					Value
2061357	QC - Blank	CHC	2-Chloronaphthalene	mg/kg	<0.1
2061357	QC - Blank	CHC	Benzal Chloride	mg/kg	<0.1
2061357	QC - Blank	CHC	Benzotrichloride	mg/kg	<0.1
2061357	QC - Blank	CHC	Benzylchloride	mg/kg	<0.1
2061357	QC - Blank	CHC	Hexachloroethane	mg/kg	<0.1
2061357	QC - Blank	CHC	Hexachlorobutadiene	mg/kg	<0.1
2061357	QC - Blank	CHC	Hexachlorocyclopentadiene	mg/kg	<0.1
2061357	QC - Blank	CHC	Pentachlorobenzene	mg/kg	<0.1
Lab Sample ID	**Client Sample ID**	**Analysis**	**Analyte**		
2060024	QC - Blank	Phenols(Halo)	4-Chloro-3-Methylphenol	mg/kg	<0.5
2060024	QC - Blank	Phenols(Halo)	2-Chlorophenol	mg/kg	<0.5
2060024	QC - Blank	Phenols(Halo)	2,4-Dichlorophenol	mg/kg	<0.5
2060024	QC - Blank	Phenols(Halo)	2,6-Dichlorophenol	mg/kg	<0.5
2060024	QC - Blank	Phenols(Halo)	Pentachlorophenol	mg/kg	<0.5
2060024	QC - Blank	Phenols(Halo)	2,3,4,5-Tetrachlorophenol	mg/kg	<0.5
2060024	QC - Blank	Phenols(Halo)	2,3,4,6-Tetrachlorophenol	mg/kg	<0.5
2060024	QC - Blank	Phenols(Halo)	2,3,5,6-Tetrachlorophenol	mg/kg	<0.5
2060024	QC - Blank	Phenols(Halo)	2,4,5-Trichlorophenol	mg/kg	<0.5
2060024	QC - Blank	Phenols(Halo)	2,4,6-Trichlorophenol	mg/kg	<0.5
2060024	QC - Blank	Phenols(Halo)	Total Phenols (Halogenated)	mg/kg	<0.5
2060039	QC - Blank	Phenols(Halo)	4-Chloro-3-Methylphenol	mg/kg	<0.5
2060039	QC - Blank	Phenols(Halo)	2-Chlorophenol	mg/kg	<0.5
2060039	QC - Blank	Phenols(Halo)	2,4-Dichlorophenol	mg/kg	<0.5
2060039	QC - Blank	Phenols(Halo)	2,6-Dichlorophenol	mg/kg	<0.5
2060039	QC - Blank	Phenols(Halo)	Pentachlorophenol	mg/kg	<0.5
2060039	QC - Blank	Phenols(Halo)	2,3,4,5-Tetrachlorophenol	mg/kg	<0.5
2060039	QC - Blank	Phenols(Halo)	2,3,4,6-Tetrachlorophenol	mg/kg	<0.5
2060039	QC - Blank	Phenols(Halo)	2,3,5,6-Tetrachlorophenol	mg/kg	<0.5
2060039	QC - Blank	Phenols(Halo)	2,4,5-Trichlorophenol	mg/kg	<0.5
2060039	QC - Blank	Phenols(Halo)	2,4,6-Trichlorophenol	mg/kg	<0.5
2060039	QC - Blank	Phenols(Halo)	Total Phenols (Halogenated)	mg/kg	<0.5
2061328	QC - Blank	Phenols(Halo)	4-Chloro-3-Methylphenol	mg/kg	<0.5
2061328	QC - Blank	Phenols(Halo)	2-Chlorophenol	mg/kg	<0.5
2061328	QC - Blank	Phenols(Halo)	2,4-Dichlorophenol	mg/kg	<0.5
2061328	QC - Blank	Phenols(Halo)	2,6-Dichlorophenol	mg/kg	<0.5
2061328	QC - Blank	Phenols(Halo)	Pentachlorophenol	mg/kg	<0.5
2061328	QC - Blank	Phenols(Halo)	2,3,4,5-Tetrachlorophenol	mg/kg	<0.5

Client: **Douglas Partners Pty Ltd**

Client Program Ref: **42662**

Batch No: 10-03166

Report Number: **139871**

Ecowise Program Ref: **DOUGLAS**

Date Issued: **22-Jan-2010**

Ecowise Environmental

					Value
2061328	QC - Blank	Phenols(Halo)	2,3,4,6-Tetrachlorophenol	mg/kg	<0.5
2061328	QC - Blank	Phenols(Halo)	2,3,5,6-Tetrachlorophenol	mg/kg	<0.5
2061328	QC - Blank	Phenols(Halo)	2,4,5-Trichlorophenol	mg/kg	<0.5
2061328	QC - Blank	Phenols(Halo)	2,4,6-Trichlorophenol	mg/kg	<0.5
2061328	QC - Blank	Phenols(Halo)	Total Phenols (Halogenated)	mg/kg	<0.5
Lab Sample ID	**Client Sample ID**	**Analysis**	**Analyte**		
2060012	QC - Blank	Phenols(NonHalo)	Phenol	mg/kg	<0.5
2060012	QC - Blank	Phenols(NonHalo)	Total Cresols	mg/kg	<1
2060012	QC - Blank	Phenols(NonHalo)	2,4-Dimethylphenol	mg/kg	<0.5
2060012	QC - Blank	Phenols(NonHalo)	2,4-Dinitrophenol	mg/kg	<30
2060012	QC - Blank	Phenols(NonHalo)	2-Methyl-4,6-Dinitrophenol	mg/kg	<10
2060012	QC - Blank	Phenols(NonHalo)	2-Nitrophenol	mg/kg	<0.5
2060012	QC - Blank	Phenols(NonHalo)	4-Nitrophenol	mg/kg	<0.5
2060012	QC - Blank	Phenols(NonHalo)	2-Cyclohexyl-4,6-Dinitrophenol	mg/kg	<30
2060012	QC - Blank	Phenols(NonHalo)	Dinoseb	mg/kg	<10
2060012	QC - Blank	Phenols(NonHalo)	Total Phenols (non Halogenated)	mg/kg	<30
2060036	QC - Blank	Phenols(NonHalo)	Phenol	mg/kg	<0.5
2060036	QC - Blank	Phenols(NonHalo)	Total Cresols	mg/kg	<1
2060036	QC - Blank	Phenols(NonHalo)	2,4-Dimethylphenol	mg/kg	<0.5
2060036	QC - Blank	Phenols(NonHalo)	2,4-Dinitrophenol	mg/kg	<30
2060036	QC - Blank	Phenols(NonHalo)	2-Methyl-4,6-Dinitrophenol	mg/kg	<10
2060036	QC - Blank	Phenols(NonHalo)	2-Nitrophenol	mg/kg	<0.5
2060036	QC - Blank	Phenols(NonHalo)	4-Nitrophenol	mg/kg	<0.5
2060036	QC - Blank	Phenols(NonHalo)	2-Cyclohexyl-4,6-Dinitrophenol	mg/kg	<30
2060036	QC - Blank	Phenols(NonHalo)	Dinoseb	mg/kg	<10
2060036	QC - Blank	Phenols(NonHalo)	Total Phenols (non Halogenated)	mg/kg	<30
2061326	QC - Blank	Phenols(NonHalo)	Phenol	mg/kg	<0.5
2061326	QC - Blank	Phenols(NonHalo)	Total Cresols	mg/kg	<1
2061326	QC - Blank	Phenols(NonHalo)	2,4-Dimethylphenol	mg/kg	<0.5
2061326	QC - Blank	Phenols(NonHalo)	2,4-Dinitrophenol	mg/kg	<30
2061326	QC - Blank	Phenols(NonHalo)	2-Methyl-4,6-Dinitrophenol	mg/kg	<10
2061326	QC - Blank	Phenols(NonHalo)	2-Nitrophenol	mg/kg	<0.5
2061326	QC - Blank	Phenols(NonHalo)	4-Nitrophenol	mg/kg	<0.5
2061326	QC - Blank	Phenols(NonHalo)	2-Cyclohexyl-4,6-Dinitrophenol	mg/kg	<30
2061326	QC - Blank	Phenols(NonHalo)	Dinoseb	mg/kg	<10
2061326	QC - Blank	Phenols(NonHalo)	Total Phenols (non Halogenated)	mg/kg	<30
Lab Sample ID	**Client Sample ID**	**Analysis**	**Analyte**		

