

Prior to the commencement of remediation a section 424 disposal approval will be required for the excavation and disposal of spoil from areas A & B

Disposal from area C will need to be approved progressively based on concentration and TCLP values of individual stockpiles.

The time table for commencement is uncertain at this time.

7. Validation

Following excavation and disposal of contaminate spoil the base of the excavation will be sampled at an acceptable frequency including all previous locations where contamination due to any of the heavy metals was detected at levels of concern.

If residual contamination is found then excavation and validation will be repeated until full remediation of the site is confirmed.

9. Conclusions and Recommendations

Baseline Consulting has carried out an extensive Stage 1 & Stage 2 site contamination assessment of the site comprising 25 & 27 Hope Street, South Brisbane.

A stage 2 Site Investigation Report and site management plan (SMP) with annexured remediation action plan (RAP) has been prepared for the site in order to obtain a development approval from the Brisbane City Council

The whole site appears to have been filled with material that is now contaminated by heavy metals including lead, copper, arsenic and zinc.

The contaminated fill varies in depth over the site from $< 0.4\text{m}$ to $> 1.0\text{m}$ and contamination is erratic and wide spread.

TCLP (leaching Tests) for lead indicate that some proportion of the fill will require both pre-treatment prior to licensed landfill disposal and direct lined landfill disposal.

The residue, approximately 70 % of the fill material, will require on site stockpiling and sampling in order to classify the volumes for appropriate off site disposal, on site retention and licensed landfill disposal.

Following remediation and validation a validation report will be prepared on order to reclassify the site on the EMR as suitable for any use.

RTI DL RELEASE - EHP

LIST OF ATTACHMENTS

1. SITE LOCATION
2. SITE LAYOUT PLAN
3. SITE SAMPLING PLAN
4. SITE PHOTOGRAPHS
5. AERIAL PHOTOGRAPHS
6. CERTIFICATES OF TITLE
7. REGISTERED PLANS
8. REPRESENTATIVE BOREHOLES
9. CONTAMINATION ZONES AND FILL EXTENT PLAN
10. ANALYTICAL CERTIFICATES

RTI DL RELEASE - EHP

ATTACHMENT 1
SITE LOCATION

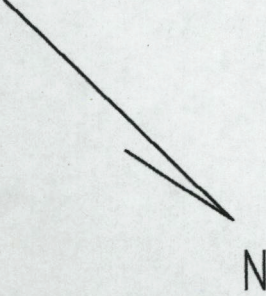
RTI DL RELEASE - EHP



CLIENT RPM Pty Ltd, Hope Street, West End		JOB DESCRIPTION Site Contamination Report	
AEG Environmental Environmental Consultants <small>AEG ENVIRONMENTAL</small> 6/205 Mander Road, Durrig, Q. 4070 Postal Address: PO Box 811, Summer Park QLD 4004 Telephone (07) 3716 0000 Telefax (07) 3716 0011		SCALE DRAWN CHECKED DESIGNED APPROVED DATE	DRAWING TITLE Site Locality Plan DRAWING NO. 1 REV. A

ATTACHMENT 2
SITE LAYOUT PLAN

RTI DL RELEASE - EHP

27 Hope Street 25															
 N	<div style="border: 1px solid black; padding: 10px; margin-bottom: 10px;"> Lot 2 on RP 44937 Office </div> <div style="border: 1px solid black; padding: 10px;"> Film Production Group Warehouse </div>														
	<div style="border: 1px solid black; padding: 10px; margin-bottom: 10px;"> Office </div> <div style="border: 1px solid black; padding: 10px;"> Lot 2 on RP 96245 KC Auto Vehicle Repair Workshop </div>														
Fleet Lane															
FILE-NO															
CLIENT	JOB DESCRIPTION														
RPM Pty Ltd	Site Contamination Assessment														
 AEG Environmental Environmental Consultants <small>AEGC 909 909 129</small> <small>6/226 Mander Road, Darra, Q. 4078</small> <small>Postal Address: PO Box 211 Summer Park BC 94074</small> <small>Parramatta (07) 3715 0000 Telephones (07) 3715 0011</small>	<table border="1" style="width: 100%;"> <tr> <td>SCALE</td> <td>1:200</td> <td rowspan="5">DRAWING TITLE</td> </tr> <tr> <td>DRAWN</td> <td></td> </tr> <tr> <td>CHECKED</td> <td></td> </tr> <tr> <td>DESIGNED</td> <td></td> </tr> <tr> <td>APPROVED</td> <td></td> </tr> <tr> <td>DATE</td> <td></td> <td></td> </tr> </table>	SCALE	1:200	DRAWING TITLE	DRAWN		CHECKED		DESIGNED		APPROVED		DATE		
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Site Layout Plan															
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REV. A															

ATTACHMENT 3
SITE SAMPLING PLAN

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ATTACHMENT 4
SITE PHOTOGRAPHS

RTI DL RELEASE - EHP



Key Castle
MECHANICAL
3846 2307

RTI DL RELEASE - EHP

sch 4 - personal information

4 8:33 AM



sch 4 - personal information
sch 4 - personal information

sch 4 - personal information

4 0:31 AM



sch 4 - personal information

PENDING RELEASE - EHP

4 8:33 AM

ATTACHMENT 5
AERIAL PHOTOGRAPHS

RTI DL RELEASE - EHP



FILE-NO

CLIENT

RPM Pty Ltd

JOB DESCRIPTION

Hope Street, West End

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Development Consultants and Engineers

ACR 907 908 909
3001 Montague Road, West End Q 4101
Postal Address: PO Box 3835 South Brisbane Q4101
Fonsville (07) 3544 7000 Telephone (07) 3544 8900
Registered Professional Engineering Unit of Queensland
Registration No. 2001

BASELINE

SCALE 1:765

DRAWN

CHECKED

DESIGNED

APPROVED

DATE

DRAWING TITLE

Aerial Photograph - 1991

DRAWING NO.

1

REV. A



		FILE-NO	
CLIENT		JOB DESCRIPTION	
RPM Pty Ltd		Hope Street, West End	
BASELINE CONSULTING PTY LTD Development Consultants and Engineers <small>ACEL 07 563 954</small> <small>309 Montague Road, West End Q 4101</small> <small>Postal Address: PO Box 2625 South Brisbane Q4101</small> <small>Fremantle (07) 2644 7000 Telephone (07) 2644 8000</small> <small>Registered Professional Engineering Unit of Queensland</small> <small>Registration No. 5555</small>	SCALE	1:765	
	DRAWN		DRAWING TITLE Aerial Photograph - 1972
	CHECKED		
	DESIGNED		
	APPROVED		
	DATE		
DRAWING NO.		1	REV. A



FILE-NO

CLIENT		JOB DESCRIPTION	
RPM Pty Ltd		Hope Street, West End	
BASELINE CONSULTING PTY LTD Development Consultants and Engineers <small>ACR 87 55 24</small> <small>300 Macgregor Road, West End Q 4101</small> <small>Postal Address: PO Box 2635 South Brisbane Q4101</small> <small>Telegrams (07) 2644 7000 Telephone (07) 2644 8000</small> <small>Registered Professional Engineering Unit of Queensland</small> <small>Registration No. 2500</small>	SCALE	1:765	
	DRAWN		
	CHECKED		
	DESIGNED		
	APPROVED		
DATE		DRAWING TITLE	
		Aerial Photograph - 1946	
		DRAWING NO.	1
		REV.	A

BASELINE

ATTACHMENT 6
CERTIFICATES OF TITLE

RTI DL RELEASE - EHP

CURRENT TITLE SEARCH

NATURAL RESOURCES & MINES, QUEENSLAND

Request No: 108629690

Search Date: 04/06/2003 3:50 pm

Title Reference: 13399072

Date Created: 07/06/1961

Previous Title: 11704184

REGISTERED OWNER

Interest

Dealing No: 703427063 01/07/1999

D G ROBERTSON HOLDINGS PTY LTD A.C.N. 010 515 796

TRUSTEE

1/2

UNDER INSTRUMENT 703427063

HIDEROSE PTY LTD A.C.N. 010 640 132

TRUSTEE

1/2

UNDER INSTRUMENT 703427063

AS TENANTS IN COMMON

ESTATE AND LAND

Estate in Fee Simple

LOT 2

REGISTERED PLAN 96245

County of STANLEY

Parish of SOUTH BRISBANE

Local Government: BRISBANE

EASEMENTS, ENCUMBRANCES AND INTERESTS

1. Rights and interests reserved to the Crown by
Deed of Grant No. 10065197 (ALLOT 17 SEC 16)

ADMINISTRATIVE ADVICES - NIL

UNREGISTERED DEALINGS - NIL

CERTIFICATE OF TITLE ISSUED - Yes 20/07/1999 703461383 Certificate No. 2

** End of Current Title Search **

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Requested By: CITEC CONFIRM

HISTORICAL TITLE SEARCH

NATURAL RESOURCES & MINES, QUEENSLAND

Request No: 980435
Search Date: 30/05/2003 12:18 pm

Title Reference: 13577236
Date Created: 03/06/1963

Previous Title: 11702198

REGISTERED OWNER

Interest

Dealing No: 703073570 18/12/1998

D G ROBERTSON HOLDINGS PTY LTD A.C.N. 010 515 796

TRUSTEE

1/2

UNDER INSTRUMENT 703073570

HIDEROSE PTY LTD A.C.N. 010 640 132

TRUSTEE

1/2

UNDER INSTRUMENT 703073570

AS TENANTS IN COMMON

TRANSFER TO TRUSTEE No 703073570

D G ROBERTSON HOLDINGS PTY LTD A.C.N. 010 515 796

TRUSTEE 1/2

UNDER INSTRUMENT 703073570

HIDEROSE PTY LTD A.C.N. 010 640 132 TRUSTEE 1/2

UNDER INSTRUMENT 703073570

Produced at 12:15 on 18/12/1998

ESTATE AND LAND

Estate in Fee Simple

LOT 2

REGISTERED PLAN 44397

County of STANLEY

Parish of SOUTH BRISBANE

Local Government: BRISBANE

EASEMENTS, ENCUMBRANCES AND INTERESTS

1. APPLICATION FOR TITLE No 703132855
A Certificate of Title has been issued
Produced at 12:31 on 25/01/1999
2. RELEASE No 703073554
MORTGAGE: 601708622 (G778521)
Produced at 12:13 on 18/12/1998
3. RELEASE No 703073549
MORTGAGE: 700749604
Produced at 12:12 on 18/12/1998

Certificate of Title.

VOL: S 1704 FOL: 184



11704184

QUEENSLAND

FULL

No. 315194

(C)

REFERENCE TO PREVIOUS

VOL. 65 FOLIO 197



REGISTER BOOK, VOL.

1704

FOLIO

184

FRANK HENRY GOLLIKER

of East Brisbane

pursuant to Memorandum

of Request No. A15657 received the eighth day of April 1927,

now seized of an Estate in Fee-simple, subject nevertheless to such encumbrances, liens, and interests as are by memorandum notified hereon, in All that piece of Land situated in the County of Stanley Parish of South Brisbane City of Brisbane

containing eighteen perches

more or less, as shown on the Plan hereon, and therein edged red, Being subdivision 1 of Allotment 17 of section 16 on plan Cat. No. 44397 deposited in the Office of the Registrar of Titles Brisbane

which said piece of Land is part of the allotment marked 17 of section delineated in the Public Map of the said City deposited in the Office of the Surveyor-General, originally granted by Deed of Grant No. 11933 to Thomas Grenier

Saving Always to the CROWN all the rights and interests reserved to it by the said Deed of Grant.

sch 4 - signature IN WITNESS whereof, I have hereunto signed my name and affixed my seal, this 17th day of June One thousand nine hundred and twenty sevenSigned, Sealed, and Delivered, the 17th day of June 1927, in presence of

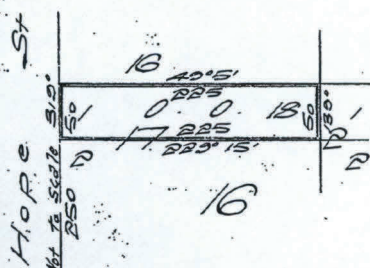
sch 4 - signature



sch 4 - signature

REGISTRAR OF TITLES.

sch 4 - signature



Peel St

Scale, / chains per inch.

— Easement —

No. A15655 TRANSFER to the Registered Proprietor and Occupier for the being of the within land of an Easement of 17/10 pch. Resub H of Sub 2 of Allot 17 of Section 16 produced 8 Apr 1927 a. 2.43 p. registered 26 Nov 1927

sch 4 - signature

REGISTRAR OF TITLES.

RELEASE No. 10202 Bill of Mortgage produced 10/20/1959 at 10:20 a.m., registered 10/20/1959 from Richard Henry Mayo and Louis Szegedi to the Commonwealth Bank of Australia to secure the payment of the monies and interest therein referred to. and Easement No. 15655

sch 4 - signature

REGISTRAR OF TITLES

BEYANCE 9/1/40
No. A 450157

No. 1150157 TRANSMISSION BY DEATH. In consequence of the death of Robert Tate on the 10 day of November 1939 his interest in Bill of Mortgage No. 111702 became transmitted to Thomas Robson Bell as Executor by documentary evidence, produced 8 day of July 1940 at 11:39 a.m., entered 27 day of July 1940 and Easement No. 15655.

sch 4 - signature

REGISTRAR OF TITLES

PURSUANT to Memo. of TRANSFER No. 11909523 produced 24 Jan. 1950 at 11:15 a.m., registered 28 Apr. 1950 David McDonald and David Reginald McDonald is now SEISED of an Estate IN FEE SIMPLE in the WHOLE of the within Land as joint tenants Together with Easement No. 15655

sch 4 - signature

REGISTRAR OF TITLES

No. 211924 RECORD OF DEATH of David McDonald on 9 July 1952 as appears by Certificate of Death and declaration of Identity. Produced 27 June 1952 at 12:22 p.m. Entered 17 Nov 1952

sch 4 - signature

ACTING REGISTRAR OF TITLES

No. 332870 BILL OF MORTGAGE produced 22 Dec 1951 at 9:50 a.m., registered 19 Dec 1951 from Richard Henry Mayo and Louis Szegedi to The English, Scottish and Australian Bank Limited to secure the payment of the monies and interest therein referred to. and Easement No. 15655

sch 4 - signature

REGISTRAR OF TITLES

PURSUANT to Memo. of TRANSFER No. 1169608 produced 30 Nov 1959 at 3:02 p.m., registered 20 Dec 1960 Richard Henry Mayo and Louis Szegedi are now SEISED of an Estate IN FEE SIMPLE in the WHOLE of the within Land as joint tenants and Easement No. 15655

sch 4 - signature

REGISTRAR OF TITLES

mtge
111702

sch 4 - signature
11909522
sch 4 - signature
11909523

No. 111702 Bill of Mortgage produced 10/20/1959 at 10:20 a.m., registered 10/20/1959 from Richard Henry Mayo and Louis Szegedi to Australia and New Zealand Bank Limited to secure the payment of the monies and interest therein referred to. and Easement No. 15655

sch 4 - signature

REGISTRAR OF TITLES

No. 1195362 By Plan Cat. No. 96245 the within land is subdivided into Reaches 1 and 2 Produced 25 Nov 1960 at 2:22 p.m. Registered 16 May 1961

sch 4 - signature

REGISTRAR OF TITLES

No. 1195362 TRANSFER of Reaches 1 and 2 Produced 21 Mar 1961 at 11:00 a.m., registered 16 May 1961 Cancelled as above vide Vol. 3401 Fol. 227

sch 4 - signature

REGISTRAR OF TITLES

No. 1195362 REQUEST to issue Certificate of Title for 17 to 20 Reaches 1 and 2 Produced 21 Mar 1961 at 11:00 a.m., registered 16 May 1961 Cancelled as above vide Vol. 3399 Fol. 72 Subject to Bill of Mortgage No. 1195362

sch 4 - signature

REGISTRAR OF TITLES

now
mtge
111702
Plan
1195362
(96245)
R142

(mtge)
1195365
Rea 1 &
1195365
R2

FULLY CANCELLED

Certificate of Title.

VOL. S 1702 FOL. 198



11702198

QUEENSLAND.

FULLY

No. 314708

(C)

REFERENCE TO PREVIOUS

VOL. 65 FOLIO 197



REGISTER BOOK, VOL. 1702 FOLIO 198

JAMES REDPATH

of South Brisbane pursuant to Memorandum of Conveyance No. A15654 produced the eighth day of April 1927, registered the sixteenth day of May 1927, is now seized of an Estate in Fee-simple, subject nevertheless to such encumbrances, liens, and interests as are by memorandum notified hereon, in all that piece of Land situated in the County of Stanley Parish of South Brisbane — City of Brisbane —

containing eighteen perches

more or less, as shown on the Plan hereon, and therein edged red, Being subdivision 2 of allotment 17 of section 16 on plan Cat. No. 44397 deposited in the Office of the Registrar of Titles Brisbane

which said piece of Land is part of the allotment marked 7 of section delineated in the Public Map of the said City deposited in the Office of the Surveyor-General, originally granted by Deed of Grant No. 11933 to Thomas Grenier

Saving Always to the Crown all the rights and interests reserved to it by the said Deed of Grant.

In WITNESS whereof, I have hereunto signed my name and affixed my seal, this twenty fifth day of May One thousand nine hundred and twenty seven

Signed, Sealed, and Delivered, the twenty fifth day of May 1927, in presence of

sch 4 - signature

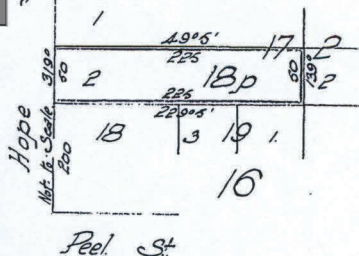
sch 4 - signature



REGISTRAR OF TITLES,

Parish of S. Brisbane
Brisbane.

sch 4 - signature



Scale, / chains per inch.

— Encumbrance —

No. A15655 TRANSFER to the Registered Proprietor and Occupier for the time being of public utility of section 16 of all EASEMENTS over 1/40 perch resulting of the within land produced 26 May 1927 21/2 p.m., registered

sch 4 - signature

REGISTRAR OF TITLES,



N^o A15656 BILL OF MORTGAGE produced 8 Apr 1927 at 2.44 p.m. registered 26 May 1927 from James Redpath to The Commercial Bank of Australia Limited to secure the payment of the monies and interest therein referred to.

No. 11

sch 4 - signature

REGISTRAR OF TITLES

PURSUANT to Memo. of TRANSFER No. B3830 produced 23 Feb 1951 at 10.36 a.m. registered 3 Sep 1951 from Ashby Barton to now SEISED of an Estate IN FEE SIMPLE in the WHOLE of the within Land. Free from mortgage subject to Encumbrance No. A15655.

sch 4 - signature

REGISTRAR OF TITLES

PURSUANT to Memo. of TRANSFER No. A10695 produced 24 Oct 1928 at 11.0 a.m. registered 16 Nov 1928 from Alfred Dawson to now SEISED of an Estate IN FEE SIMPLE in the WHOLE of the within Land. subject to Encumbrance No. A15655.

sch 4 - signature

REGISTRAR OF TITLES

No. B3832 BILL OF MORTGAGE produced 23 Feb 1951 at 10.36 a.m. registered 3 Sep 1951 from Ashby Barton to now SEISED of an Estate IN FEE SIMPLE in the WHOLE of the within Land. subject to Encumbrance No. A15655.

sch 4 - signature

REGISTRAR OF TITLES

No. A10696 BILL OF MORTGAGE produced 24 Oct 1928 at 11.0 a.m. registered 16 Nov 1928 from Alfred Dawson to now SEISED of an Estate IN FEE SIMPLE in the WHOLE of the within Land. subject to Encumbrance No. A15655.

sch 4 - signature

REGISTRAR OF TITLES

No. B179906 BILL OF MORTGAGE produced 27 Apr 1953 at 9.00 a.m. registered 25 May 1953 from Ashby Barton to now SEISED of an Estate IN FEE SIMPLE in the WHOLE of the within Land. subject to Encumbrance No. A15655.

sch 4 - signature

REGISTRAR OF TITLES

PURSUANT to Memo. of TRANSFER No. A98341 produced 10 Aug 1929 at 11.30 a.m. registered 16 Aug 1929 from George Williams Pearce to now SEISED of an Estate IN FEE SIMPLE in the WHOLE of the within Land. subject to Encumbrance No. A15655.

sch 4 - signature

Acting REGISTRAR OF TITLES

No. B5801 LEASE produced 31 July 1952 at 12.12 p.m. registered 11 Sep 1952 from Ashby Barton to Fluorescent Lighting and Television Development Pty. Ltd. Term 5 years from Feb 1952 Rental £16.00 per month payable monthly in advance. Consent of Mortgagee endorsed.

sch 4 - signature

REGISTRAR OF TITLES

No. A184452 BILL OF MORTGAGE produced 26 Oct 1932 at 2.7 p.m. registered 20 Nov 1932 from George Williams Pearce to now SEISED of an Estate IN FEE SIMPLE in the WHOLE of the within Land. subject to Encumbrance No. A15655.

sch 4 - signature

REGISTRAR OF TITLES

No. B5801 LEASE produced 31 July 1952 at 12.12 p.m. registered 11 Sep 1952 from Ashby Barton to Fluorescent Lighting and Television Development Pty. Ltd. Term 5 years from Feb 1952 Rental £16.00 per month payable monthly in advance. Consent of Mortgagee endorsed.

sch 4 - signature

REGISTRAR OF TITLES

No. D13402 Transfer of the whole of the land to Shimura Machinery & Equipment Co. Pty. Ltd. Produced 23 May 1962 at 3.57 p.m. Registered 28 May 1962 Vol. 155 Fol. 1

sch 4 - signature

REGISTRAR OF TITLES

No. B5801 LEASE produced 31 July 1952 at 12.12 p.m. registered 11 Sep 1952 from Ashby Barton to Fluorescent Lighting and Television Development Pty. Ltd. Term 5 years from Feb 1952 Rental £16.00 per month payable monthly in advance. Consent of Mortgagee endorsed.

sch 4 - signature

REGISTRAR OF TITLES

ATTACHMENT 7
REGISTERED PLAN

RTI DL RELEASE - EHP

ROBIN TREMLETT FRANCIS of **Brisbane**
Authorized Surveyor, do hereby solemnly and sincerely declare that I have faithfully and truly surveyed, measured, and marked on the ground the parcel of land herein referred to, and that the measurements and boundaries given in this plan are correct, and do not to the best of my belief in any way interfere with the rights or property of any persons, owners, or occupiers of land adjoining the above land, and described in the said plan; and I make this solemn declaration conscientiously believing the same to be true, and by virtue of the provisions of the "Oaths Act of 1907."

THIS PLAN should be ROLLED not folded.
— FOR OFFICE USE ONLY —

The Council of the _____ of _____ certifies that all the requirements of this Council, the Local Government Acts, 1936 to 1960, and all By-laws have been complied with and approves this Plan of Subdivision subject to

sch 4 - signature

Made and Signed at **Brisbane** this **20th** day of **Sept** 19**60** before me

Signature of Registrar of Titles or of a Magistrate

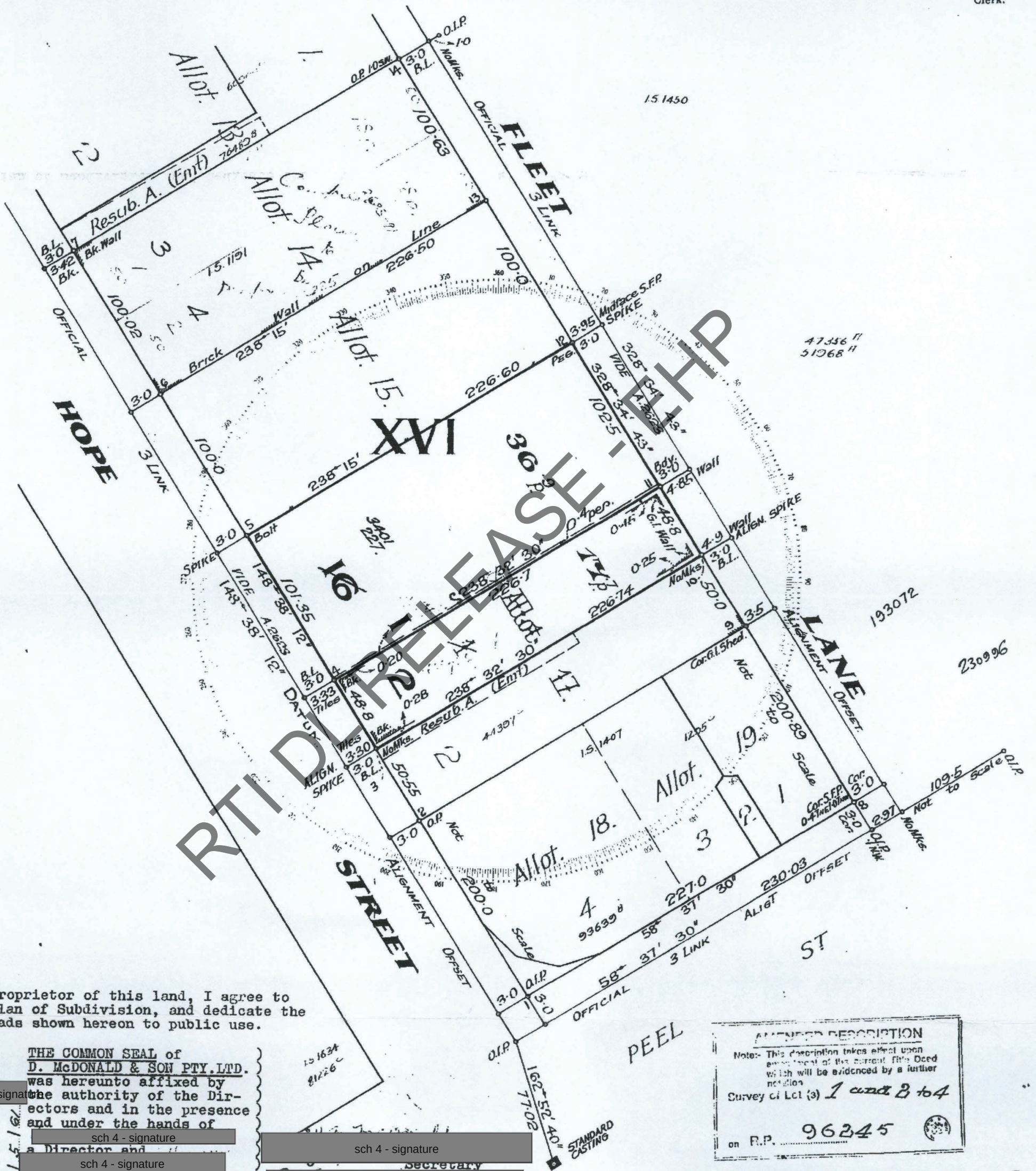
sch 4 - signature

Dated this **Tenth** day of **May** 1961

sch 4 - signature

Chairman or Mayor

Deputy Town or Shire Clerk



As Proprietor of this land, I agree to this Plan of Subdivision, and dedicate the new roads shown hereon to public use.

THE COMMON SEAL of **D. McDONALD & SON PTY. LTD.** was hereunto affixed by the authority of the Directors and in the presence and under the hands of _____ a Director and _____ the Secretary.

AMENDED DESCRIPTION
Note: This description takes effect upon amendment of the current title deed which will be evidenced by a further notation.
Survey of Lot (3) **1 and 2 to 4**
on R.P. **96245**

CITY OF BRISBANE

SURVEY

OF **ALLOTMENT 16 & Resubs. 1 & 2 of Sub. 1**
of **Allot. 17**
OF **SECTION XVI**
COUNTY OF **Stanley**
PARISH OF **South Brisbane**
Cat. No. **96245**

Particulars entered in Register Book,
Vol. **1072, 1704** Folio **125, 184**
the **26** day of **May**
19**60** at **4.13pm**

sch 4 - signature

REGISTRAR OF TITLES



Signature of Proprietor

sch 4 - signature

SCALE **50** Lines to an inch.

As Proprietor of this land, I agree to this Plan of subdivision, and dedicate the new roads shown hereon to public use.

B795382

Proctor, William O. Cross
Admission
Business

B795382

1702/184
1073/159

For Additional Print &
Document Notings
Refer to CISP

25 Oct 1979
93929

sch 4 - signature

96245

C.A. F.N.

1.01.0
3.0.0
2.0.0
6.0.0

sch 4 - signature

24. 11. 60

68251

£6.

pl. 27 4. 61

sch 4 - signature

THIS PLAN should be ROLLED not folded.

Certificate of Title or Deed of Grant.