Client: **Douglas Partners Pty Ltd**

Client Program Ref: **42662**

Batch No: 10-03166

Report Number: **139871**

Ecowise Program Ref: **DOUGLAS**

Date Issued: **22-Jan-2010**

Ecowise Environmental

					Value
2059804	QC - Blank	HVOL	1,1,1,2-Tetrachloroethane	mg/kg	<0.5
2059804	QC - Blank	HVOL	1,1,2,2-Tetrachloroethane	mg/kg	<0.5
2059804	QC - Blank	HVOL	1,1- Dichloroethane	mg/kg	<0.5
2059804	QC - Blank	HVOL	1,1-Dichloroethene	mg/kg	<0.5
2059804	QC - Blank	HVOL	1,1-Dichloropropene	mg/kg	<0.5
2059804	QC - Blank	HVOL	1,2,3-Trichloropropane	mg/kg	<0.5
2059804	QC - Blank	HVOL	1,2-Dibromo-3-Chloropropane	mg/kg	<0.5
2059804	QC - Blank	HVOL	1,2-Dichloroethene [cis]	mg/kg	<0.5
2059804	QC - Blank	HVOL	1,2-Dichloroethene [trans]	mg/kg	<0.5
2059804	QC - Blank	HVOL	1,2-Dichloroethane	mg/kg	<0.5
2059804	QC - Blank	HVOL	1,2-Dichloropropane	mg/kg	<0.5
2059804	QC - Blank	HVOL	1,3-Dichloropropane	mg/kg	<0.5
2059804	QC - Blank	HVOL	1,3-Dichloropropene [cis]	mg/kg	<0.5
2059804	QC - Blank	HVOL	1,3-Dichloropropene [trans]	mg/kg	<0.5
2059804	QC - Blank	HVOL	2,2-Dichloropropane	mg/kg	<0.5
2059804	QC - Blank	HVOL	2-Chlorotoluene	mg/kg	<0.5
2059804	QC - Blank	HVOL	4-Chlorotoluene	mg/kg	<0.5
2059804	QC - Blank	HVOL	Bromochloromethane	mg/kg	<0.5
2059804	QC - Blank	HVOL	Bromodichloromethane	mg/kg	<0.5
2059804	QC - Blank	HVOL	Bromobenzene	mg/kg	<0.5
2059804	QC - Blank	HVOL	Bromoform (Tribromomethane)	mg/kg	<0.5
2059804	QC - Blank	HVOL	Carbon Tetrachloride	mg/kg	<0.5
2059804	QC - Blank	HVOL	Chloroform (Trichloromethane)	mg/kg	<0.5
2059804	QC - Blank	HVOL	Chlorobenzene	mg/kg	<0.5
2059804	QC - Blank	HVOL	Dibromochloromethane	mg/kg	<0.5
2059804	QC - Blank	HVOL	Dibromomethane	mg/kg	<0.5
2059804	QC - Blank	HVOL	1,2-Dibromoethane	mg/kg	<0.5
2059804	QC - Blank	HVOL	Dichloromethane	mg/kg	<1
2059804	QC - Blank	HVOL	Trichlorofluoromethane (CFC11)	mg/kg	<2
2059804	QC - Blank	HVOL	Tetrachloroethene	mg/kg	<0.5
2059804	QC - Blank	HVOL	Vinyl Chloride (Monomer)	mg/kg	<1
2059804	QC - Blank	HVOL	1,1,1-Trichloroethane	mg/kg	<0.5
2059804	QC - Blank	HVOL	1,1,2-Trichloroethane	mg/kg	<0.5
2059804	QC - Blank	HVOL	Trichloroethene	mg/kg	<0.5

QUALITY CONTROL - DUPLICATES

Batch No: 10-03166

Date Issued: **22-Jan-2010**

Client: **Douglas Partners Pty Ltd**

Report Number: **139871**

Client Program Ref: **42662**

Ecowise Program Ref: **DOUGLAS**

QC Data for duplicates is calculated on raw 'unrounded' values. Laboratory duplicates are randomly selected samples tested by the laboratory to maintain method precision and provide information on sample homogeniety.
RPD = Relative Percentage Difference for duplicate determinations. RPD's that fall outside the general acceptance criteria will be attributed to non-homogeneity of samples or results of low magnitudes.

					Sample Value	Duplicate Value	% RPD
Lab Sample ID	**Client Sample ID**	**Analysis**	**Analyte**				
2057439	NCP	Cyanide	Cyanide, as CN	mg/kg	<5	<5	0
2058988	NCP	Total Cr 6+	Hexavalent Chromium (Total) Soil	mg/kg	<1	<1	0
2059846	B25-1	Tot Fluoride	Total Fluoride, as F	mg/kg	170	170	0.6
Lab Sample ID	**Client Sample ID**	**Analysis**	**Analyte**				
2059963	B12-1	MS Total Metals	Arsenic	mg/kg	<5	<5	0
2059963	B12-1	MS Total Metals	Cadmium	mg/kg	<0.2	<0.2	0
2059963	B12-1	MS Total Metals	Chromium	mg/kg	24	24	2.8
2059963	B12-1	MS Total Metals	Copper	mg/kg	7	8	12.4
2059963	B12-1	MS Total Metals	Lead	mg/kg	17	14	22.2
2059963	B12-1	MS Total Metals	Mercury	mg/kg	<0.05	<0.05	0
2059963	B12-1	MS Total Metals	Molybdenum	mg/kg	<5	<5	0
2059963	B12-1	MS Total Metals	Nickel	mg/kg	8	9	11.0
2059963	B12-1	MS Total Metals	Selenium	mg/kg	<5	<5	0
2059963	B12-1	MS Total Metals	Tin	mg/kg	<5	<5	0
2059963	B12-1	MS Total Metals	Zinc	mg/kg	13	11	12.3
2059965	B22-2	MS Total Metals	Arsenic	mg/kg	<5	<5	0
2059965	B22-2	MS Total Metals	Cadmium	mg/kg	<0.2	<0.2	0
2059965	B22-2	MS Total Metals	Chromium	mg/kg	32	33	3.0
2059965	B22-2	MS Total Metals	Copper	mg/kg	10	10	5.1
2059965	B22-2	MS Total Metals	Lead	mg/kg	11	12	14.7
2059965	B22-2	MS Total Metals	Mercury	mg/kg	<0.05	<0.05	0
2059965	B22-2	MS Total Metals	Molybdenum	mg/kg	<5	<5	0
2059965	B22-2	MS Total Metals	Nickel	mg/kg	23	24	6.5
2059965	B22-2	MS Total Metals	Silver	mg/kg	<5	<5	0
2059965	B22-2	MS Total Metals	Tin	mg/kg	<5	<5	0
2059965	B22-2	MS Total Metals	Zinc	mg/kg	14	17	19.8
Lab Sample ID	**Client Sample ID**	**Analysis**	**Analyte**				
2059807	NCP	MAH	Benzene	mg/kg	<0.5	<0.5	0
2059807	NCP	MAH	Toluene	mg/kg	<0.5	<0.5	0
2059807	NCP	MAH	Ethyl Benzene	mg/kg	<0.5	<0.5	0
2059807	NCP	MAH	Xylenes	mg/kg	<0.5	<0.5	0
2059807	NCP	MAH	Styrene	mg/kg	<0.5	<0.5	0
2059807	NCP	MAH	Cumene	mg/kg	<0.5	<0.5	0