I, Elmer Harold Belson, of Brisbane,
Authorised Surveyor, do hereby solemnly and sincerely declare that I have faithfully
and truly surveyed, measured, and marked on the ground the parcel of land herein referred
to, and that the measurements and boundaries given in this plan are correct; and I make
this solemn declaration conscientiously believing the same to be true, and by virtue of the
provisions of the "Oaths Act of 1867."

sch 4 - signature

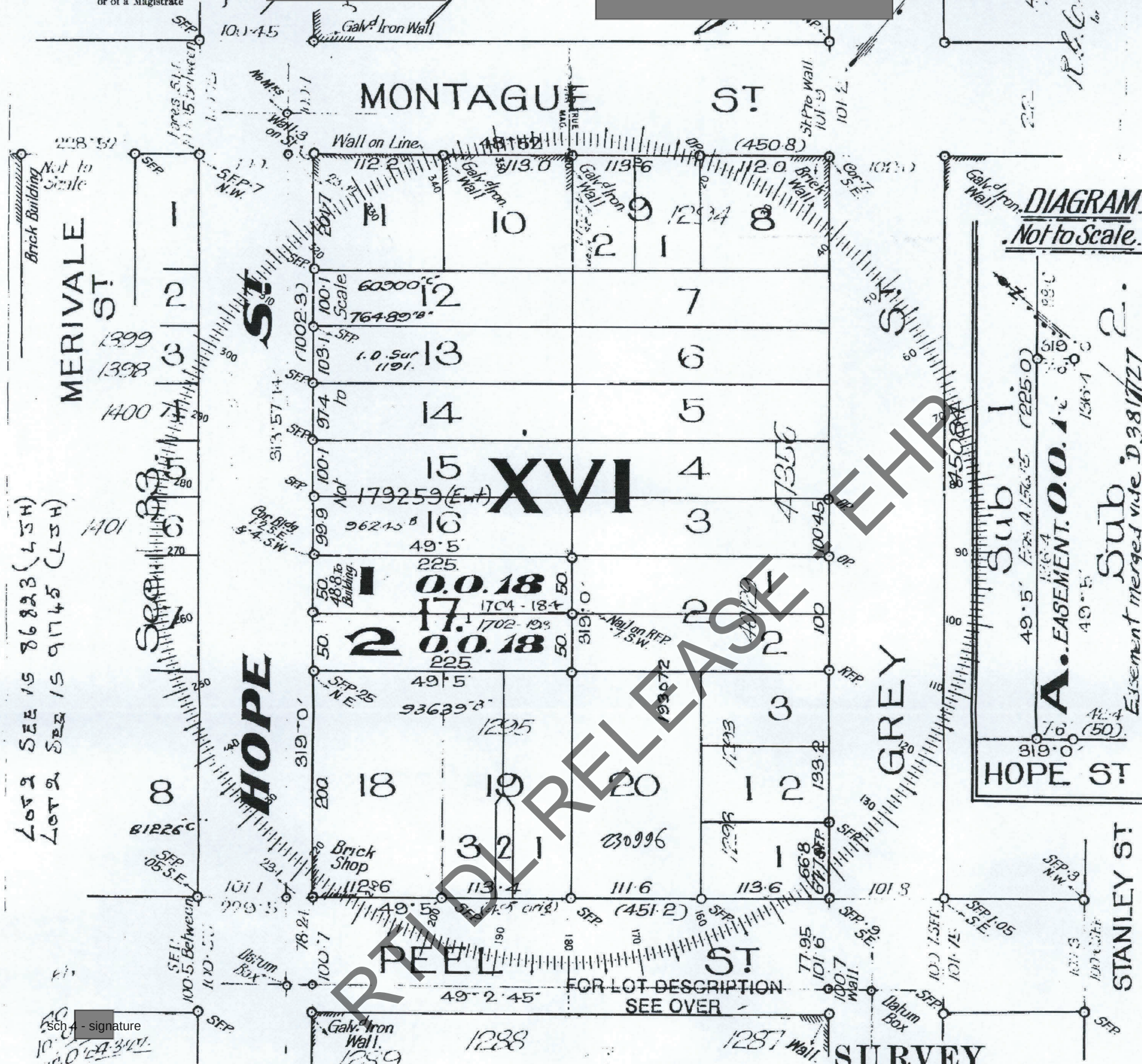
Authorised Surveyor.

Made and Signed at Brisbane, this 4th day of Feb.
1926 before me

Signature of Registrar of Titles
or of a Magistrate

sch 4 - signature

sch 4 - signature



Lot 2 SEE IS 86823 (LSH)
Lot 2 SEE IS 91745 (LSH)

DIAGRAM.
Not to Scale.

Sub 1
49' 5" Eas. A. 156.5' (225.0')
A. EASEMENT. 0.0. 1.1' 136.4' 136.4' 49' 5"
Sub 2
Easement merged vide D. 381727

The Seal of the said Council has been
here to affixed by me, Frederick William
Gibbs, Surveyor, Town Clerk, I being the
only officer to affix said seal this
first day of April, 1926.

OF SUBDIVISIONS 1 & 2 & Resub. A.
(Easement) of Sub. 2.

OF ALLOTMENT OR PORTION NO. 17.

OF SECTION 16.

COUNTY OF Stanley
CITY & PARISH OF South Brisbane

Cat. No. 44397

SCALE 1 chains to an inch.

As Proprietor of this land, I agree to this Plan of subdivision,
and dedicate the new roads shown hereon to public use.

Signature
of Proprietor

sch 4 - signature

44397

* New C.T. Ref.

(Re) Sub.	Vol.	Page
1	17A	18A
2	17C	19C

**For Additional Plan &
Document Holdings
Refer to CISP**

AMENDED DESCRIPTION

Note: This description takes effect upon amendment of the current Title Used which will be evidenced by a further notation.

Survey of Lot (s) **1-2 & EAST**

A of 4.2

on R.P. 44397



A document with a large diagonal watermark reading "RTI DL RELEASE - EHP". At the top, a box contains the text "Refer to CISP". In the bottom left corner, there is a small rectangular stamp with the word "SECTION" at the top, followed by the text "fect upon", "at Title Deed", and "by a further". Below this text is the signature "S. EAST" and a circular official seal.

44397

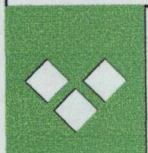
ATTACHMENT 8
REPRESENTATIVE BOREHOLES

RTI DL RELEASE - EHP

Borehole Number KC1		Location Hope Street, West End		Project Number CO-027	
Date Completed 7/05/03		Excavation Equipment Truck Mounted Drill Rig		Completion Depth 1400	
	Depth (m)	Material Description material type, colour, plasticity/particle size, secondary/minor components	Sample Record	Water	Comments testing, soil structure, soil origin, odours
	1.00	Sandy Clay (Cl) (mott.or.br.gy) with gravels			
		Silty Clay (CH) (gy.gr.mott.or) with minor sand			
		Termination Depth 1400			
	2.00				
	3.00				
	4.00				

CLIENT		JOB DESCRIPTION		FILE-NO	
RPM Pty Ltd – Hope Street Stage 2		Site Contamination Assessment			
 AEG Environmental Environmental Consultants <small>AEGC 895 988 197</small> 6/285 Mender Road, Darra, Q. 4078 Postal Address: PO Box 211 Summer Park BC 46074 Fresenius (07) 5716 2882 Telephone (07) 5716 2811	SCALE	1:100	DRAWING TITLE		
	DRAWN		Borehole Logs		
	CHECKED				
	DESIGNED				
	APPROVED				
DATE		DRAWING NO.	1	REV.	A

Borehole Number KC3		Location Hope Street, West End		Project Number CO-027	
Date Completed 7/05/03		Excavation Equipment Truck Mounted Drill Rig		Completion Depth 3000	
	Depth (m)	Material Description material type, colour, plasticity/particle size, secondary/minor components	Sample Record	Water	Comments testing, soil structure, soil origin, odours
	1.00	Sandy Clay (Cl) (mott.or.br.gy) with gravels			
	2.00	Silty Clay (CH) (gy.gr.mott.or) with minor sand			
		Clayey Sand (SC) (gy.mott.or) fine.med.grain			
	3.00	Silty Clay (CH) (gy.gr.mott.or) with minor sand			
	4.00	Termination Depth 3000			

CLIENT		JOB DESCRIPTION			
RPM Pty Ltd – Hope Street Stage 2		Site Contamination Assessment			
 AEG Environmental Environmental Consultants <small>ASX: 000 000 000</small> 6/255 Mender Road, Durrig, Q. 4076 Postal Address: PO Box 811 Summer Park NC 46094 Perthville (07) 3716 8888 Telephones (07) 3716 8811	SCALE	1:100	DRAWING TITLE		
	DRAWN		Borehole Logs		
	CHECKED				
	DESIGNED				
	APPROVED				
DATE		DRAWING NO.	1	REV.	A

Borehole Number KC6		Location Hope Street, West End		Project Number CO-027	
Date Completed 7/05/03		Excavation Equipment Truck Mounted Drill Rig		Completion Depth 1400	
	Depth (m)	Material Description material type, colour, plasticity/particle size, secondary/minor components	Sample Record	Water	Comments testing, soil structure, soil origin, odours
	1.00	Sandy Clay (Cl) (mott.or.br.gy) with gravels			
		Silty Clay (CH) (gy.gr.mott.or) with minor sand			
		Termination Depth 1400			
	2.00				
	3.00				
	4.00				

CLIENT		JOB DESCRIPTION		FILE-NO	
RPM Pty Ltd – Hope Street Stage 2		Site Contamination Assessment			
 AEG Environmental Environmental Consultants <small>AEG ENVIRONMENTAL</small> 9/205 Mander Road, Darra, Q. 4078 Postal Address: PO Box 251 Summer Park DC Q4074 Foneline (07) 3715 8888 Telephone (07) 3715 8811	SCALE	1:100	DRAWING TITLE		
	DRAWN		Borehole Logs		
	CHECKED				
	DESIGNED				
	APPROVED				
DATE		DRAWING NO.	1	REV.	A

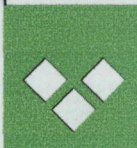
Borehole Number NKC7		Location Hope Street, West End		Project Number C0-027	
Date Completed 7/05/03		Excavation Equipment Truck Mounted Drill Rig		Completion Depth 1400	
	Depth (m)	Material Description material type, colour, plasticity/particle size, secondary/minor components	Sample Record	Water	Comments testing, soil structure, soil origin, odours
	1.00	Sandy Clay (Cl) (mott.or.br.gy) with gravels with minor ash			
		Silty Clay (CH) (gy.gr.mott.or) with minor sand			
		Termination Depth 1400			
	2.00				
	3.00				
	4.00				

CLIENT		JOB DESCRIPTION		FILE-NO	
RPM Pty Ltd – Hope Street Stage 2		Site Contamination Assessment			
 AEG Environmental Environmental Consultants <small>AEG 005 908 107</small> 9/205 Mosler Road, Durrum, Q. 4579 Postal Address: PO Box 211 Summer Park BC 45074 Yassville (07) 3716 8082 Telephones (07) 3716 8081	SCALE	1:100	DRAWING TITLE		
	DRAWN		Borehole Logs		
	CHECKED				
	DESIGNED				
	APPROVED				
DATE		DRAWING NO.	1	REV.	A

Borehole Number NKC10		Location Hope Street, West End		Project Number CO-027	
Date Completed 7/05/03		Excavation Equipment Truck Mounted Drill Rig		Completion Depth 1400	
	Depth (m)	Material Description material type, colour, plasticity/particle size, secondary/minor components	Sample Record	Water	Comments testing, soil structure, soil origin, odours
	1.00	Sandy Clay (Cl) (mott.or.br.gy) with gravels			
		Silty Clay (CH) (gy.gr.mott.or) with minor sand			
		Termination Depth 1400			
	2.00				
	3.00				
	4.00				

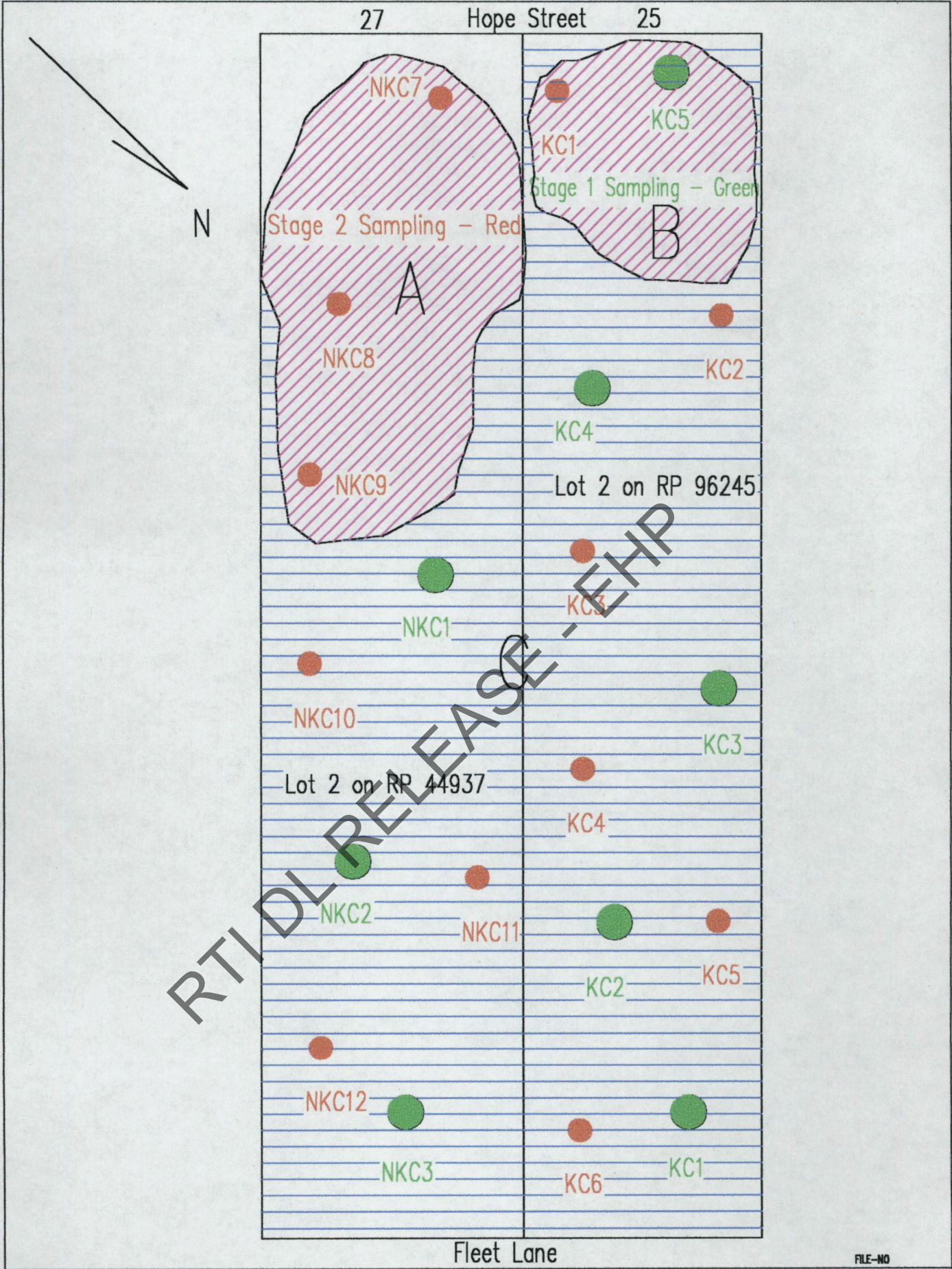
CLIENT		JOB DESCRIPTION		FILE-NO	
RPM Pty Ltd – Hope Street Stage 2		Site Contamination Assessment			
 AEG Environmental Environmental Consultants <small>AEG. ENV. ENG. LTD</small> 6/205 Minter Road, Darra, Q. 4079 Postal Address: PO Box 211 Summer Park NC 44094 Fax: (07) 5716 8881 Telephone: (07) 5716 8811	SCALE		DRAWING TITLE		
	1:100		Borehole Logs		
	DRAWN		DRAWING NO.		1
	CHECKED		REV.		A
	DESIGNED				
APPROVED					
DATE					

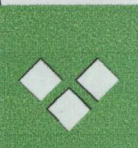
Borehole Number NKC12		Location Hope Street, West End		Project Number CO-027	
Date Completed 7/05/03		Excavation Equipment Truck Mounted Drill Rig		Completion Depth 1400	
	Depth (m)	Material Description material type, colour, plasticity/particle size, secondary/minor components	Sample Record	Water	Comments testing, soil structure, soil origin, odours
	1.00	Sandy Clay (Cl) (mott.or.br.gy) with gravels			
		Silty Clay (CH) (gy.gr.mott.or) with minor sand			
		Termination Depth 1400			
	2.00				
	3.00				
	4.00				

CLIENT		JOB DESCRIPTION		FILE-NO	
RPM Pty Ltd – Hope Street Stage 2		Site Contamination Assessment			
	AEG Environmental Environmental Consultants <small>AEGC 000 000 000</small> 9/205 Munkar Road, Durrig, Q. 4078 Postal Address: PO Box 811 Summer Park BC 64074 Freemantle (07) 3746 8888 Telephones (07) 3746 8811		SCALE 1:100 DRAWN CHECKED DESIGNED APPROVED DATE	DRAWING TITLE Borehole Logs DRAWING NO. 1 REV. A	

ATTACHMENT 9
CONTAMINATION ZONES AND FILL EXTENT PLAN

RTI DL RELEASE - EHP



CLIENT		JOB DESCRIPTION		FILE NO	
RPM Pty Ltd		Site Contamination Assessment			
	AEG Environmental Environmental Consultants <small>AEG ENV 001 001</small>		SCALE	1:200	DRAWING TITLE Contamination Zones DRAWING NO. 1 REV. A
	<small>4/235 Hunter Road, Darra, Q. 4076 Postal Address: PO Box 211 Summer Park QC 46074 Fax: (07) 3715 8882 Telephone: (07) 3715 8811</small>		DRAWN		
			CHECKED		
			DESIGNED		
			APPROVED		
		DATE			

ATTACHMENT 10
ANALYTICAL CERTIFICATES

RTI DL RELEASE - EHP

 Baseline Consulting Pty Ltd 96 Victoria Street West End 4101 Ph: (07)3715 8611. Fax: (07)3715 8622 Postal Address: P.O.Box 3635 South Brisbane 4101 FILE NO: C02-024	CHAIN OF CUSTODY SHEET NO: 1/1 SITE: RPM ADDRESS: Hope Street, West End	COURIER(S) <u>Baseline Consulting Pty Ltd</u> <u>96 Victoria St West End</u>	LABORATORY: Gribbles Analytical Laboratories. 585 Blackburn Road Notting Hill, Victoria, 3168 Contact: Dallas Donovan PHONE: 3300-9639 FAX: 3300-9629
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SAMPLE ID.	DEPTH SAMPLED	DATE SAMPLED	TIME SAMPLED	Sample Matrix: eg: Soil, Water, Sludge : Other (Specify)	Preservation Method: Eg: Temperature : Other (Specify)	ANALYTES				METALS (LIST)	OTHER (SPECIFY)	RESULTS BY: Standard
						TPH	BTEN	PAH	PCBs			
KC1	150-300	7/5/03	1200	SOIL	REFRIG.					As, Cd, Cu, Cr, Pb, Ni, Zn		
KC1	300-500	7/5/03	1200	SOIL	REFRIG.					As, Cd, Cu, Cr, Pb, Ni, Zn		
KC2	150-450	7/5/03	1200	SOIL	REFRIG.					As, Cd, Cu, Cr, Pb, Ni, Zn		
KC3	150-450	7/5/03	1200	SOIL	REFRIG.					As, Cd, Cu, Cr, Pb, Ni, Zn		
KC3 DUP	150-450	7/5/03	1200	SOIL	REFRIG.					As, Cd, Cu, Cr, Pb, Ni, Zn		
KC5	150-450	7/5/03	1200	SOIL	REFRIG.					As, Cd, Cu, Cr, Pb, Ni, Zn		
KC6	200-300	7/5/03	1200	SOIL	REFRIG.					As, Cd, Cu, Cr, Pb, Ni, Zn		

Dispatch Officer:	Time	Date	Receiving Officer:	Time	Date	Dispatch Officer:	Time	Date
sch 4 - signature	12:30	9-5-03	sch 4 - signature	10:00	2/5/03			

PASCON
 KC1/150-300

 0307772/001



Analytical Report

BASELINE CONSULTING PTY LTD

PO Box 211

Sumner Park BC

QLD 4074

Contact : **ROB WILLIAM**

Batch Number : **0307772**

Job Ref : **RPM**

Sample(s) Received : **12/05/2003**

Report No : **93291**

Methods:

100 Moisture Content

406-MS Elements by ICP-MS, Dry Weight

Attached Results Approved by:

sch 4 - signature

Anthony Crane
B.App.Sci. (Environmental)
Laboratory Manager

sch 4 - signature

John Levvey
Dip.App.Sci (Chemistry)
Senior Analyst - Metals



This Laboratory is accredited by the National Association of Testing Authorities, Australia. The tests reported herein have been performed in accordance with its terms of accreditation.

NATA ENDORSED DOCUMENT

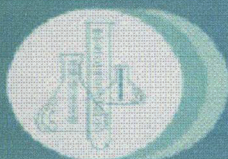
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NATA Accreditation No. 1645 (Chemical Testing) NATA Accreditation No. 14278 (Biological Testing)

* This is the Final Report which supersedes any reports previously issued relating to the sample(s) included.

All samples tested as submitted by client.

Denotes methods not covered by NATA terms of accreditation



Results

Report No: 93291

0307772/001 KC1/150-300	0307772/002 KC1/300-500	0307772/003 KC2/150-450	0307772/004 KC3/150-450	0307772/005 KC3 DUP 150-450
Soil 07/05/2003	Soil 07/05/2003	Soil 07/05/2003	Soil 07/05/2003	Soil 07/05/2003

METALS by ICP-MS, DRY WEIGHT

Method: 406-MS Units: mg/kg

Arsenic	6.4	7.6	5.2	8.3	12
Cadmium	<1.0	<1.0	<1.0	<1.0	<1.0
Chromium	20	20	19	12	16
Copper	47	1500	75	2.2	<2.0
Lead	980	630	460	8.5	10
Nickel	13	21	8.9	<2.0	2.5
Zinc	330	890	170	6.0	5.2

OVEN MOISTURE CONTENT

Method: 100 Units: % w/w

Moisture	11.4	14.7	11.7	12.3	9.4
----------	------	------	------	------	-----

Results

Report No: 93291

0307772/006 0307772/007
KC5 150-450 KC6200-500

Soil Soil
07/05/2003 07/05/2003

METALS by ICP-MS, DRY WEIGHT

Method: 406-MS Units: mg/kg

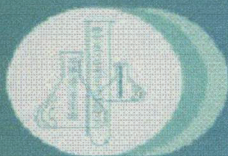
Arsenic	4.1	3.7
Cadmium	<1.0	<1.0
Chromium	8.8	10
Copper	<2.0	<2.0
Lead	14	6.9
Nickel	<2.0	<2.0
Zinc	7.8	4.8

OVEN MOISTURE CONTENT

Method: 100 Units: % w/w

Moisture	12.1	8.2
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RTI DL RELEASE - EHP



Quality Results

Report No: 93291

0307772Q008 Duplicate 0307772/002 15/05/2003	0307772Q009 Spike Recovery 0307772/002 14/05/2003	0307772Q010 Spike Recovery Lab Control 15/05/2003
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QC RESULTS - DUPLICATES

Relative Percent Difference, %

Arsenic	<1.0	-	-
Cadmium	<1.0	-	-
Chromium	6.6	-	-
Copper	23.7	-	-
Nickel	2.1	-	-

QC RESULTS - SPIKED SAMPLES

Percent Recovery, %

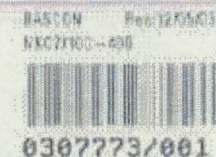
Arsenic	-	84.2	93.7
Cadmium	-	89.6	102
Chromium	-	94.3	92.8
Copper	-	104	93.6
Lead	-	-	112
Nickel	-	91.0	87.5
Zinc	-	-	89.4

Quality Results provided in this report are for laboratory Quality Control purposes.

 Baseline Consulting Pty Ltd 96 Victoria Street West End 4101 Ph: (07)3715 8611, Fax: (07)3715 8622 Postal Address: P.O.Box 3635 South Brisbane 4101 FILE NO: C02-024	CHAIN OF CUSTODY SHEET NO: 1/1 SITE: RPM ADDRESS: Hope Street, West End	COURIER(S) <u>Baseline Consulting Pty Ltd</u> <u>96 Victoria St West End</u>	LABORATORY: Gribbles Analytical Laboratories, 585 Blackburn Road Notting Hill, Victoria, 3168 Contact: Dallas Donovan PHONE: 3300-9639 FAX: 3300 9629
---	---	---	--

ANALYTES

SAMPLE ID	DEPTH SAMPLED	DATE SAMPLED	TIME SAMPLED	Sample Matrix: eg: Soil, Water, Sludge Other (Specify)	Preservation Method: Eg: Temperature Other (Specify)	TPH	BTEX	PAH	OC	PCBs	METALS (LIST)	OTHER (SPECIFY)	RESULTS BY: Standard
NKC7	100-300	7/5/03	1200	SOIL	REFRIG.						As, Cd, Cu, Cr, Pb, Ni, Zn		
NKC7	400-600	7/5/03	1200	SOIL	REFRIG.						As, Cd, Cu, Cr, Pb, Ni, Zn		
NKC8	150-350	7/5/03	1200	SOIL	REFRIG.						As, Cd, Cu, Cr, Pb, Ni, Zn		
NKC8	350-550	7/5/03	1200	SOIL	REFRIG.						As, Cd, Cu, Cr, Pb, Ni, Zn		
NKC9	150-450	7/5/03	1200	SOIL	REFRIG.						As, Cd, Cu, Cr, Pb, Ni, Zn		
NKC10	150-450 500-500	7/5/03	1200	SOIL	REFRIG.						As, Cd, Cu, Cr, Pb, Ni, Zn		
NKC10	200-500 500-700	7/5/03	1200	SOIL	REFRIG.						As, Cd, Cu, Cr, Pb, Ni, Zn		
NKC11	250-500	7/5/03	1200	SOIL	REFRIG.						As, Cd, Cu, Cr, Pb, Ni, Zn		
NKC11 DUP	250-500	7/5/03	1200	SOIL	REFRIG.						As, Cd, Cu, Cr, Pb, Ni, Zn		
NKC11	500-700	7/5/03	1200	SOIL	REFRIG.						As, Cd, Cu, Cr, Pb, Ni, Zn		
NKC12	200-400	7/5/03	1200	SOIL	REFRIG.						As, Cd, Cu, Cr, Pb, Ni, Zn		
NKC12	400-600	7/5/03	1200	SOIL	REFRIG.						As, Cd, Cu, Cr, Pb, Ni, Zn		



Dispatch Officer:	Time	Date	Receiving Officer:	Time	Date	Dispatch Officer:	Time	Date
sch 4 - signature	12:30	9/5/03	sch 4 - signature	10:00	2/5/03			



Analytical Report

BASELINE CONSULTING PTY LTD

PO Box 211

Sumner Park BC

QLD 4074

Contact : ROB WILLIAM

Batch Number : 0307773

Job Ref : RMP

Sample(s) Received : 12/05/2003

Report No : 93685

Methods:

100 Moisture Content

406-MS Elements by ICP-MS, Dry Weight

512-MS Polyaromatic Hydrocarbons, Dry Weight

512-MS Polyaromatic Hydrocarbons, Surrogates

Attached Results Approved by:

sch 4 - signature

John Levvey

Dip.App.Sci (Chemistry)

Senior Analyst - Metals

sch 4 - signature

Anthony Crane

B.App.Sci. (Environmental)

Laboratory Manager

sch 4 - signature

Daniel Dam

B.App.Sci (Chemistry)

Senior Analyst - Semi-Volatiles



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NATA ENDORSED DOCUMENT

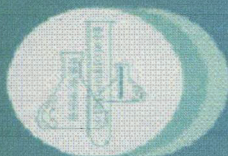
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NATA Accreditation No. 1645 (Chemical Testing) NATA Accreditation No. 14278 (Biological Testing)

*** This is the Final Report which supersedes any reports previously issued relating to the sample(s) included.**

All samples tested as submitted by client.

Denotes methods not covered by NATA terms of accreditation



Results

Report No: 93685

0307773/001 NKC7/100-400	0307773/002 NKC7/400-600	0307773/003 NKC8/150-350	0307773/004 NKC8/350-550	0307773/005 NCK9/150-450
Soil 07/05/2003	Soil 07/05/2003	Soil 07/05/2003	Soil 07/05/2003	Soil 07/05/2003

METALS by ICP-MS, DRY WEIGHT

Method: 406-MS Units: mg/kg

Arsenic	130	19	140	44	41
Cadmium	1.3	<1.0	<1.0	<1.0	1.1
Chromium	24	15	41	15	58
Copper	600	120	1200	230	910
Lead	10000	1100	790	300	5100
Nickel	100	56	120	30	24
Zinc	500	130	450	150	360

OVEN MOISTURE CONTENT

Method: 100 Units: % w/w

Moisture	9.5	11.0	10.6	11.4	12.1
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POLYAROMATIC HYDROCARBONS, DRY WEIGHT

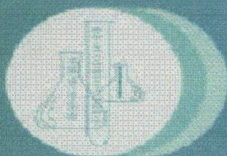
Method: 512-MS Units: mg/kg

Acenaphthene	-	<0.1	-	<0.1	-
Acenaphthylene	-	<0.1	-	<0.1	-
Anthracene	-	<0.1	-	<0.1	-
Benz(a)anthracene	-	0.2	-	0.1	-
Benzo(a)pyrene	-	0.08	-	0.08	-
Benzo(b)fluoranthene	-	0.1	-	0.1	-
Benzo(g,h,i)perylene	-	<0.1	-	<0.1	-
Benzo(k)fluoranthene	-	0.1	-	0.1	-
Chrysene	-	0.3	-	0.2	-
Dibenz(a,h)anthracene	-	<0.1	-	<0.1	-
Fluoranthene	-	0.3	-	0.2	-
Fluorene	-	<0.1	-	<0.1	-
Indeno(1,2,3-c,d)pyrene	-	<0.1	-	<0.1	-
Naphthalene	-	<0.1	-	<0.1	-
Phenanthrene	-	0.3	-	0.2	-
Pyrene	-	0.3	-	0.2	-
Total PAH's	-	<2	-	<2	-

POLYAROMATIC HYDROCARBONS, SURROGATE RECOVERIES

Method: 512-MS Units: % Recovered

Pyrene-d10, Surrogate Rec.	-	79.0	-	87.5	-
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Results

Report No: 93685

0307773/006 NCK10/300- 500	0307773/007 NCK10/500- 700	0307773/008 NCK11/250- 500	0307773/009 NCK11 DUP/250-500	0307773/010 NCK11/500- 700
Soil	Soil	Soil	Soil	Soil
07/05/2003	07/05/2003	07/05/2003	07/05/2003	07/05/2003

METALS by ICP-MS, DRY WEIGHT

Method: 406-MS Units: mg/kg

Arsenic	3.0	2.3	9.4	4.4	6.0
Cadmium	51	<1.0	1.9	2.0	<1.0
Chromium	22	13	20	19	9.5
Copper	100	51	2900	880	560
Lead	67	79	280	160	180
Nickel	16	18	22	19	17
Zinc	100	66	1000	650	580