Client: **Douglas Partners Pty Ltd**

Client Program Ref: **42662**

Batch No: 10-03166

Report Number: **139871**

Ecowise Program Ref: **DOUGLAS**

Date Issued: **22-Jan-2010**

Ecowise Environmental

					Sample Value	Duplicate Value	% RPD
2059807	NCP	MAH	1,2,4-Trimethylbenzene	mg/kg	<0.5	<0.5	0
Lab Sample ID	**Client Sample ID**	**Analysis**	**Analyte**				
2060007	B3-1	TPH	Petroleum Hydrocarbons (C6-C9)	mg/kg	<20	<20	0
2060007	B3-1	TPH	Petroleum Hydrocarbons (C10-C14)	mg/kg	<20	<20	0
2060007	B3-1	TPH	Petroleum Hydrocarbons (C15-C28)	mg/kg	<50	<50	0
2060007	B3-1	TPH	Petroleum Hydrocarbons (C29-C36)	mg/kg	53	70	28.1
Lab Sample ID	**Client Sample ID**	**Analysis**	**Analyte**				
2059700	NCP	PAH	Acenaphthene	mg/kg	<0.1	<0.1	0
2059700	NCP	PAH	Acenaphthylene	mg/kg	<0.1	<0.1	0
2059700	NCP	PAH	Anthracene	mg/kg	<0.1	<0.1	0
2059700	NCP	PAH	Benz(a)anthracene	mg/kg	<0.1	<0.1	0
2059700	NCP	PAH	Benzo(a)pyrene	mg/kg	<0.1	<0.1	0
2059700	NCP	PAH	Benzo(b)fluoranthene	mg/kg	<0.1	<0.1	0
2059700	NCP	PAH	Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1	0
2059700	NCP	PAH	Benzo(k)fluoranthene	mg/kg	<0.1	<0.1	0
2059700	NCP	PAH	Chrysene	mg/kg	<0.1	<0.1	0
2059700	NCP	PAH	Dibenz(a,h)anthracene	mg/kg	<0.1	<0.1	0
2059700	NCP	PAH	Fluoranthene	mg/kg	<0.1	<0.1	0
2059700	NCP	PAH	Fluorene	mg/kg	<0.1	<0.1	0
2059700	NCP	PAH	Indeno(1,2,3-cd)pyrene	mg/kg	<0.1	<0.1	0
2059700	NCP	PAH	Naphthalene	mg/kg	<0.1	<0.1	0
2059700	NCP	PAH	Phenanthrene	mg/kg	<0.1	<0.1	0
2059700	NCP	PAH	Pyrene	mg/kg	<0.1	<0.1	0
2059700	NCP	PAH	Total PAH	mg/kg	<0.1	<0.1	0
Lab Sample ID	**Client Sample ID**	**Analysis**	**Analyte**				
2060053	B3-1	OCP	BHC (alpha isomer)	mg/kg	<0.05	<0.05	0
2060053	B3-1	OCP	a-Endosulphan	mg/kg	<0.05	<0.05	0
2060053	B3-1	OCP	Aldrin	mg/kg	<0.05	<0.05	0
2060053	B3-1	OCP	BHC (beta isomer)	mg/kg	<0.05	<0.05	0
2060053	B3-1	OCP	b-Endosulphan	mg/kg	<0.05	<0.05	0
2060053	B3-1	OCP	cis-Chlordane	mg/kg	<0.05	<0.05	0
2060053	B3-1	OCP	trans-Chlordane	mg/kg	<0.05	<0.05	0
2060053	B3-1	OCP	BHC (delta isomer)	mg/kg	<0.05	<0.05	0
2060053	B3-1	OCP	DDD	mg/kg	<0.05	<0.05	0
2060053	B3-1	OCP	DDE	mg/kg	<0.05	<0.05	0
2060053	B3-1	OCP	DDT	mg/kg	<0.05	<0.05	0
2060053	B3-1	OCP	Dieldrin	mg/kg	<0.05	<0.05	0

Client: **Douglas Partners Pty Ltd**

Client Program Ref: **42662**

Batch No: 10-03166

Report Number: **139871**

Ecowise Program Ref: **DOUGLAS**

Date Issued: **22-Jan-2010**

Ecowise Environmental

					Sample Value	Duplicate Value	% RPD
2060053	B3-1	OCP	Endosulfan Sulfate	mg/kg	<0.05	<0.05	0
2060053	B3-1	OCP	Endrin	mg/kg	<0.05	<0.05	0
2060053	B3-1	OCP	Endrin Aldehyde	mg/kg	<0.05	<0.05	0
2060053	B3-1	OCP	Endrin Ketone	mg/kg	<0.05	<0.05	0
2060053	B3-1	OCP	Hexachlorobenzene	mg/kg	<0.05	<0.05	0
2060053	B3-1	OCP	Heptachlor Epoxide	mg/kg	<0.05	<0.05	0
2060053	B3-1	OCP	Heptachlor	mg/kg	<0.05	<0.05	0
2060053	B3-1	OCP	BHC (gamma isomer) [Lindane]	mg/kg	<0.05	<0.05	0
2060053	B3-1	OCP	Methoxychlor	mg/kg	<0.05	<0.05	0
2061308	B24-2	OCP	BHC (alpha isomer)	mg/kg	<0.05	<0.05	0
2061308	B24-2	OCP	a-Endosulphan	mg/kg	<0.05	<0.05	0
2061308	B24-2	OCP	Aldrin	mg/kg	<0.05	<0.05	0
2061308	B24-2	OCP	BHC (beta isomer)	mg/kg	<0.05	<0.05	0
2061308	B24-2	OCP	b-Endosulphan	mg/kg	<0.05	<0.05	0
2061308	B24-2	OCP	cis-Chlordane	mg/kg	<0.05	<0.05	0
2061308	B24-2	OCP	trans-Chlordane	mg/kg	<0.05	<0.05	0
2061308	B24-2	OCP	BHC (delta isomer)	mg/kg	<0.05	<0.05	0
2061308	B24-2	OCP	DDD	mg/kg	<0.05	<0.05	0
2061308	B24-2	OCP	DDE	mg/kg	<0.05	<0.05	0
2061308	B24-2	OCP	DDT	mg/kg	<0.05	<0.05	0
2061308	B24-2	OCP	Dieldrin	mg/kg	<0.05	<0.05	0
2061308	B24-2	OCP	Endosulfan Sulfate	mg/kg	<0.05	<0.05	0
2061308	B24-2	OCP	Endrin	mg/kg	<0.05	<0.05	0
2061308	B24-2	OCP	Endrin Aldehyde	mg/kg	<0.05	<0.05	0
2061308	B24-2	OCP	Endrin Ketone	mg/kg	<0.05	<0.05	0
2061308	B24-2	OCP	Hexachlorobenzene	mg/kg	<0.05	<0.05	0
2061308	B24-2	OCP	Heptachlor Epoxide	mg/kg	<0.05	<0.05	0
2061308	B24-2	OCP	Heptachlor	mg/kg	<0.05	<0.05	0
2061308	B24-2	OCP	BHC (gamma isomer) [Lindane]	mg/kg	<0.05	<0.05	0
2061308	B24-2	OCP	Methoxychlor	mg/kg	<0.05	<0.05	0
Lab Sample ID	**Client Sample ID**	**Analysis**	**Analyte**				
2059703	NCP	PCB	Aroclor 1016	mg/kg	<0.1	<0.1	0
2059703	NCP	PCB	Aroclor 1221	mg/kg	<0.1	<0.1	0
2059703	NCP	PCB	Aroclor 1232	mg/kg	<0.1	<0.1	0
2059703	NCP	PCB	Aroclor 1242	mg/kg	<0.1	<0.1	0
2059703	NCP	PCB	Aroclor 1248	mg/kg	<0.1	<0.1	0
2059703	NCP	PCB	Aroclor 1254	mg/kg	<0.1	<0.1	0