OVEN MOISTURE CONTENT

Method: 100 Units: % w/w

Moisture	17.5	18.9	13.6	14.7	12.0
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POLYAROMATIC HYDROCARBONS, DRY WEIGHT

Method: 512-MS Units: mg/kg

Acenaphthene	-	<0.1	-	-	-
Acenaphthylene	-	<0.1	-	-	-
Anthracene	-	<0.1	-	-	-
Benz(a)anthracene	-	0.1	-	-	-
Benzo(a)pyrene	-	0.09	-	-	-
Benzo(b)fluoranthene	-	0.1	-	-	-
Benzo(g,h,i)perylene	-	<0.1	-	-	-
Benzo(k)fluoranthene	-	0.1	-	-	-
Chrysene	-	0.2	-	-	-
Dibenz(a,h)anthracene	-	<0.1	-	-	-
Fluoranthene	-	0.2	-	-	-
Fluorene	-	<0.1	-	-	-
Indeno(1,2,3-c,d)pyrene	-	0.1	-	-	-
Naphthalene	-	<0.1	-	-	-
Phenanthrene	-	0.2	-	-	-
Pyrene	-	0.1	-	-	-
Total PAH's	-	<2	-	-	-

POLYAROMATIC HYDROCARBONS, SURROGATE RECOVERIES

Method: 512-MS Units: % Recovered

Pyrene-d10, Surrogate Rec.	-	91.5	-	-	-
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Results

Report No: 93685

0307773/011	0307773/012
NCK12/200-	NCK12/400-
400	600
Soil	Soil
07/05/2003	07/05/2003

METALS by ICP-MS, DRY WEIGHT

Method: 406-MS Units: mg/kg

Arsenic	4.2	7.6
Cadmium	<1.0	<1.0
Chromium	11	21
Copper	49	51
Lead	130	59
Nickel	14	19
Zinc	96	150

OVEN MOISTURE CONTENT

Method: 100 Units: % w/w

Moisture	14.0	12.8
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POLYAROMATIC HYDROCARBONS, DRY WEIGHT

Method: 512-MS Units: mg/kg

Acenaphthene	<0.1	-
Acenaphthylene	<0.1	-
Anthracene	<0.1	-
Benz(a)anthracene	0.1	-
Benzo(a)pyrene	0.06	-
Benzo(b)fluoranthene	0.1	-
Benzo(g,h,i)perylene	<0.1	-
Benzo(k)fluoranthene	<0.1	-
Chrysene	0.2	-
Dibenz(a,h)anthracene	<0.1	-
Fluoranthene	0.3	-
Fluorene	<0.1	-
Indeno(1,2,3-c,d)pyrene	<0.1	-
Naphthalene	<0.1	-
Phenanthrene	0.3	-
Pyrene	0.2	-
Total PAH's	<2	-

POLYAROMATIC HYDROCARBONS, SURROGATE RECOVERIES

Method: 512-MS Units: % Recovered

Pyrene-d10, Surrogate Rec.	79.5	-
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Quality Results

Report No: 93685

0307773Q014 Duplicate 0307773/003 19/05/2003	0307773Q015 Spike Recovery 0307773/003 16/05/2003	0307773Q016 Spike Recovery 0307773/011 16/05/2003	0307773Q017 Spike Recovery Lab Control 19/05/2003	0307773Q018 QCBlank METHOD BLK 17/05/2003
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POLYAROMATIC HYDROCARBONS, AS RECEIVED

Method: 512-MS Units: mg/kg

Acenaphthene	-	-	-	<0.05
Acenaphthylene	-	-	-	<0.05
Anthracene	-	-	-	<0.05
Benz(a)anthracene	-	-	-	<0.05
Benzo(a)pyrene	-	-	-	<0.05
Benzo(b)fluoranthene	-	-	-	<0.05
Benzo(g,h,i)perylene	-	-	-	<0.05
Benzo(k)fluoranthene	-	-	-	<0.05
Chrysene	-	-	-	<0.05
Dibenz(a,h)anthracene	-	-	-	<0.05
Fluoranthene	-	-	-	<0.05
Fluorene	-	-	-	<0.05
Indeno(1,2,3-c,d)pyrene	-	-	-	<0.05
Naphthalene	-	-	-	<0.05
Phenanthrene	-	-	-	<0.05
Pyrene	-	-	-	<0.05

QC RESULTS - DUPLICATES

Relative Percent Difference, %

Arsenic	13.6	-	-	-
Cadmium	17.7	-	-	-
Chromium	22.8	-	-	-
Copper	5.7	-	-	-
Lead	18.1	-	-	-
Zinc	10.0	-	-	-

QC RESULTS - SPIKED SAMPLES

Percent Recovery, %

Arsenic	-	78.0	94.2	108	-
Cadmium	-	87.9	87.2	100	-
Chromium	-	117	96.0	108	-
Copper	-	-	104	106	-
Lead	-	-	89.1	116	-
Nickel	-	107	102	104	-
Zinc	-	-	80.1	109	-

Quality Results

Report No: 93685

0307773Q019 Spike Recovery LAB CONTROL 17/05/2003	0307773Q020 Spike Recovery SOIL 17/05/2003
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QC RESULTS - SPIKED SAMPLES

Percent Recovery, %

Acenaphthene	110	115
Acenaphthylene	110	118
Anthracene	99.0	112
Benz(a)anthracene	106	100
Benzo(a)pyrene	102	100
Benzo(b)fluoranthene	106	105
Benzo(g,h,i)perylene	117	105
Benzo(k)fluoranthene	113	115
Chrysene	105	100
Dibenz(a,h)anthracene	106	105
Fluoranthene	113	105
Fluorene	114	112
Indeno(1,2,3-c,d)pyrene	113	102
Naphthalene	112	118
Phenanthrene	109	112
Pyrene	108	97.5

Quality Results provided in this report are for laboratory Quality Control purposes.

SAMPLE RECEIPT ADVICE

Date 28/8 Client Name BASCOR Client Job No. Robertson GAL Batch No. 0216384

The above samples were received for analysis at our Notting Hill laboratory on the dates indicated. The following sample conditions were noted on receipt.

- ☐ Correctly completed Chain of Custody accompanied samples Yes/No
- ☐ Samples were adequately preserved in correct containers. Yes/No
- ☐ Samples were received within recommended holding times Yes/No
- ☐ Sample transport temperatures were acceptable. Yes/No
- ☐ Samples were received in good order and undamaged. Yes/No
- ☐ Samples logged in for the following turnarounds 24hour 48hour Routine

Note: Turnaround time starts when samples are received at the laboratory.
Surcharge applies for 24 and 48 hour turnaround

- ☐ Please contact Anthony Crane (Lab Manager) for turnaround/technical queries.
- ☐ Please contact Paul James for Results/Reporting.
- ☐ Please contact Ashley, Thanh, or Jodie for any issues in relation to sample condition, labeling or breakages.

NOTE: Water samples will be discarded after 1 month unless notified. Soil samples will be discarded after 3 months unless notified.

Comments/Exceptions:

Signed: sch 4 - signature
(for Gribbles Analytical Laboratories)

Date: 28/8/22
Time: 14:00

GA SMPRCT1_B 06-06-2002

The Controlled Master copy of this document is stored in 1:QC/Documentation/Company Forms/Current. It is the responsibility of the user to refer to the Master Copy on a regular basis to ensure the current issue is being used.

Baseline Consulting Pty Ltd 96 Victoria Street West End 4101 Ph: (07)3844 5900. Fax: (07)3844 7588 Postal Address: P.O.Box 3635 South Brisbane 4101 FILE NO: C02-024	CHAIN OF CUSTODY SHEET NO: VI SITE: ROBERTSON ADDRESS: Hope Street, West End		COURIER(S) <u>Baseline Consulting Pty Ltd</u> <u>96 Victoria St West End</u>	LABORATORY: Gribbles Analytical Laboratories. 585 Blackburn Road Notting Hill, Victoria, 3168 Contact: Dallas Donovan PHONE: 3300-9639 FAX: 3300 9629

SAMPLE I.D.	DEPTH SAMPLED	DATE SAMPLED	TIME SAMPLED	Sample Matrix: eg: Soil, Water, Sludge Other (Specify)	Preservation Method: Eg: Temperature Other (Specify)	ANALYTES					METALS (LIST)	OTHER (SPECIFY)	RESULTS BY: STANDARD
						TPH	BTEX	PAH	OC	PCB			
KC7	200-500	26/08/02	1200	SOIL FILL									
KC1	100-250	26/08/02	1200	SOIL FILL									
KC1	750-1000	26/08/02	1200	SOIL ASH							As, Cd, Cu, Cr, Hg, Ni, Pb, Zn		
KC1	1000	26/08/02	1200	NATURAL									
KC2	50-350	26/08/02	1200	SOIL NATURAL							As, Cd, Cu, Cr, Hg, Ni, Pb, Zn		
KC1	100-400	26/08/02	1200	SOIL FILL							As, Cd, Cu, Cr, Hg, Ni, Pb, Zn		
KC3	400-700	26/08/02	1200	SOIL FILL							As, Cd, Cu, Cr, Hg, Ni, Pb, Zn		
KC3	700-1000	26/08/02	1200	SOIL ASH									
KC4	100-400	26/08/02	1200	NATURAL							As, Cd, Cu, Cr, Hg, Ni, Pb, Zn		
KC5	200-500	26/08/02	1200	SOIL FILL							As, Cd, Cu, Cr, Hg, Ni, Pb, Zn		
KC5	500-750	26/08/02	1200	SOIL ASH/NAT							As, Cd, Cu, Cr, Hg, Ni, Pb, Zn		
NKC1	200-500	26/08/02	1200	NATURAL									
NKC2	50-350	26/08/02	1200	SOIL ASH/NAT							As, Cd, Cu, Cr, Hg, Ni, Pb, Zn		
NKC3	50-350	26/08/02	1200	SOIL ASH/NAT							As, Cd, Cu, Cr, Hg, Ni, Pb, Zn		

Dispatch Officer: sch 4 - signature	Time 11:00	Date 27/8	Receiver Officer: sch 4 - signature	Time 12:00	Date 28/8/02	Dispatch Officer: sch 4 - signature	Time 12:00	Date 28/8/02
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Explosives
Water & Waste Water
Environmental
Food & Pharmaceuticals
Biological

GRIBBLES
Analytical Laboratories

A.C.N. 006 623 089
685 Blackburn Road
Notting Hill, Victoria, Australia 3168
Telephone (03) 9562 5899
Fax (03) 9562 0336

Analytical Report

BASELINE CONSULTING PTY LTD

PO Box 211

Sumner Park BC

QLD 4074

Batch Number : 0216384

Job Ref : ROBERTSON

Sample(s) Received : 28/08/2002

Report No : 73426

Methods:

100 Moisture Content
404FIMS Mercury by Vapour AAS, Dry Weight
406-MS Elements by ICP-MS, Dry Weight
501-FID Total Petroleum Hydrocarbons, Dry Weight
506-ECD Organochlorine Analysis, Surrogates
512-MS Organochlorine Pesticides, Dry Weight
512-MS Polyaromatic Hydrocarbons, Dry Weight
512-MS Polyaromatic Hydrocarbons, Surrogates
512-MS Total Polyaromatic Hydrocarbons, Dry Weight
513P&T C6-C9 (Purge & Trap), Dry Weight

Attached Results Approved by:

sch 4 - signature

George Michaloudis

B.Sci. (Hons)

Senior Analyst - Volatiles

sch 4 - signature

Anthony Crane

B.App.Sci. (Environmental)

Laboratory Manager

sch 4 - signature

John Levvey

Dip.App.Sci (Chemistry)

Senior Analyst - Metals

sch 4 - signature

Daniel Dam

B.App.Sci (Chemistry)

Senior Analyst - Semi-Volatiles



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NATA ENDORSED DOCUMENT

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NATA Accreditation No. 1645 (Chemical Testing) NATA Accreditation No. 14278 (Biological Testing)

*** This is the Final Report which supersedes any reports previously issued relating to the sample(s) included.**

All samples tested as submitted by client.

Denotes methods not covered by NATA terms of accreditation



Explosives
Water & Waste Water
Environmental
Food & Pharmaceuticals
Biological

GRIBBLES
Analytical Laboratories

A.C.N. 006 623 089
685 Blackburn Road
Notting Hill, Victoria, Australia 3168
Telephone (03) 9562 5899
Fax (03) 9562 0336

Results

Report No: 73426

0216384/002 KC1 500-750	0216384/003 KC1 750-1000	0216384/004 KC1 1000	0216384/005 KC2 50-350	0216384/006 KC3 100-400
Soil	Soil	Soil	Soil	Soil
26/08/2002	26/08/2002	26/08/2002	26/08/2002	26/08/2002

ELEMENTS by ICP-MS, DRY WEIGHT

Method: 406-MS Units: mg/kg

Arsenic	4.0	-	7.5	2.4	2.6
Cadmium	<1.0	-	<1.0	<1.0	<1.0
Chromium	8.7	-	16	7.4	7.9
Copper	3.5	-	58	3.2	4.4
Lead	25	-	860	38	24
Nickel	<2.0	-	5.3	4.3	<2.0
Zinc	10	-	610	22	15

HYDROCARBONS (C6-C9), DRY WEIGHT

Method: 513P&T Units: mg/kg

TPH C6 - C9	<20	-	-	<20	-
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HYDROCARBONS (TPH), DRY WEIGHT

Method: 501-FID Units: mg/kg

TPH C10 - C14	<20	-	-	<20	-
TPH C15 - C28	<20	-	-	24	-
TPH C29 - C36	<20	-	-	<20	-

MERCURY by VAPOUR-AAS, DRY WEIGHT

Method: 404FIMS Units: mg/kg

Mercury	0.06	-	0.30	0.04	0.08
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ORGANOCHLORINE PESTICIDES, DRY WEIGHT

Method: 512-MS Units: mg/kg

Aldrin	-	-	-	<0.1	-
alpha - BHC	-	-	-	<0.1	-
alpha - Endosulphan	-	-	-	<0.1	-
beta - BHC	-	-	-	<0.1	-
beta - Endosulphan	-	-	-	<0.1	-
Chlordane	-	-	-	<0.1	-
DDD	-	-	-	<0.1	-
DDE	-	-	-	<0.1	-
DDT	-	-	-	<0.1	-
delta - BHC	-	-	-	<0.1	-
Dieldrin	-	-	-	<0.1	-
Endosulphan sulphate	-	-	-	<0.1	-
Endrin	-	-	-	<0.1	-
Endrin Aldehyde	-	-	-	<0.1	-
Heptachlor	-	-	-	<0.1	-
Heptachlorepoide	-	-	-	<0.1	-
Hexachlorobenzene	-	-	-	<0.1	-
Lindane	-	-	-	<0.1	-
Methoxychlor	-	-	-	<0.1	-



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Report No: 73426

0216384/002 KC1 500-750	0216384/003 KC1 750-1000	0216384/004 KC1 1000	0216384/005 KC2 50-350	0216384/006 KC3 100-400
Soil	Soil	Soil	Soil	Soil
26/08/2002	26/08/2002	26/08/2002	26/08/2002	26/08/2002

ORGANOCHLORINE PESTICIDES, SURROGATE RECOVERIES

Method: 506-ECD Units: % Recovered

OC Surrogate Recovery	-	-	-	92.5	-
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OVEN MOISTURE CONTENT

Method: 100 Units: % w/w

Moisture	11.7	16.6	20.6	12.2	13.8
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POLYAROMATIC HYDROCARBONS, DRY WEIGHT

Method: 512-MS Units: mg/kg

Acenaphthene	-	<0.1	<0.1	-	-
Acenaphthylene	-	0.1	0.5	-	-
Anthracene	-	0.1	0.6	-	-
Benz(a)anthracene	-	0.4	1.7	-	-
Benzo(a)pyrene	-	0.21	1.45	-	-
Benzo(b)fluoranthene	-	0.3	1.2	-	-
Benzo(g,h,i)perylene	-	0.2	1.5	-	-
Benzo(k)fluoranthene	-	0.2	1.0	-	-
Chrysene	-	0.4	1.7	-	-
Dibenz(a,h)anthracene	-	<0.1	0.2	-	-
Fluoranthene	-	1.4	4.9	-	-
Fluorene	-	<0.1	<0.1	-	-
Indeno(1,2,3-c,d)pyrene	-	0.2	1.4	-	-
Naphthalene	-	<0.1	<0.1	-	-
Phenanthrene	-	0.6	2.5	-	-
Pyrene	-	1.3	4.9	-	-
Total PAH's	-	6	24	-	-

POLYAROMATIC HYDROCARBONS, SURROGATE RECOVERIES

Method: 512-MS Units: % Recovered

Pyrene-d10, Surrogate Rec.	-	98.2	122	-	-
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Report No: 73426

0216384/007 KC3 400-700	0216384/008 KC3 700-1000	0216384/009 KC4 100-400	0216384/010 KC5 200-500	0216384/011 KC5 500-750
Soil	Soil	Soil	Soil	Soil
26/08/2002	26/08/2002	26/08/2002	26/08/2002	26/08/2002

ELEMENTS by ICP-MS, DRY WEIGHT

Method: 406-MS Units: mg/kg

Arsenic	-	11	2.5	3.1	-
Cadmium	-	<1.0	<1.0	<1.0	-
Chromium	-	19	7.6	9.5	-
Copper	-	32	2.6	36	-
Lead	-	680	17	2600	-
Nickel	-	12	2.5	4.5	-
Zinc	-	470	11	230	-

HYDROCARBONS (C6-C9), DRY WEIGHT

Method: 513P&T Units: mg/kg

TPH C6 - C9	-	-	<20	-
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HYDROCARBONS (TPH), DRY WEIGHT

Method: 501-FID Units: mg/kg

TPH C10 - C14	-	-	<20	-
TPH C15 - C28	-	-	26	-
TPH C29 - C36	-	-	<20	-

MERCURY by VAPOUR-AAS, DRY WEIGHT

Method: 404FIMS Units: mg/kg

Mercury	-	0.56	0.07	0.41	-
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ORGANOCHLORINE PESTICIDES, DRY WEIGHT

Method: 512-MS Units: mg/kg

Aldrin	<0.1	<0.1	-	<0.1	-
alpha - BHC	<0.1	<0.1	-	<0.1	-
alpha - Endosulphan	<0.1	<0.1	-	<0.1	-
beta - BHC	<0.1	<0.1	-	<0.1	-
beta - Endosulphan	<0.1	<0.1	-	<0.1	-
Chlordane	<0.1	<0.1	-	<0.1	-
DDD	<0.1	<0.1	-	<0.1	-
DDE	<0.1	<0.1	-	<0.1	-
DDT	<0.1	<0.1	-	<0.1	-
delta - BHC	<0.1	<0.1	-	<0.1	-
Dieldrin	<0.1	<0.1	-	<0.1	-
Endosulphan sulphate	<0.1	<0.1	-	<0.1	-
Endrin	<0.1	<0.1	-	<0.1	-
Endrin Aldehyde	<0.1	<0.1	-	<0.1	-
Heptachlor	<0.1	<0.1	-	<0.1	-
Heptachlorepoxyde	<0.1	<0.1	-	<0.1	-
Hexachlorobenzene	<0.1	<0.1	-	<0.1	-
Lindane	<0.1	<0.1	-	<0.1	-
Methoxychlor	<0.1	<0.1	-	<0.1	-



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0216384/007 KC3 400-700	0216384/008 KC3 700-1000	0216384/009 KC4 100-400	0216384/010 KC5 200-500	0216384/011 KC5 500-750
Soil	Soil	Soil	Soil	Soil
26/08/2002	26/08/2002	26/08/2002	26/08/2002	26/08/2002

ORGANOCHLORINE PESTICIDES, SURROGATE RECOVERIES

Method: 506-ECD Units: % Recovered

OC Surrogate Recovery	95.5	94.0	-	98.0	-
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OVEN MOISTURE CONTENT

Method: 100 Units: % w/w

Moisture	18.9	19.7	10.6	10.2	11.4
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POLYAROMATIC HYDROCARBONS, DRY WEIGHT

Method: 512-MS Units: mg/kg

Acenaphthene	-	<0.1	-	-	<0.1
Acenaphthylene	-	0.1	-	-	<0.1
Anthracene	-	0.2	-	-	<0.1
Benz(a)anthracene	-	0.7	-	-	0.1
Benzo(a)pyrene	-	0.56	-	-	0.11
Benzo(b)fluoranthene	-	0.5	-	-	0.1
Benzo(g,h,i)perylene	-	0.5	-	-	<0.1
Benzo(k)fluoranthene	-	0.5	-	-	0.1
Chrysene	-	0.6	-	-	0.1
Dibenz(a,h)anthracene	-	<0.1	-	-	<0.1
Fluoranthene	-	1.6	-	-	0.4
Fluorene	-	<0.1	-	-	<0.1
Indeno(1,2,3-c,d)pyrene	-	0.5	-	-	<0.1
Naphthalene	-	<0.1	-	-	<0.1
Phenanthrene	-	0.5	-	-	<0.1
Pyrene	-	1.3	-	-	0.3
Total PAH's	-	8	-	-	2

POLYAROMATIC HYDROCARBONS, SURROGATE RECOVERIES

Method: 512-MS Units: % Recovered

Pyrene-d10, Surrogate Rec.	-	123	-	-	138
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0216384/012 0216384/013 0216384/014
NKC1 200-500 NKC2 50-350 NKC3 50-350

Soil Soil Soil
26/08/2002 26/08/2002 26/08/2002

ELEMENTS by ICP-MS, DRY WEIGHT

Method: 406-MS Units: mg/kg

Arsenic	7.2	2.8	66
Cadmium	<1.0	1.1	2.5
Chromium	16	13	83
Copper	15	14	5600
Lead	38	220	2500
Nickel	12	11	110
Zinc	52	70	1800

HYDROCARBONS (C6-C9), DRY WEIGHT

Method: 513P&T Units: mg/kg

TPH C6 - C9	-	<20	-
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HYDROCARBONS (TPH), DRY WEIGHT

Method: 501-FID Units: mg/kg

TPH C10 - C14	-	<20	-
TPH C15 - C28	-	36	-
TPH C29 - C36	-	20	-

MERCURY by VAPOUR-AAS, DRY WEIGHT

Method: 404FIMS Units: mg/kg

Mercury	0.10	0.17	34
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OVEN MOISTURE CONTENT

Method: 100 Units: % w/w

Moisture	16.0	14.8	13.1
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POLYAROMATIC HYDROCARBONS, DRY WEIGHT

Method: 512-MS Units: mg/kg

Acenaphthene	<0.1	<0.1	<0.1
Acenaphthylene	<0.1	<0.1	<0.1
Anthracene	0.1	<0.1	<0.1
Benz(a)anthracene	0.2	<0.1	0.1
Benzo(a)pyrene	0.18	0.09	0.09
Benzo(b)fluoranthene	0.2	0.1	0.1
Benzo(g,h,i)perylene	0.1	<0.1	<0.1
Benzo(k)fluoranthene	0.1	<0.1	<0.1
Chrysene	0.2	0.1	0.2
Dibenz(a,h)anthracene	<0.1	<0.1	<0.1
Fluoranthene	0.7	0.1	0.3
Fluorene	<0.1	<0.1	<0.1
Indeno(1,2,3-c,d)pyrene	0.1	<0.1	<0.1
Naphthalene	<0.1	<0.1	<0.1
Phenanthrene	0.5	<0.1	0.2
Pyrene	0.6	0.1	0.3
Total PAH's	4	<2	2



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0216384/012 0216384/013 0216384/014
NKC1 200-500 NKC2 50-350 NKC3 50-350

Soil Soil Soil
26/08/2002 26/08/2002 26/08/2002

POLYAROMATIC HYDROCARBONS, SURROGATE RECOVERIES

Method: 512-MS Units: % Recovered

Pyrene-d10, Surrogate Rec.	128	126	-
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0216384Q015	0216384Q016	0216384Q017	0216384Q018	0216384Q019
QCBlank	Spike	Spike	QCBlank	QCBlank
METHOD	Recovery	Recovery	METHOD BLK	METHOD BLK
BLANK	LAB	SOIL		
30/08/2002	CONTROL	30/08/2002	30/08/2002	30/08/2002
	30/08/2002			

HYDROCARBONS, AS RECEIVED

Method: 501-FID Units: mg/kg

TPH C10 - C14	<20	-	-	-	-
TPH C15 - C28	<20	-	-	-	-
TPH C29 - C36	<20	-	-	-	-

ORGANOCHLORINE PESTICIDES, AS RECEIVED

Method: 512-MS Units: mg/kg

Aldrin	-	-	-	-	<0.1
alpha - BHC	-	-	-	-	<0.1
alpha - Endosulphan	-	-	-	-	<0.1
beta - BHC	-	-	-	-	<0.1
beta - Endosulphan	-	-	-	-	<0.1
Chlordane	-	-	-	-	<0.1
DDD	-	-	-	-	<0.1
DDE	-	-	-	-	<0.1
DDT	-	-	-	-	<0.1
delta - BHC	-	-	-	-	<0.1
Dieldrin	-	-	-	-	<0.1
Endosulphan sulphate	-	-	-	-	<0.1
Endrin	-	-	-	-	<0.1
Endrin Aldehyde	-	-	-	-	<0.1
Heptachlor	-	-	-	-	<0.1
Heptachlorepoide	-	-	-	-	<0.1
Hexachlorobenzene	-	-	-	-	<0.1
Lindane	-	-	-	-	<0.1
Methoxychlor	-	-	-	-	<0.1

POLYAROMATIC HYDROCARBONS, AS RECEIVED

Method: 512-MS Units: mg/kg

Acenaphthene	-	-	-	<0.05	-
Acenaphthylene	-	-	-	<0.05	-
Anthracene	-	-	-	<0.05	-
Benz(a)anthracene	-	-	-	<0.05	-
Benzo(a)pyrene	-	-	-	<0.05	-
Benzo(b)fluoranthene	-	-	-	<0.05	-
Benzo(g,h,i)perylene	-	-	-	<0.05	-
Benzo(k)fluoranthene	-	-	-	<0.05	-
Chrysene	-	-	-	<0.05	-
Dibenz(a,h)anthracene	-	-	-	<0.05	-
Fluoranthene	-	-	-	<0.05	-
Fluorene	-	-	-	<0.05	-
Indeno(1,2,3-c,d)pyrene	-	-	-	<0.05	-
Naphthalene	-	-	-	<0.05	-
Phenanthrene	-	-	-	<0.05	-

Reported: Thursday, 05 September 2002

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Quality Results

Report No: 73426

	0216384Q015 QCBlank METHOD BLANK 30/08/2002	0216384Q016 Spike Recovery LAB CONTROL 30/08/2002	0216384Q017 Spike Recovery SOIL 30/08/2002	0216384Q018 QCBlank METHOD BLK 30/08/2002	0216384Q019 QCBlank METHOD BLK 30/08/2002
Pyrene	-	-	-	<0.05	-
QC RESULTS - SPIKED SAMPLES					
Percent Recovery, %					
TPH C10 - C14	-	99.2	94.4	-	-
TPH C15 - C28	-	85.8	90.4	-	-
TPH C29 - C36	-	87.0	88.0	-	-

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0216384Q020 Spike Recovery LAB CONTROL	0216384Q021 Spike Recovery SOIL	0216384Q022 Duplicate 0216384/003	0216384Q024 Spike Recovery Lab Control	0216384Q025 Duplicate 0216384/002
30/08/2002	30/08/2002	30/08/2002	4/09/2002	4/09/2002

QC RESULTS - DUPLICATES

Relative Percent Difference, %

Arsenic	-	-	-	-	<1.0
Cadmium	-	-	-	-	<1.0
Chromium	-	-	-	-	1.0
Nickel	-	-	-	-	<1.0
Zinc	-	-	-	-	15.0
Acenaphthene	-	-	<1.0	-	-
Anthracene	-	-	40.0	-	-
Benzo(a)anthracene	-	-	40.0	-	-
Benzo(a)pyrene	-	-	28.6	-	-
Benzo(b)fluoranthene	-	-	22.2	-	-
Benzo(g,h,i)perylene	-	-	18.2	-	-
Benzo(k)fluoranthene	-	-	28.6	-	-
Chrysene	-	-	37.0	-	-
Dibenz(a,h)anthracene	-	-	<1.0	-	-
Fluorene	-	-	<1.0	-	-
Indeno(1,2,3-c,d)pyrene	-	-	18.2	-	-
Naphthalene	-	-	40.0	-	-

QC RESULTS - SPIKED SAMPLES

Percent Recovery, %

Arsenic	-	-	99.0	-
Cadmium	-	-	99.6	-
Chromium	-	-	102	-
Copper	-	-	101	-
Lead	-	-	101	-
Nickel	-	-	98.8	-
Zinc	-	-	100	-
Aldrin	102	105	-	-
alpha - BHC	92.0	85.0	-	-
alpha - Endosulphan	117	115	-	-
beta - BHC	97.0	87.5	-	-
beta - Endosulphan	111	125	-	-
Chlordane	105	104	-	-
DDD	115	112	-	-
DDE	112	110	-	-
DDT	106	85.0	-	-
delta - BHC	100	90.0	-	-
Dieldrin	115	132	-	-
Endosulphan sulphate	101	90.0	-	-
Endrin	120	110	-	-
Endrin Aldehyde	90.0	100	-	-
Heptachlor	95.0	82.5	-	-



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	0216384Q020 Spike Recovery LAB CONTROL	0216384Q021 Spike Recovery SOIL 30/08/2002	0216384Q022 Duplicate 0216384/003 30/08/2002	0216384Q024 Spike Recovery Lab Control 4/09/2002	0216384Q025 Duplicate 0216384/002 4/09/2002
Heptachlorepoide	116	112	-	-	-
Hexachlorobenzene	96.0	108	-	-	-
Lindane	97.0	102	-	-	-
Methoxychlor	98.0	82.5	-	-	-
Acenaphthene	90.0	100	-	-	-
Acenaphthylene	120	120	-	-	-
Anthracene	105	112	-	-	-
Benz(a)anthracene	106	105	-	-	-
Benzo(a)pyrene	86.0	90.0	-	-	-
Benzo(b)fluoranthene	88.0	85.0	-	-	-
Benzo(g,h,i)perylene	100	105	-	-	-
Benzo(k)fluoranthene	105	110	-	-	-
Chrysene	114	115	-	-	-
Dibenz(a,h)anthracene	105	105	-	-	-
Fluoranthene	118	128	-	-	-
Fluorene	104	108	-	-	-
Indeno(1,2,3-c,d)pyrene	98.0	128	-	-	-
Naphthalene	117	130	-	-	-
Phenanthrene	102	100	-	-	-
Pyrene	118	118	-	-	-



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0216384Q026 Spike Recovery 0216384/002 3/09/2002	0216384Q027 QCBlank METHOD BLANK 5/09/2002	0216384Q028 QCBlank METHOD BLANK 5/09/2002	0216384Q029 Spike Recovery RECOVERY 5/09/2002	0216384Q030 Spike Recovery lab control 5/09/2002
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HYDROCARBONS (C6-C9), AS RECEIVED

Method: 513P&T Units: mg/kg

TPH C6 - C9	-	<20	<20	-	-
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QC RESULTS - SPIKED SAMPLES

Percent Recovery, %

Arsenic	80.7	-	-	-
Cadmium	88.4	-	-	-
Chromium	94.4	-	-	-
Copper	92.8	-	-	-
Lead	101	-	-	-
Nickel	93.9	-	-	-
Zinc	85.3	-	-	-
TPH C6 - C9	-	-	74.8	81.7

Quality Results provided in this report are for laboratory Quality Control purposes.