Client: **Douglas Partners Pty Ltd**

Client Program Ref: **42662**

Batch No: 10-03166

Report Number: **139871**

Ecowise Program Ref: **DOUGLAS**

Date Issued: **22-Jan-2010**

Ecowise Environmental

					Sample Value	Duplicate Value	% RPD
2059703	NCP	PCB	Aroclor 1260	mg/kg	<0.1	<0.1	0
2059703	NCP	PCB	Total PCB	mg/kg	<0.1	<0.1	0
Lab Sample ID	**Client Sample ID**	**Analysis**	**Analyte**				
2059708	NCP	CHC	1,2,3,4-Tetrachlorobenzene	mg/kg	<0.1	<0.1	0
2059708	NCP	CHC	1,2,3,5-Tetrachlorbenzene	mg/kg	<0.1	<0.1	0
2059708	NCP	CHC	1,2,3-Trichlorobenzene	mg/kg	<0.1	<0.1	0
2059708	NCP	CHC	1,2,4,5-Tetrachlorobenzene	mg/kg	<0.1	<0.1	0
2059708	NCP	CHC	1,2,4-Trichlorobenzene	mg/kg	<0.1	<0.1	0
2059708	NCP	CHC	1,2-Dichlorobenzene	mg/kg	<0.1	<0.1	0
2059708	NCP	CHC	1,3,5-Trichlorobenzene	mg/kg	<0.1	<0.1	0
2059708	NCP	CHC	1,3-Dichlorobenzene	mg/kg	<0.1	<0.1	0
2059708	NCP	CHC	1,4-Dichlorobenzene	mg/kg	<0.1	<0.1	0
2059708	NCP	CHC	2-Chloronaphthalene	mg/kg	<0.1	<0.1	0
2059708	NCP	CHC	Benzal Chloride	mg/kg	<0.1	<0.1	0
2059708	NCP	CHC	Benzotrichloride	mg/kg	<0.1	<0.1	0
2059708	NCP	CHC	Benzylchloride	mg/kg	<0.1	<0.1	0
2059708	NCP	CHC	Hexachloroethane	mg/kg	<0.1	<0.1	0
2059708	NCP	CHC	Hexachlorobutadiene	mg/kg	<0.1	<0.1	0
2059708	NCP	CHC	Hexachlorocyclopentadiene	mg/kg	<0.1	<0.1	0
2059708	NCP	CHC	Pentachlorobenzene	mg/kg	<0.1	<0.1	0
2060021	B3-1	CHC	1,2,3,4-Tetrachlorobenzene	mg/kg	<0.1	<0.1	0
2060021	B3-1	CHC	1,2,3,5-Tetrachlorbenzene	mg/kg	<0.1	<0.1	0
2060021	B3-1	CHC	1,2,3-Trichlorobenzene	mg/kg	<0.1	<0.1	0
2060021	B3-1	CHC	1,2,4,5-Tetrachlorobenzene	mg/kg	<0.1	<0.1	0
2060021	B3-1	CHC	1,2,4-Trichlorobenzene	mg/kg	<0.1	<0.1	0
2060021	B3-1	CHC	1,2-Dichlorobenzene	mg/kg	<0.1	<0.1	0
2060021	B3-1	CHC	1,3,5-Trichlorobenzene	mg/kg	<0.1	<0.1	0
2060021	B3-1	CHC	1,3-Dichlorobenzene	mg/kg	<0.1	<0.1	0
2060021	B3-1	CHC	1,4-Dichlorobenzene	mg/kg	<0.1	<0.1	0
2060021	B3-1	CHC	2-Chloronaphthalene	mg/kg	<0.1	<0.1	0
2060021	B3-1	CHC	Benzal Chloride	mg/kg	<0.1	<0.1	0
2060021	B3-1	CHC	Benzotrichloride	mg/kg	<0.1	<0.1	0
2060021	B3-1	CHC	Benzylchloride	mg/kg	<0.1	<0.1	0
2060021	B3-1	CHC	Hexachloroethane	mg/kg	<0.1	<0.1	0
2060021	B3-1	CHC	Hexachlorobutadiene	mg/kg	<0.1	<0.1	0
2060021	B3-1	CHC	Hexachlorocyclopentadiene	mg/kg	<0.1	<0.1	0
2060021	B3-1	CHC	Pentachlorobenzene	mg/kg	<0.1	<0.1	0

Batch No: 10-03166

Date Issued: **22-Jan-2010**

Client: **Douglas Partners Pty Ltd**

Report Number: **139871**

Client Program Ref: **42662**

Ecowise Program Ref: **DOUGLAS**

Ecowise Environmental

					Sample Value	Duplicate Value	% RPD
Lab Sample ID	**Client Sample ID**	**Analysis**	**Analyte**				
2060013	NCP	Phenols(Halo)	4-Chloro-3-Methylphenol	mg/kg	<0.5	<0.5	0
2060013	NCP	Phenols(Halo)	2-Chlorophenol	mg/kg	<0.5	<0.5	0
2060013	NCP	Phenols(Halo)	2,4-Dichlorophenol	mg/kg	<0.5	<0.5	0
2060013	NCP	Phenols(Halo)	2,6-Dichlorophenol	mg/kg	<0.5	<0.5	0
2060013	NCP	Phenols(Halo)	Pentachlorophenol	mg/kg	<0.5	<0.5	0
2060013	NCP	Phenols(Halo)	2,3,4,5-Tetrachlorophenol	mg/kg	<0.5	<0.5	0
2060013	NCP	Phenols(Halo)	2,3,4,6-Tetrachlorophenol	mg/kg	<0.5	<0.5	0
2060013	NCP	Phenols(Halo)	2,3,5,6-Tetrachlorophenol	mg/kg	<0.5	<0.5	0
2060013	NCP	Phenols(Halo)	2,4,5-Trichlorophenol	mg/kg	<0.5	<0.5	0
2060013	NCP	Phenols(Halo)	2,4,6-Trichlorophenol	mg/kg	<0.5	<0.5	0
2060013	NCP	Phenols(Halo)	Total Phenols (Halogenated)	mg/kg	<0.5	<0.5	0
2060037	B3-1	Phenols(Halo)	4-Chloro-3-Methylphenol	mg/kg	<0.5	<0.5	0
2060037	B3-1	Phenols(Halo)	2-Chlorophenol	mg/kg	<0.5	<0.5	0
2060037	B3-1	Phenols(Halo)	2,4-Dichlorophenol	mg/kg	<0.5	<0.5	0
2060037	B3-1	Phenols(Halo)	2,6-Dichlorophenol	mg/kg	<0.5	<0.5	0
2060037	B3-1	Phenols(Halo)	Pentachlorophenol	mg/kg	<0.5	<0.5	0
2060037	B3-1	Phenols(Halo)	2,3,4,5-Tetrachlorophenol	mg/kg	<0.5	<0.5	0
2060037	B3-1	Phenols(Halo)	2,3,4,6-Tetrachlorophenol	mg/kg	<0.5	<0.5	0
2060037	B3-1	Phenols(Halo)	2,3,5,6-Tetrachlorophenol	mg/kg	<0.5	<0.5	0
2060037	B3-1	Phenols(Halo)	2,4,5-Trichlorophenol	mg/kg	<0.5	<0.5	0
2060037	B3-1	Phenols(Halo)	2,4,6-Trichlorophenol	mg/kg	<0.5	<0.5	0
2060037	B3-1	Phenols(Halo)	Total Phenols (Halogenated)	mg/kg	<0.5	<0.5	0
Lab Sample ID	**Client Sample ID**	**Analysis**	**Analyte**				
2060009	NCP	Phenols(NonHalo)	Phenol	mg/kg	<0.5	<0.5	0
2060009	NCP	Phenols(NonHalo)	Total Cresols	mg/kg	<1	<1	0
2060009	NCP	Phenols(NonHalo)	2,4-Dimethylphenol	mg/kg	<0.5	<0.5	0
2060009	NCP	Phenols(NonHalo)	2,4-Dinitrophenol	mg/kg	<30	<30	0
2060009	NCP	Phenols(NonHalo)	2-Methyl-4,6-Dinitrophenol	mg/kg	<10	<10	0
2060009	NCP	Phenols(NonHalo)	2-Nitrophenol	mg/kg	<0.5	<0.5	0
2060009	NCP	Phenols(NonHalo)	4-Nitrophenol	mg/kg	<0.5	<0.5	0
2060009	NCP	Phenols(NonHalo)	2-Cyclohexyl-4,6-Dinitrophenol	mg/kg	<30	<30	0
2060009	NCP	Phenols(NonHalo)	Dinoseb	mg/kg	<10	<10	0
2060009	NCP	Phenols(NonHalo)	Total Phenols (non Halogenated)	mg/kg	<30	<30	0
2060034	B3-1	Phenols(NonHalo)	Phenol	mg/kg	<0.5	<0.5	0
2060034	B3-1	Phenols(NonHalo)	Total Cresols	mg/kg	<1	<1	0
2060034	B3-1	Phenols(NonHalo)	2,4-Dimethylphenol	mg/kg	<0.5	<0.5	0