BASELINE

BASELINE CONSULTING PTY LTD

Development Consultants and Engineers

A.C.N. 067 243 314

Our ref: C02 – 027.5.06

Date: 5th June, 2003

Contaminated Land Unit
Environmental Protection Agency
GPO Box 2771
BRISBANE QLD 4001

Attention: The Manager

Re: Stage 2 Site investigation Report and SMP 25, 27 Hope Street, South Brisbane

Attached are the above reports together with the client's cheque for the \$ 900 EPA report assessment fee.

It is not intended to proceed with the remediation of the site in the near future and the current buildings will remain until development is due to commence.

The proposed development will involve medium rise high density residential above 2 levels of under ground car park.

A acid sulphate soil assessment will be carried out and any necessary management plan developed prior to the commencement of earth works.

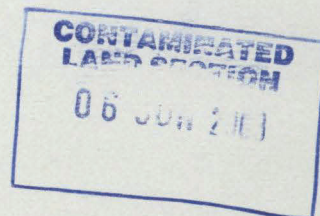
There is a development application pending for redevelopment of the site under the Integrated Planning Act 1997

If you have any queries please contact me on Phone 37158611 or phone 37158622

Yours faithfully
BASELINE CONSULTING PTY LTD

sch 4 - signature

Herb Williams
Director Environmental Services



96 Victoria Street, West End Q 4101
Postal Address: PO Box 3635 South Brisbane Q 4101
Facsimile (07) 3844 7588 Telephone (07) 3844 5900
Registered Professional Engineering Unit of Queensland

**STATUTORY DECLARATION
HERB WILLIAMS – BASELINECONSULTING PTY LTD**

Address of Site Investigated: 25-27 HOPE STREET, WEST END

Real Property Description: LOT 2 ON RP 96245, LOT 2 ON RP 44397

Title of Report: STAGE 1 & 2, SITE CONTAMINATION
ASSESSMENT, RPM PTY LTD, 25-27 HOPE
STREET, WEST END

I, Herb Williams, of Baseline Consulting Pty Ltd, 96 Victoria Street, West End in the State of Queensland, do solemnly and sincerely declare that;

- I was the investigator and validation report preparer of the report described above;
- I am a member of MRACI, MASSSI, MISSS and my qualifications and experience as outlined in my Curriculum Vitae are relevant to this investigation;
- I have not knowingly included any false, misleading or incomplete information in the report;
- I have not knowingly failed to reveal any relevant information or document to the administered authority; and

I certify that:

- The report addresses the relevant matters for the investigation and is factually correct; and
- The opinions expressed in it are honestly and reasonably held.

And I make this solemn declaration conscientiously believing the same to be true and by virtue of the provisions of the Oaths Act 1867.

Signature

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Name

Herbert Roy Williams

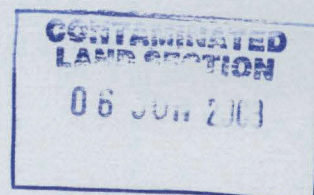
Taken and declared before me at BRISBANE this 5th day of June 2003

Witness

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Name

Sarah Anne Adams - Solicitor



**SITE MANAGEMENT PLAN
25 & 27 HOPE STREET
SOUTH BRISBANE**

DATE: 3 September 2003

**RPD Lot 2 on RP 96245
Lot 2 on RP 44379**

EPA File: BNE9181

1.0 SUMMARY OF CONTAMINATION

1.1 *Former Use*

The site has been used for a number of purposes since the construction of the current buildings some time after 1946. Prior to 1946 aerial photography indicates a possible residential site then in succeeding years the activities that could contribute to contamination involved the current vehicle mechanical workshop since 1998 on No 25. Prior to 1998 both No 25 & No 27 were used as a generator maintenance and sales business for an unspecified but significant number of years. Past historical commercial activities included fluorescent lighting and television repair and printing machinery and equipment supply. It is likely that a significant component of the heavy metal contamination associated with the site was imported in the fill as the whole site appears to be filled from a depth of < 0.4m to > 1.0m. The source of fill is unknown but some appears to be ash probably from gas works.

1.2 *Contaminants of concern*

Investigations have identified the presence of the following contaminants at concentrations above the Environmental Protection Agency (EPA) Environmental Investigation Levels beneath the concrete floors of the 2 buildings occupying the site. Contaminants are mainly located in a layer of sandy/gravel/ deco/ash and mottled orange brown grey silty clay fill material (eg arsenic 130-140 mg / kg at 0.15-0.35m BGL, copper 600-5600 at 0.20-0.50m BGL, lead 460 – 10 000 mg / kg at 0.1 – 0.45m BGL, zinc 230 – 1800 mg / kg at 0.2 – 0.5m BGL, mercury 34 mg/kg at 0.20-0.50 m BGL, polycyclic aromatic hydrocarbons (PAH) 24mg /kg at 1.0 m BGL.

1.3 *Management Strategy*

The strategy for management is to leave the site as is and tenanted until a decision is made to demolish and remediate at which time the excavation of the proposed underground park will be carried out in conjunction with a remediation program involving excavation and disposal of all contaminated fill, in accordance with section 424 of the EP Act 94, and validation of the underlying natural heavy brown silt clays.

This strategy relates to the requirement for development approvals prior to commencement of site works for finance considerations and to avoid the presence of a site excavation that will fill with water in the wet season.

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1.4 Figures

The site contamination is erratic and wide spread over the site comprising both Lot 2 on RP 96245 and Lot 2 on RP 44379. The location of identified contamination is shown on attached Drawing No.1 Site Contamination and Fill Extent Plan.

2.0 OBJECTIVE OF SITE MANAGEMENT PLAN

The purpose of this SMP is to manage contamination on site in a manner that protects human health and the environment.

3.0 ACHIEVEMENT AND MANAGEMENT OBJECTIVES

3.1 Responsibility.

The owner of the land as defined under the Environmental Protection Act 1994 is to ensure that the following conditions of this Site Management Plan and any variations approved or required by the administering authority are complied with. The obligations and conditions set out in this Site Management Plan bind the owner, from time to time, of the land.

3.2 Site Use.

All remediation and validation works for this site are to be carried out in accordance with Appendix 1 – Remediation Action Plan for 25 & 27 Hope Street, South Brisbane. The site is currently suitable for industrial use. The intended use for the site is a medium density residential housing development.

The intended use for the site must not commence until the attached RAP has been fully implemented and the EPA has received an acceptable validation report under Chapter 7 Part 8 Division 4 of the Environmental Protection Act 1994.

3.3 Provision of SMP to appropriate persons

The owner must provide all persons involved in building design and planning and all contractors and lessees conducting building and / or excavation works with a copy of the SMP prior to the commencement of site works. All persons occupying or working on the site must comply with the requirements of the SMP.

3.4 Surface capping and protective barriers

This section does not apply to this site as the entire site is being remediated and excavated for an underground carpark. The site investigation drilling program indicates that this excavation will remove all contaminated fill.

The site is currently capped by approximately 150mm of concrete in good condition. The current site capping must remain in place and in good condition at all times prior to the development of the site beginning.

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3.5 Soil excavation and removal

Any soil excavated on the site must be assessed for contaminants of concern to determine if the material is contaminated and to identify appropriate management and disposal/re-use options.

Representative sampling and analysis of soil from excavation in nominated contaminated areas must be managed by a suitably qualified and experienced person in accordance with Section 381 of the Environmental Protection Act 1994 (EP Act). Contaminated soil must not be removed off-site without a disposal permit in accordance with Section 424 of the EP Act.

3.6 Unexpected contamination

If during any site earthworks or excavation offensive or noxious odours and/or evidence of gross contamination not previously detected is observed, site works are to cease in that area and action immediately taken to, abate the environmental harm. The administering authority is to be notified in writing within 2 business days of detection and advised of appropriate remedial action.

Any remedial action is to be developed by an appropriately qualified and experienced person in accordance with Section 381 of the EP Act.

A Workplace Health and Safety Plan which satisfies relevant obligations of the Workplace Health and Safety Act 1995, subordinate legislation or its equivalent is to be developed prior to any excavation work on the site. The Workplace Health and Safety Plan must specifically address exposure to site contaminants.

3.7 General Environmental Protection

All earthworks are to be undertaken in accordance with general environmental protection measures to avoid unwanted migration and deposition of soil. These measures include control of dust, noise, stormwater runoff, sediment, erosion, spillage from haulage trucks and odour releases involving the handling and movement of contaminated material.

3.8 Workplace health and safety

A workplace health and safety plan (WH&S plan) which conforms to the requirements of the Workplace Health and Safety Act 1995 is to be developed for any excavation works in contaminated areas. The WH&S plan must specifically address contaminants of concern.

4.0 MONITORING AND REPORTING CONDITIONS

As a complete remediation of the site will be carried out there will be no necessity for the implementation of a monitoring and reporting program.

This site management plan SMP has been developed to manage site contamination risks present at the issue date. Subsequent uses of the site may result in the need to review the plan.

This SMP makes reference to a plan attachment that is available from the Administering Authority if required

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ANNEXURE 1 REMEDIATION ACTION PLAN

1.0 INTRODUCTION

This document outlines a Remediation Action Plan (RAP) for the remediation and decontamination of Lot 2 on RP 96245 and Lot 2 on RP 44379 Hope Street, South Brisbane, one Lot is currently occupied by Kev Castle Mechanical Pty Ltd with past site uses comprising generator maintenance and sales, fluorescent lighting and television development, and printing machinery equipment and supply. The proposed development of the property involves the establishment of an underground car park and the required excavation covers both Lots comprising the site to an estimated depth of 2.5m.

The remediation of the site must be in accordance with the following documents:

- Guideline for Sampling and Analysis of Lowland Acid Sulphate Soils (ASS) in Queensland 1998, now State Planning Policy (SPP2 / 02)
- Soil Erosion and Sediment Control: Engineering Guidelines for Queensland Construction Sites developed by the Institution of Engineers Australia.
- Draft Guidelines for the Assessment and Management of Contaminated Land in Queensland (DEH, 1998)
- National Environment Protection (Assessment of Site Contamination) Measure 1999 (the Measure).

1.1 Purpose

The purpose of the RAP is to provide a detailed plan of activities, procedures and objectives to ensure the effective, controlled remediation of the site.

1.2 Objectives

The objective of this Remediation Action Plan is to remediate the chemical contamination on site in a manner that protects human health and the environment and ensures that the site will be suitable for residential use.

This will be achieved by the separation of the contaminated fill overburden from the underlying clean natural clays. Contaminated material will be disposed to appropriate licensed landfill in accordance with Section 424 of the Environmental Protection Act 1994 (EP Act).

2.0 BACKGROUND

Analytical data in the Stage 2, Site Investigation Report at 25 & 27 Hope Street, South Brisbane indicate that an average depth of 0.5m (<0.4m – 1.0m) of overburden fill is mainly sandy clay, silty clay, gravel, ash and deco. This material overlies dark brown/ yellow mottled natural stiff silty clays to the expected depth of excavation. The contamination is associated with 0.4m – 1.0 m of mixed fill material above the underlying natural clays.

The site consists of 2 identical side by side buildings with concrete floors which occupy the entire site surface area. Current activities are a vehicle mechanical workshop and a promotional production company storage facility. Past uses of significance are described in Section 1.0, above.

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2.1 Topography

The site is devoid of vegetation and is essentially flat with a gentle slope at the rear from the NE boundary.

2.2 Geology

The general geology of the area are the phyllites and greywacke of the Devonian / Carboniferous, with the site being located predominately on brown alluvial silt clays deposited by the Brisbane River.

2.3 Hydrogeology

There was no evidence of the intersection of the water table at a termination depth of 3.0m at one sample location

It is estimated that the deepest excavation related to remediation will not significantly exceed 1.0m.

2.3 Previous Investigations

There is no record or knowledge of any previous contamination assessments having been carried out on this site.

2.5 Current Impact

The existing contamination is related to imported fill and consists of moderate to very high levels of heavy metals primarily lead and copper and to a lesser extent arsenic and zinc there is evidence of minor PAH viz: eg. arsenic 130-140 mg / kg at 0.15-0.35m BGL, copper 600-5600 at 0.20-0.50m BGL, lead 460 – 10 000 mg / kg at 0.1 – 0.45m BGL, zinc 230 – 1800 mg / kg at 0.2 – 0.5m BGL, mercury 34 mg/kg at 0.20-0.50 m BGL, polycyclic aromatic hydrocarbons (PAH) 24mg / kg at 1.0 m BGL.

TCLP tests carried out indicate both pre-treatment then disposal and direct lined landfill disposal criteria.

3.0 REMEDIAL STRATEGIES

3.1 Remedial Goals

The aim of the remediation program is to remove all site contamination in order to have both Lot 2 on RP 96245 and Lot 2 on RP 44297 removed from the Environmental Management Register and classified as suitable for any use.

3.1.1 Remediation Criteria

The remediation criteria adopted for validation of the site are listed below. In general these are the Environmental Investigation Levels (EILs) and those currently accepted by the EPA for TPH fractions.

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Table 1: Remediation Criteria for 25 & 27 Hope Street, South Brisbane

Compound	Remediation Criteria
Heavy Metals	
Total Arsenic	100 mg/kg
Total Copper	Average concentration – 100 mg/kg Maximum concentration not to exceed 250 mg/kg
Total Chromium III	400mg/kg
Total Lead	300 mg/kg
Total Mercury	15 mg/kg
Total Zinc	Average Concentration – 200 mg/kg Maximum concentration not to exceed 1000 mg/kg
Poly Aromatic Hydrocarbons (PAHs)	
Benzo(a)pyrene	1 mg/kg
Total PAHs	20 mg/kg

Prior to the remediation works an application to the EPA will be made for a disposal permit for the transport of contaminated soil from the site to an appropriate Landfill. It is proposed to dispose of the impacted material at the Collex Landfill (Wattle Glen) Landfill (unlined material only) or the Collex Ti Tree Bioenergy Landfill (Lined Material Only). Analytical results for NKC7 and exceed the lined landfill criteria, indicating that a portion of the material must be treated prior to removal to an appropriate Landfill facility. NKC9.

3.2 Extent of Contamination

Data from the 2 sampling programs in this investigation indicate that contamination is both wide spread and erratically distributed over both Lots possibly affecting a maximum of 700 m³ of fill to maximum depth of 1.0 m (refer to Drawing No.1 Site Contamination and Fill Extent Plan).

3.3 Strategies applied

Remediation of contamination will be addressed by excavation and offsite disposal to licensed landfill in accordance with Section 424, the EP Act.

3.4 Barrier Design.

Apart from site safety fencing the remediation exercise will not require any barriers other than a wash down capability for exiting haulage trucks prior to the exit point in the fence. The excavation will provide barriers to off site migration in the below ground level of the excavation walls.

Essentially the barrier situation will be the same as apply to the engineering protocols in the bulk earth works for the construction of the under ground car park and the residential development.

4.0 REMEDIATION PROGRAM

4.1 Excavation and disposal of contaminated soil and fill

All excavation and disposal operations will be supervised by a suitably qualified and experienced person in accordance with Section 381 of the Environmental Protection Act 1994 (EP Act). The nominated contaminated areas A & B, will be excavated and directly loaded for transport and disposal in accordance

with section 424, EP Act. Where analytical data from the 50 m³ stockpiles from area C indicate clean soil, this will be excavated and directly loaded onto trucks for transportation as landfill cover material or for other suitable off site disposal (see Figure 1 for details of Zones A, B, C).

If, in the course of excavation, there is doubt concerning the contamination status of the underlying non-fill material, disposal criteria will be assessed by on site banded stockpiling at a location compatible with works activities and analyses based on a 50m³ frequency.

A total of approximately 700m³ of soil will be excavated and stockpiled in individual stockpiles of approximately 50m³ at the site for final treatment or disposal. Approximately 500m³ of this volume is expected to be validated for use as clean backfill on the site while 150m³ of material will be transported to a landfill licensed to receive unlined material. An estimated 30 m³ of material will be disposed of to lined landfill and approximately 20 m³ will be disposed to lined landfill after treatment. These volumes are best estimated based on the preliminary sampling. Actual percentages/volumes will vary depending on the results of stockpile sampling.

Soil will be categorised for landfill disposal on site after excavation and stockpiling, by sampling for contaminants of concern at a frequency of 1 sample per 50 m³. Soil that is to be treated will be sent to a licensed operator for treatment using acceptable technology and eventual disposal.

4.2 On site remediation or reuse

As the program requires the off site disposal of excavation spoil either to licensed landfill or, in the case of clean material to another suitable receptor, there will be no requirement for on site reuse or remediation of any material associated with the remediation or bulk earthworks phases.

5.0 OPERATIONAL CONTROL

It should be noted that due to the small operational time involved in the removal of approximately 700 m³ of spoil that works will probably be completed up to validation stage within 2 working day so most of the following issues will most likely not develop to a stage requiring intervention.

The ongoing program of development bulk earth works will be the responsibility of the building contractors superintendent, separate from the remediation phase.

A suitably qualified person will closely manage all site operations with respect to the remediation works. The following environmental issues will be addressed during the earthworks:

Stormwater control will be provided to ensure that the site does not discharge sediment laden or contaminated water directly off site. This will be achieved by careful bunding and diversion of drainage from the active areas of the site, the erection of sediment fences and construction of a temporary stormwater and sediment retention basin.

Odours have not been identified as an issue at this site, however if they do become an issue, then appropriate methods of addressing them will be provided.

Dust suppression will be undertaken using fine water sprays, and the use of a water truck:

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Soil and mud will be cleaned from the wheels of trucks by the use of a rumble strip and the use of temporary aggregate hard standing at the point of truck loading to reduce mud pick up;

Noise will be addressed by working within the hours of work set by BCC for building sites (i.e. 7:00am to 6:30pm); and

Truck movements down Hope Street to Grey Street are unlikely to effect the general circulation of traffic in the area.

5.1 Stormwater and sediment management

Due to the small site area involved it is likely that the excavation below ground will progress rapidly and any storm water will pond for disposal with trade waste authority to sewer. In the event that site runoff may result the following procedures will be adopted.

Prior to commencement of site earthworks all stormwater drainage channels will be identified. Silt traps (shade cloth and stake) will be installed in accordance with standards developed by the Institution of Engineers Australia Soil Erosion and Sediment Control: Engineering Guidelines for Queensland Construction Sites. Earthworks may alter the drainage patterns of the site. As new drainage lines are formed, additional silt traps will be installed.

The silt traps will be checked for integrity and silt accumulation on a scheduled basis during remediation.

Dedicated inspections of the silt trap integrity and silt accumulation will be completed after storm events. Repairs and silt removal will be completed as needed. If there is any concern during scheduled or ad-hoc inspection events, that poor quality water is leaving the site, the effluent stream will be monitored for total suspended solids and total dissolved solids. Actions may be taken as a result of this monitoring.

5.2 Noise control

Noise minimisation will require that all equipment be fitted with muffler capacities in accordance with manufactures specifications. Operational hours will be restricted to between 7.00am and 6.00pm on operational week days and 8.00am to 5.00pm on Saturdays.

5.3 Dust control

Visual evidence of unacceptable dust levels will be controlled by use of a site water truck.

5.4 Odour control

The generation of odours during remediation is not anticipated for this site. This section identifies procedures for minimising their release and impact, if they do occur. To reduce odours during works the prescribed person responsible for supervising site remediation works will have on-site odour suppressant. This material will be utilised as, and if, necessary. An odour suppressant reduces hydrocarbon odours, enhances the remediation of volatiles. If necessary, tarps may be placed over the excavations or remediation stockpiles overnight during sensitive periods to reduce odours.

If indicated hydrocarbon odours will be monitored using gas detectors around the property boundary as required.

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5.5 Public consultation

The site is located in an area that is primarily commercial and light industry with road frontages to 2 boundaries and commercial office blocks on the other 2 boundaries.

Due to this and short time input for remediation the requirement for public consultation is not envisaged but would be dealt with if an issue arises.

5.6 Complaints

The remediation earthworks program will have a complaints log retained by the environmental field manager where any complaints will be noted in writing then referred to the principal consultant for follow up and any necessary action.

6.0 VALIDATION PROGRAM

6.1 Validation sampling

Excavation base validations samples will be collected on a basis of one sample per 15m grid across the base of the excavation (1 per 225m²). Each sample will be collected from the base of the excavation to a maximum depth of 100 mm below the excavated surface. Excavation wall samples will be collected at 15m linear lengths along the walls. Samples will be collected vertically down the wall at each location in 0.5m intervals. Each sample collected from the face of the wall will comprise of a wall scape sample taken over a maximum of 0.2 of that 0.5 m interval. Each sample collected from the face of the wall will be analysed.

Where validation samples exceed the nominated validation criteria (refer to Table 1), further excavation and validation will be undertaken at that location. Wall samples exceeding nominated threshold criteria at the boundary of the site will be recorded, but no further excavation works will be undertaken beyond the boundary. Note that it is likely that the fill material extends off-site to the west, south and east.

Stockpiled material, which is below remediation criteria nominated in Table 1 may be used as backfill. Currently the volume of imported fill required for the development has not been determined, but is likely that none will be required. Prior to accepting any imported material onto the site, a suitably qualified person will determine the source of the material, and, if necessary undertake a sampling program to validate that the material being imported does not contain elevated concentrations of compounds which may affect the future suitability of the site.

6.2 Sample dispatch and documentation

All samples are to be dispatched in a cooled container (if volatiles are to be tested) to a NATA accredited laboratory accompanied by chain of custody documentation.

Laboratory analytical certificates must include quality assurance results including laboratory method blanks and spiked recoveries for both laboratory controls and selected samples.

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6.3 Backfilling and Compaction

If required the excavations at the site may be progressively backfilled subsequent to receipt of analytical results and approval from a prescribed person. The level of compaction will be determined by the civil engineer and is not part of this RAP.

6.4 Quality assurance

A field QA/QC program must be undertaken in accordance with the NEPM Guidelines, Australian Standard AS4482.1-1997, AS4482.2-1999 and EPA recommendations, to measure the precision of the field/laboratory analyses and to determine the accuracy of the primary laboratory's analyses. Laboratory analytical certificates must include quality assurance results including laboratory method blanks and spiked recoveries for both laboratory controls and selected field samples.

7.0 DECONTAMINATION PROCEDURES

The sphere of influence of contamination has been identified as zones A & B, Figure 1, where the material involved will be excavated and loaded directly into the haulage trucks for disposal to licensed landfill in accordance with section 424, EP Act.

The fill in Zone C will be excavated stored on site pending sampling and testing at a frequency of 1 sample for each 50 m³ with the results assessed for landfill disposal criteria or other off site disposal / reuse.

All contaminated and clean fill covering the Lot will be excavated down to a clean, fill free, natural clay base in preparation for validation sampling.

If validation sampling indicates residual contamination in the underlying natural clays, additional excavation will be required until a contamination-free base is confirmed by further validation sampling.

All contaminated material removed from the site by truck will, if necessary, be wetted and securely covered by tarpaulin in order to prevent dust and / or spillage during transport to the landfill.

Arrangements will be made with the landfill operators to return copies of daily weighbridge disposal records to the principal environmental consultant for submission to the EPA.

8.0 HEALTH AND SAFETY

Prior to commencement of works a Health and Safety Plan (HSP) relating specifically to the validation activities shall be prepared for the site in accordance with the Workplace Health and Safety Act 1995 and relevant Compliance and Advisory Standards. The HSP shall address the following:

- Health and Safety prior to site work including hazard evaluation, exposure pathways, work permits, designated work zone and first aid;
- Health and Safety during work including equipment, excavation and demolition work, electrical work, lifting and mechanical handling work, evacuation plan and decontamination; and
- Monitoring, record keeping, safety meetings and audits, incident procedures and inductions.

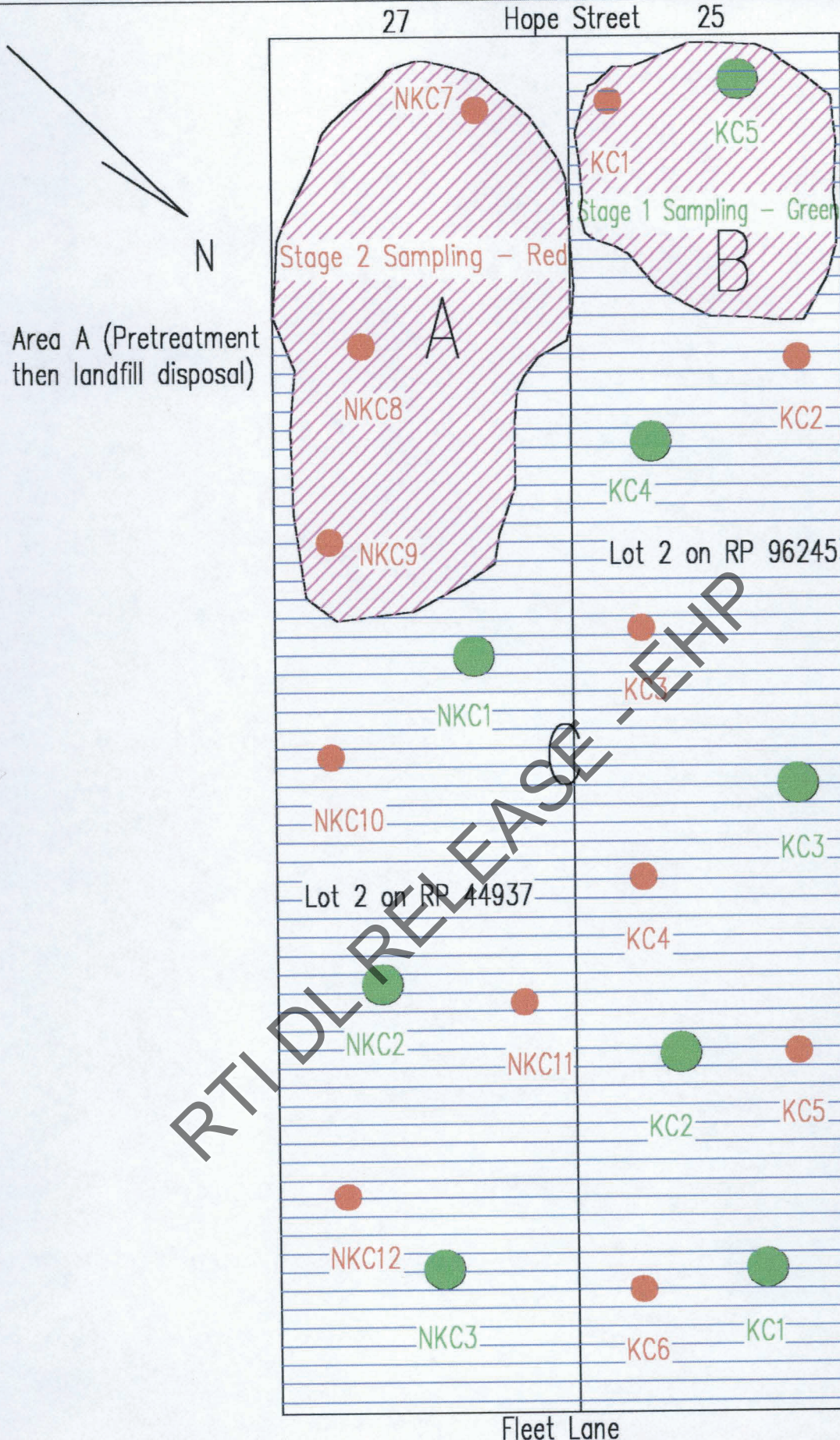
9.0 REPORTING REQUIREMENTS

Within 45 days of completion of remediation works, a Site Validation Report must be submitted to the EPA for review in accordance with chapter 7 Part 8 of the Environmental Protection Act (EP Act) 1994 and the Draft Guidelines for the Assessment and Management of Contaminated Land in Queensland (DEH1998) and the Measure. This report is to contain sufficient information to enable the sites to be reclassified on the Environmental Management Register (EMR).

This submission is to report on all works conducted and details of compliance with the Remediation Action Plan and must be submitted by a person of approved professional standing in accordance with section 381, the EP Act.

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CLIENT		JOB DESCRIPTION		FILE-NO
RPM Pty Ltd 25-27 Hope Street		Site Contamination Assessment		
	SCALE	1:200	DRAWING TITLE	
	DRAWN		Site Contamination and Fill Extent Plan	
	CHECKED			
	DESIGNED			
	APPROVED			
	DATE		DRAWING NO.	1
			REV.	A