Batch No: 10-03166

Date Issued: **22-Jan-2010**

Client: **Douglas Partners Pty Ltd**

Report Number: **139871**

Client Program Ref: **42662**

Ecowise Program Ref: **DOUGLAS**

Ecowise Environmental

					Sample Value	Duplicate Value	% RPD
2060034	B3-1	Phenols(NonHalo)	2,4-Dinitrophenol	mg/kg	<30	<30	0
2060034	B3-1	Phenols(NonHalo)	2-Methyl-4,6-Dinitrophenol	mg/kg	<10	<10	0
2060034	B3-1	Phenols(NonHalo)	2-Nitrophenol	mg/kg	<0.5	<0.5	0
2060034	B3-1	Phenols(NonHalo)	4-Nitrophenol	mg/kg	<0.5	<0.5	0
2060034	B3-1	Phenols(NonHalo)	2-Cyclohexyl-4,6-Dinitrophenol	mg/kg	<30	<30	0
2060034	B3-1	Phenols(NonHalo)	Dinoseb	mg/kg	<10	<10	0
2060034	B3-1	Phenols(NonHalo)	Total Phenols (non Halogenated)	mg/kg	<30	<30	0
Lab Sample ID	**Client Sample ID**	**Analysis**	**Analyte**				
2059803	B19-1	HVOL	1,1,1,2-Tetrachloroethane	mg/kg	<0.5	<0.5	0
2059803	B19-1	HVOL	1,1,2,2-Tetrachloroethane	mg/kg	<0.5	<0.5	0
2059803	B19-1	HVOL	1,1- Dichloroethane	mg/kg	<0.5	<0.5	0
2059803	B19-1	HVOL	1,1-Dichloroethene	mg/kg	<0.5	<0.5	0
2059803	B19-1	HVOL	1,1-Dichloropropene	mg/kg	<0.5	<0.5	0
2059803	B19-1	HVOL	1,2,3-Trichloropropane	mg/kg	<0.5	<0.5	0
2059803	B19-1	HVOL	1,2-Dibromo-3-Chloropropane	mg/kg	<0.5	<0.5	0
2059803	B19-1	HVOL	1,2-Dichloroethene [cis]	mg/kg	<0.5	<0.5	0
2059803	B19-1	HVOL	1,2-Dichloroethene [trans]	mg/kg	<0.5	<0.5	0
2059803	B19-1	HVOL	1,2-Dichloroethane	mg/kg	<0.5	<0.5	0
2059803	B19-1	HVOL	1,2-Dichloropropane	mg/kg	<0.5	<0.5	0
2059803	B19-1	HVOL	1,3-Dichloropropane	mg/kg	<0.5	<0.5	0
2059803	B19-1	HVOL	1,3-Dichloropropene [cis]	mg/kg	<0.5	<0.5	0
2059803	B19-1	HVOL	1,3-Dichloropropene [trans]	mg/kg	<0.5	<0.5	0
2059803	B19-1	HVOL	2,2-Dichloropropane	mg/kg	<0.5	<0.5	0
2059803	B19-1	HVOL	2-Chlorotoluene	mg/kg	<0.5	<0.5	0
2059803	B19-1	HVOL	4-Chlorotoluene	mg/kg	<0.5	<0.5	0
2059803	B19-1	HVOL	Bromochloromethane	mg/kg	<0.5	<0.5	0
2059803	B19-1	HVOL	Bromodichloromethane	mg/kg	<0.5	<0.5	0
2059803	B19-1	HVOL	Bromobenzene	mg/kg	<0.5	<0.5	0
2059803	B19-1	HVOL	Bromoform (Tribromomethane)	mg/kg	<0.5	<0.5	0
2059803	B19-1	HVOL	Carbon Tetrachloride	mg/kg	<0.5	<0.5	0
2059803	B19-1	HVOL	Chloroform (Trichloromethane)	mg/kg	<0.5	<0.5	0
2059803	B19-1	HVOL	Chlorobenzene	mg/kg	<0.5	<0.5	0
2059803	B19-1	HVOL	Dibromochloromethane	mg/kg	<0.5	<0.5	0
2059803	B19-1	HVOL	Dibromomethane	mg/kg	<0.5	<0.5	0
2059803	B19-1	HVOL	1,2-Dibromoethane	mg/kg	<0.5	<0.5	0
2059803	B19-1	HVOL	Dichloromethane	mg/kg	<1	<1	0
2059803	B19-1	HVOL	Trichlorofluoromethane (CFC11)	mg/kg	<2	<2	0

					Sample Value	Duplicate Value	% RPD
2059803	B19-1	HVOL	Tetrachloroethene	mg/kg	<0.5	<0.5	0
2059803	B19-1	HVOL	Vinyl Chloride (Monomer)	mg/kg	<1	<1	0
2059803	B19-1	HVOL	1,1,1-Trichloroethane	mg/kg	<0.5	<0.5	0
2059803	B19-1	HVOL	1,1,2-Trichloroethane	mg/kg	<0.5	<0.5	0
2059803	B19-1	HVOL	Trichloroethene	mg/kg	<0.5	<0.5	0

QUALITY CONTROL - SPIKES

QC Data for spikes is calculated on raw 'unrounded' values. Laboratory spikes are randomly selected samples in which the analytes in question have been artificially introduced and recovered via standard analysis and are used to provide information on potential matrix effects on analyte recoveries.
Spike recoveries that fall outside the general acceptance criteria will be attributed to sample matrix interference or results of high magnitudes.
NCP: Non-Customer Parent (sample quality is representative of the analytical batch but the sample that was QC tested belongs to a customer not pertaining to the report.)

					Sample Value	Expected Value	% Recovery
Lab Sample ID	**Client Sample ID**	**Analysis**	**Analyte**				
2057459	NCP	Cyanide	Cyanide, as CN	mg/kg	<5	20	95.3
2058994	B25-1	Total Cr 6+	Hexavalent Chromium (Total) Soil	mg/kg	<1	550	92.9
2059842	NCP	Tot Fluoride	Total Fluoride, as F	mg/kg	<100	270	101
Lab Sample ID	**Client Sample ID**	**Analysis**	**Analyte**				
2059958	NCP	MS Total Metals	Arsenic	mg/kg	<5	100	87.6
2059958	NCP	MS Total Metals	Cadmium	mg/kg	<0.2	100	90.1
2059958	NCP	MS Total Metals	Chromium	mg/kg	<5	100	94.8
2059958	NCP	MS Total Metals	Copper	mg/kg	<5	100	92.3
2059958	NCP	MS Total Metals	Lead	mg/kg	<5	100	96.6
2059958	NCP	MS Total Metals	Mercury	mg/kg	<0.05	1.0	86.9
2059958	NCP	MS Total Metals	Molybdenum	mg/kg	<5	100	91.2
2059958	NCP	MS Total Metals	Nickel	mg/kg	<5	100	92.5
2059958	NCP	MS Total Metals	Selenium	mg/kg	<5	100	83.7
2059958	NCP	MS Total Metals	Tin	mg/kg	<5	100	93.4
2059958	NCP	MS Total Metals	Zinc	mg/kg	6	110	84.0
2059968	NCP	MS Total Metals	Cadmium	mg/kg	<0.2	100	106
2059968	NCP	MS Total Metals	Chromium	mg/kg	<5	100	105
2059968	NCP	MS Total Metals	Copper	mg/kg	7	100	101
2059968	NCP	MS Total Metals	Lead	mg/kg	13	110	111
2059968	NCP	MS Total Metals	Mercury	mg/kg	<0.05	1.0	94.8
2059968	NCP	MS Total Metals	Molybdenum	mg/kg	<5	100	81.9
2059968	NCP	MS Total Metals	Nickel	mg/kg	<5	100	100
2059968	NCP	MS Total Metals	Tin	mg/kg	<5	100	111

					Sample Value	Expected Value	% Recovery
2059968	NCP	MS Total Metals	Zinc	mg/kg	36	120	97.4
Lab Sample ID	**Client Sample ID**	**Analysis**	**Analyte**				
2059808	NCP	MAH	Benzene	mg/kg	<0.5	4.2	105
2059808	NCP	MAH	Toluene	mg/kg	<0.5	4.2	108
2059808	NCP	MAH	Ethyl Benzene	mg/kg	<0.5	4.2	105
2059808	NCP	MAH	Xylenes	mg/kg	<0.5	12	105
2059808	NCP	MAH	Styrene	mg/kg	<0.5	4.2	104
2059808	NCP	MAH	Cumene	mg/kg	<0.5	4.2	105
2059808	NCP	MAH	1,2,4-Trimethylbenzene	mg/kg	<0.5	4.2	104
Lab Sample ID	**Client Sample ID**	**Analysis**	**Analyte**				
2060008	B3-1	TPH	Petroleum Hydrocarbons (C15-C28)	mg/kg	<50	400	105
Lab Sample ID	**Client Sample ID**	**Analysis**	**Analyte**				
2059697	NCP	PAH	Acenaphthene	mg/kg	<0.1	1.3	108
2059697	NCP	PAH	Acenaphthylene	mg/kg	<0.1	1.3	98.0
2059697	NCP	PAH	Anthracene	mg/kg	<0.1	1.3	98.0
2059697	NCP	PAH	Benz(a)anthracene	mg/kg	<0.1	1.3	92.0
2059697	NCP	PAH	Benzo(a)pyrene	mg/kg	<0.1	1.3	70.0
2059697	NCP	PAH	Benzo(b)fluoranthene	mg/kg	<0.1	1.3	72.0
2059697	NCP	PAH	Benzo(k)fluoranthene	mg/kg	<0.1	1.3	84.0
2059697	NCP	PAH	Chrysene	mg/kg	<0.1	1.3	80.0
2059697	NCP	PAH	Dibenz(a,h)anthracene	mg/kg	<0.1	1.3	74.0
2059697	NCP	PAH	Fluoranthene	mg/kg	<0.1	1.3	94.0
2059697	NCP	PAH	Fluorene	mg/kg	<0.1	1.3	108
2059697	NCP	PAH	Indeno(1,2,3-cd)pyrene	mg/kg	<0.1	1.3	74.0
2059697	NCP	PAH	Naphthalene	mg/kg	<0.1	1.3	100
2059697	NCP	PAH	Phenanthrene	mg/kg	<0.1	1.3	100
2059697	NCP	PAH	Pyrene	mg/kg	<0.1	1.3	96.0
Lab Sample ID	**Client Sample ID**	**Analysis**	**Analyte**				
2060052	B10-2	OCP	BHC (alpha isomer)	mg/kg	<0.05	1.6	104
2060052	B10-2	OCP	a-Endosulphan	mg/kg	<0.05	1.6	86.0
2060052	B10-2	OCP	Aldrin	mg/kg	<0.05	1.6	100
2060052	B10-2	OCP	BHC (beta isomer)	mg/kg	<0.05	1.6	92.0
2060052	B10-2	OCP	b-Endosulphan	mg/kg	<0.05	1.6	92.0
2060052	B10-2	OCP	cis-Chlordane	mg/kg	<0.05	1.6	98.0
2060052	B10-2	OCP	trans-Chlordane	mg/kg	<0.05	1.6	96.0
2060052	B10-2	OCP	BHC (delta isomer)	mg/kg	<0.05	1.6	100
2060052	B10-2	OCP	DDD	mg/kg	<0.05	1.6	86.0

Batch No: 10-03166

Date Issued: 22-Jan-2010

Client: Douglas Partners Pty Ltd

Report Number: 139871

Client Program Ref: 42662

Ecowise Program Ref: DOUGLAS

Ecowise Environmental

					Sample Value	Expected Value	% Recovery
2060052	B10-2	OCP	DDE	mg/kg	<0.05	1.6	88.0
2060052	B10-2	OCP	DDT	mg/kg	<0.05	1.6	86.0
2060052	B10-2	OCP	Dieldrin	mg/kg	<0.05	1.6	92.0
2060052	B10-2	OCP	Endosulfan Sulfate	mg/kg	<0.05	1.6	82.0
2060052	B10-2	OCP	Endrin	mg/kg	<0.05	1.6	72.0
2060052	B10-2	OCP	Endrin Aldehyde	mg/kg	<0.05	1.6	94.0
2060052	B10-2	OCP	Endrin Ketone	mg/kg	<0.05	1.6	94.0
2060052	B10-2	OCP	Hexachlorobenzene	mg/kg	<0.05	1.6	108
2060052	B10-2	OCP	Heptachlor Epoxide	mg/kg	<0.05	1.6	94.0
2060052	B10-2	OCP	Heptachlor	mg/kg	<0.05	1.6	96.0
2060052	B10-2	OCP	BHC (gamma isomer) [Lindane]	mg/kg	<0.05	1.6	116
2061309	B24-2	OCP	BHC (alpha isomer)	mg/kg	<0.05	1.6	96.0
2061309	B24-2	OCP	a-Endosulphan	mg/kg	<0.05	1.6	82.0
2061309	B24-2	OCP	Aldrin	mg/kg	<0.05	1.6	94.0
2061309	B24-2	OCP	BHC (beta isomer)	mg/kg	<0.05	1.6	78.0
2061309	B24-2	OCP	b-Endosulphan	mg/kg	<0.05	1.6	84.0
2061309	B24-2	OCP	cis-Chlordane	mg/kg	<0.05	1.6	96.0
2061309	B24-2	OCP	trans-Chlordane	mg/kg	<0.05	1.6	94.0
2061309	B24-2	OCP	BHC (delta isomer)	mg/kg	<0.05	1.6	94.0
2061309	B24-2	OCP	DDD	mg/kg	<0.05	1.6	80.0
2061309	B24-2	OCP	DDE	mg/kg	<0.05	1.6	82.0
2061309	B24-2	OCP	DDT	mg/kg	<0.05	1.6	70.0
2061309	B24-2	OCP	Dieldrin	mg/kg	<0.05	1.6	88.0
2061309	B24-2	OCP	Endosulfan Sulfate	mg/kg	<0.05	1.6	74.0
2061309	B24-2	OCP	Endrin Aldehyde	mg/kg	<0.05	1.6	82.0
2061309	B24-2	OCP	Endrin Ketone	mg/kg	<0.05	1.6	86.0
2061309	B24-2	OCP	Hexachlorobenzene	mg/kg	<0.05	1.6	102
2061309	B24-2	OCP	Heptachlor Epoxide	mg/kg	<0.05	1.6	94.0
2061309	B24-2	OCP	Heptachlor	mg/kg	<0.05	1.6	90.0
2061309	B24-2	OCP	BHC (gamma isomer) [Lindane]	mg/kg	<0.05	1.6	112
Lab Sample ID	**Client Sample ID**	**Analysis**	**Analyte**				
2059705	NCP	PCB	Aroclor 1016	mg/kg	<0.1	2.3	105
2059705	NCP	PCB	Aroclor 1260	mg/kg	<0.1	2.2	92.2
Lab Sample ID	**Client Sample ID**	**Analysis**	**Analyte**				
2059709	NCP	CHC	1,2,3,4-Tetrachlorobenzene	mg/kg	<0.1	1.3	108
2059709	NCP	CHC	1,2,3-Trichlorobenzene	mg/kg	<0.1	1.3	94.0
2059709	NCP	CHC	1,2,4,5-Tetrachlorobenzene	mg/kg	<0.1	2.6	113

Batch No: 10-03166

Date Issued: **22-Jan-2010**

Client: **Douglas Partners Pty Ltd**

Report Number: **139871**

Client Program Ref: **42662**

Ecowise Program Ref: **DOUGLAS**

Ecowise Environmental

					Sample Value	Expected Value	% Recovery
2059709	NCP	CHC	1,2,4-Trichlorobenzene	mg/kg	<0.1	1.3	94.0
2059709	NCP	CHC	1,2-Dichlorobenzene	mg/kg	<0.1	1.3	92.0
2059709	NCP	CHC	1,3,5-Trichlorobenzene	mg/kg	<0.1	1.3	104
2059709	NCP	CHC	1,3-Dichlorobenzene	mg/kg	<0.1	1.3	96.0
2059709	NCP	CHC	1,4-Dichlorobenzene	mg/kg	<0.1	1.3	106
2059709	NCP	CHC	2-Chloronaphthalene	mg/kg	<0.1	1.3	104
2059709	NCP	CHC	Benzal Chloride	mg/kg	<0.1	1.3	98.0
2059709	NCP	CHC	Benzotrichloride	mg/kg	<0.1	1.3	88.0
2059709	NCP	CHC	Benzylchloride	mg/kg	<0.1	1.3	124
2059709	NCP	CHC	Hexachloroethane	mg/kg	<0.1	1.3	96.0
2059709	NCP	CHC	Hexachlorobutadiene	mg/kg	<0.1	1.3	102
2059709	NCP	CHC	Pentachlorobenzene	mg/kg	<0.1	1.3	102
2060022	B3-1	CHC	1,2,3,4-Tetrachlorobenzene	mg/kg	<0.1	1.4	114
2060022	B3-1	CHC	1,2,3-Trichlorobenzene	mg/kg	<0.1	1.4	98.0
2060022	B3-1	CHC	1,2,4,5-Tetrachlorobenzene	mg/kg	<0.1	2.8	96.0
2060022	B3-1	CHC	1,2,4-Trichlorobenzene	mg/kg	<0.1	1.4	108
2060022	B3-1	CHC	1,2-Dichlorobenzene	mg/kg	<0.1	1.4	104
2060022	B3-1	CHC	1,3,5-Trichlorobenzene	mg/kg	<0.1	1.4	108
2060022	B3-1	CHC	1,3-Dichlorobenzene	mg/kg	<0.1	1.4	104
2060022	B3-1	CHC	1,4-Dichlorobenzene	mg/kg	<0.1	1.4	114
2060022	B3-1	CHC	2-Chloronaphthalene	mg/kg	<0.1	1.4	90.0
2060022	B3-1	CHC	Benzal Chloride	mg/kg	<0.1	1.4	96.0
2060022	B3-1	CHC	Benzotrichloride	mg/kg	<0.1	1.4	96.0
2060022	B3-1	CHC	Benzylchloride	mg/kg	<0.1	1.4	96.0
2060022	B3-1	CHC	Hexachloroethane	mg/kg	<0.1	1.4	104
2060022	B3-1	CHC	Hexachlorobutadiene	mg/kg	<0.1	1.4	100
2060022	B3-1	CHC	Hexachlorocyclopentadiene	mg/kg	<0.1	1.4	72.0
2060022	B3-1	CHC	Pentachlorobenzene	mg/kg	<0.1	1.4	106
Lab Sample ID	**Client Sample ID**	**Analysis**	**Analyte**				
2060014	NCP	Phenols(Halo)	4-Chloro-3-Methylphenol	mg/kg	<0.5	1.3	72.0
2060014	NCP	Phenols(Halo)	2-Chlorophenol	mg/kg	<0.5	1.3	88.0
2060014	NCP	Phenols(Halo)	2,6-Dichlorophenol	mg/kg	<0.5	1.3	78.0
2060014	NCP	Phenols(Halo)	2,3,4,6-Tetrachlorophenol	mg/kg	<0.5	2.6	85.0
2060014	NCP	Phenols(Halo)	2,4,5-Trichlorophenol	mg/kg	<0.5	1.3	78.0
2060038	B3-1	Phenols(Halo)	4-Chloro-3-Methylphenol	mg/kg	<0.5	1.4	74.0
2060038	B3-1	Phenols(Halo)	2-Chlorophenol	mg/kg	<0.5	1.4	88.0
2060038	B3-1	Phenols(Halo)	2,4-Dichlorophenol	mg/kg	<0.5	1.4	84.0

Batch No: 10-03166

Date Issued: **22-Jan-2010**

Client: **Douglas Partners Pty Ltd**

Report Number: **139871**

Client Program Ref: **42662**

Ecowise Program Ref: **DOUGLAS**

Ecowise Environmental

					Sample Value	Expected Value	% Recovery
2060038	B3-1	Phenols(Halo)	2,6-Dichlorophenol	mg/kg	<0.5	1.4	88.0
2060038	B3-1	Phenols(Halo)	2,3,4,6-Tetrachlorophenol	mg/kg	<0.5	2.8	90.0
2060038	B3-1	Phenols(Halo)	2,3,5,6-Tetrachlorophenol	mg/kg	<0.5	1.4	76.0
Lab Sample ID	**Client Sample ID**	**Analysis**	**Analyte**				
2060010	NCP	Phenols(NonHalo)	Phenol	mg/kg	<0.5	1.3	72.0
2060010	NCP	Phenols(NonHalo)	Total Cresols	mg/kg	<1	3.9	83.3
2060010	NCP	Phenols(NonHalo)	2,4-Dimethylphenol	mg/kg	<0.5	1.3	86.0
2060035	B3-1	Phenols(NonHalo)	Phenol	mg/kg	<0.5	1.4	88.0
2060035	B3-1	Phenols(NonHalo)	Total Cresols	mg/kg	<1	4.1	83.3
2060035	B3-1	Phenols(NonHalo)	2,4-Dimethylphenol	mg/kg	<0.5	1.4	80.0
2060035	B3-1	Phenols(NonHalo)	2-Nitrophenol	mg/kg	<0.5	1.4	78.0
Lab Sample ID	**Client Sample ID**	**Analysis**	**Analyte**				
2059800	NCP	HVOL	1,1,2,2-Tetrachloroethane	mg/kg	<0.5	4.1	98.9
2059800	NCP	HVOL	1,1- Dichloroethane	mg/kg	<0.5	4.1	96.5
2059800	NCP	HVOL	1,1-Dichloroethene	mg/kg	<0.5	4.1	98.2
2059800	NCP	HVOL	1,1-Dichloropropene	mg/kg	<0.5	4.1	105
2059800	NCP	HVOL	1,2,3-Trichloropropane	mg/kg	<0.5	4.1	99.7
2059800	NCP	HVOL	1,2-Dichloroethene [cis]	mg/kg	<0.5	4.1	97.2
2059800	NCP	HVOL	1,2-Dichloroethene [trans]	mg/kg	<0.5	4.1	112
2059800	NCP	HVOL	1,2-Dichloroethane	mg/kg	<0.5	4.1	110
2059800	NCP	HVOL	1,2-Dichloropropane	mg/kg	<0.5	4.1	104
2059800	NCP	HVOL	1,3-Dichloropropane	mg/kg	<0.5	4.1	104
2059800	NCP	HVOL	1,3-Dichloropropene [trans]	mg/kg	<0.5	4.1	80.4
2059800	NCP	HVOL	2-Chlorotoluene	mg/kg	<0.5	4.1	103
2059800	NCP	HVOL	4-Chlorotoluene	mg/kg	<0.5	4.1	103
2059800	NCP	HVOL	Bromochloromethane	mg/kg	<0.5	4.1	98.6
2059800	NCP	HVOL	Bromodichloromethane	mg/kg	<0.5	4.1	76.7
2059800	NCP	HVOL	Bromobenzene	mg/kg	<0.5	4.1	99.1
2059800	NCP	HVOL	Carbon Tetrachloride	mg/kg	<0.5	4.1	73.9
2059800	NCP	HVOL	Chloroform (Trichloromethane)	mg/kg	<0.5	4.1	99.7
2059800	NCP	HVOL	Chlorobenzene	mg/kg	<0.5	4.1	104
2059800	NCP	HVOL	Dibromochloromethane	mg/kg	<0.5	4.1	72.2
2059800	NCP	HVOL	Dibromomethane	mg/kg	<0.5	4.1	98.2
2059800	NCP	HVOL	1,2-Dibromoethane	mg/kg	<0.5	4.1	93.1
2059800	NCP	HVOL	Dichloromethane	mg/kg	<1	4.1	117
2059800	NCP	HVOL	Trichlorofluoromethane (CFC11)	mg/kg	<2	4.1	107
2059800	NCP	HVOL	Tetrachloroethene	mg/kg	<0.5	4.1	101

Batch No: 10-03166

Date Issued: **22-Jan-2010**

Client: **Douglas Partners Pty Ltd**

Report Number: **139871**

Client Program Ref: **42662**

Ecowise Program Ref: **DOUGLAS**

Ecowise Environmental

					Sample Value	Expected Value	% Recovery
2059800	NCP	HVOL	Vinyl Chloride (Monomer)	mg/kg	<1	4.1	98.2
2059800	NCP	HVOL	1,1,1-Trichloroethane	mg/kg	<0.5	4.1	76.7
2059800	NCP	HVOL	1,1,2-Trichloroethane	mg/kg	<0.5	4.1	87.1
2059800	NCP	HVOL	Trichloroethene	mg/kg	<0.5	4.1	102

Douglas Partners
Geotechnics - Environment - Groundwater

CHAIN OF CUSTODY DESPATCH SHEET

Project Name: Delahey
Project Number 42662
DP Contact Person: Tamie Dick
Prior storage: Esky and Fridge

Date relinquished: 15.01.10
Results required by: 22.01.10
Turnaround requirements: STANDARD

LAB REFERENCE: _____

To MGT Environmental
3 Kingston Town Close
Oakleigh

Ph:
Attn: Andrew Thexton

No. of samples in container: 1

Sample Receipt:
Signed: MGT
Date: 15/1/10 2:30pm

Rep: 257971

Laboratory Sample Receipt Stamp

Sample ID	Sample Type	Lab ID	Metal Screen	OCP	Notes
DUP2	Soil/ Jar		✓	✓	Metal Screen: As, Cd, Cr, Cu, Pb, Hg, Mo, Ni, Sn, Se, Ag, Zn.

mgt Environmental

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Adelaide
140 Richmond Rd
Marleston SA 5033
Phone : 08 8443 4430

CERTIFICATE OF ANALYSIS

Douglas Partners Pty. Ltd.
68 Brighton St
Richmond
Victoria 3121
Site: DELAHEY 42662

Report Number: 257971-V1 Page 1 of 7
Order Number: 84627
Date Received: Jan 15, 2010
Date Sampled: Jan 15, 2010
Date Reported: Jan 21, 2010
Contact: Tamie Dick

Methods

- USEPA 8081A Organochlorine Pesticides
- USEPA 6020 Heavy Metals & USEPA 7470/71 Mercury
- Method 102 - ANZECC - % Moisture

Comments

Notes

GLOSSARY OF TERMS

UNITS

mg/kg	milligrams per Kilogram	**mg/l**	milligrams per litre
ug/l	micrograms per litre	**ppm**	Parts per million
ppb	Parts per billion	**%**	Percentage
org/100ml	Organisms per 100 millilitres	**NTU**	Units

TERMS

Dry	Where a moisture has been determined on a solid sample the result is expressed on a dry basis.
LOR	Limit of Reporting.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
LCS	Laboratory Control Sample - reported as percent recovery
CRM	Certified Reference Material - reported as percent recovery
Method Blank	In the case of solid samples these are performed on laboratory certified clean sands. In the case of water samples these are performed on de-ionised water.
Surr - Surrogate	The addition of a like compound to the analyte target and reported as percentage recovery.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
Batch Duplicate	A second piece of analysis from a sample outside of the clients batch of samples but run within the laboratory batch of analysis.
Batch SPIKE	Spike recovery reported on a sample from outside of the clients batch of samples but run within the laboratory batch of analysis.
USEPA	United States Environment Protection Authority
APHA	American Public Health Association
ASLP	Australian Standard Leaching Procedure (AS4439.3)
TCLP	Toxicity Characteristic Leaching Procedure
COC	Chain of Custody
SRA	Sample Receipt Advice

QC - ACCEPTANCE CRITERIA

RPD Duplicates	Results <10 times the LOR : No Limit Results between 10-20 times LOR : RPD must lie between 0-50% Results >20 times LOR : RPD must lie between 0-20%
LCS Recoveries	Recoveries must lie between 70-130% - Phenols 30-130%
CRM Recoveries	Recoveries must lie between 70-130% - Phenols 30-130%
Method Blanks	Not to exceed LOR
SPIKE Recoveries	Recoveries must lie between 70-130% - Phenols 30-130%
Surrogate Recoveries	Recoveries must lie between 50-150% - Phenols 20-130%

GENERAL COMMENTS

1. All results in this report supersede any previously corresponded results.
2. All soil results are reported on a dry basis.
3. Samples are analysed on an as received basis.

QC DATA GENERAL COMMENTS

1. Where a result is reported as a less than (<), higher than the nominated LOR this is due to either Matrix Interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch, but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown is not data from your samples.
3. Organochlorine Pesticide analysis - where reporting LCS data, Toxaphene & Chlordane are not added to the LCS.
4. Orgaonchlorine Pesticide analysis - where reporting Spike data, Toxaphene is not added to the Spike.
5. Total Recoverable Hydrocarbons - where reporting Spike & LCS data, a single spike of commercial Hydrocarbon products in the range of C12-C30 is added and it's Total Recovery is reported in the C10-C14 cell of the Report.
6. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of Recovery the term "INT" appears against that analyte.
7. Polychlorinated Biphenyls are spiked only using Arochlor 1260 in Matrix Spikes and LCS's.
8. For Matrix Spikes and LCS results a dash "-" in the report means that the specific analyte was not added to the QC sample.
9. Duplicate RPD's are calculated from raw analytical data thus it is possible to have two two sets of data below the LOR with a positive RPD - eg: LOR 0.1, Result A = <0.1 (raw data is 0.02) & Result B = <0.1 (raw data is 0.03) resulting in a RPD of 40% calculated from the raw data.

REPORT SPECIFIC NOTES

mgt Environmental

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NATA Site # 18217

Adelaide
140 Richmond Rd
Marleston SA 5033
Phone : 08 8443 4430

Company Name: Douglas Partners Pty. Ltd.
Address: 68 Brighton St
Richmond
Victoria 3121

Order No.:
Report #: 257971
Phone: 9428 1831
Fax: 9428 7841

Received: Jan 15, 2010 12:00
Due: Jan 22, 2010 04:20
Priority: 5 Day
Contact name: Tamie Dick

Client Job No.: DELAHEY 42662

mgt Client Manager: Andrew Thexton

Sample Detail					% Moisture	Arsenic	Cadmium	Chromium	Copper	Lead	Mercury	Molybdenum	Nickel	Selenium	Silver	Tin	Zinc	Organochlorine Pesticides
Laboratory where analysis is conducted																		
Melbourne Laboratory - NATA Site #1254					X	X	X	X	X	X	X	X	X	X	X	X	X	X
Sydney Laboratory - NATA Site #18217																		
Sample ID	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**														
DUP2	Jan 15, 2010		Soil	M10-JA02813	X	X	X	X	X	X	X	X	X	X	X	X	X	X

Douglas Partners Pty. Ltd. **68 Brighton St** **Richmond** **Victoria 3121**	**Client Sample ID**		**DUP2**
	Lab Number		**M10-JA02813**
	Matrix		**Soil**
	Sample Date		**Jan 15, 2010**
Analysis Type	**LOR**	**Units**	
Organochlorine Pesticides			
4.4'-DDD	0.05	mg/kg	< 0.05
4.4'-DDE	0.05	mg/kg	< 0.05
4.4'-DDT	0.05	mg/kg	< 0.05
a-BHC	0.05	mg/kg	< 0.05
Aldrin	0.05	mg/kg	< 0.05
b-BHC	0.05	mg/kg	< 0.05
Chlordane	0.1	mg/kg	< 0.1
d-BHC	0.05	mg/kg	< 0.05
Dieldrin	0.05	mg/kg	< 0.05
Endosulfan I	0.05	mg/kg	< 0.05
Endosulfan II	0.05	mg/kg	< 0.05
Endosulfan sulphate	0.05	mg/kg	< 0.05
Endrin	0.05	mg/kg	< 0.05
Endrin aldehyde	0.05	mg/kg	< 0.05
Endrin ketone	0.05	mg/kg	< 0.05
g-BHC (Lindane)	0.05	mg/kg	< 0.05
Heptachlor	0.05	mg/kg	< 0.05
Heptachlor epoxide	0.05	mg/kg	< 0.05
Hexachlorobenzene	0.05	mg/kg	< 0.05
Methoxychlor	0.05	mg/kg	< 0.05
Toxophene	0.1	mg/kg	< 0.1
Dibutylchlorendate (surr.)	1	%	137
Tetrachloro-m-xylene (surr.)	1	%	97
% Moisture	0.1	%	4.2
Heavy Metals			
Arsenic	2.0	mg/kg	3.0
Cadmium	0.5	mg/kg	< 0.5
Chromium	5	mg/kg	30
Copper	5	mg/kg	7.5

COMMENTS:

Douglas Partners Pty. Ltd. **68 Brighton St** **Richmond** **Victoria 3121**	**Client Sample ID**		**DUP2**
	Lab Number		**M10-JA02813**
	Matrix		**Soil**
	Sample Date		**Jan 15, 2010**
Analysis Type	**LOR**	**Units**	
Lead	5	mg/kg	11
Mercury	0.1	mg/kg	< 0.1
Molybdenum	10	mg/kg	< 10
Nickel	5	mg/kg	8.2
Selenium	2	mg/kg	< 2
Silver	5	mg/kg	< 5
Tin	10	mg/kg	< 10
Zinc	5	mg/kg	17

COMMENTS:

Douglas Partners Pty. Ltd. **68 Brighton St** **Richmond** **Victoria 3121**	**Client Sample ID**	**DUP2**	**DUP2**	**RPD**	**SPIKE**	**LCS**	**Method blank**
	Lab Number	**10-JA02813**	**10-JA02813**	**10-JA02813**	**10-JA02813**	**Batch**	**Batch**
	QA Description		**Duplicate**	**Duplicate % RPD**	**Spike % Recovery**	**% Recovery**	
	Matrix	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**
	Sample Date	**Jan 15, 2010**	**Jan 15, 2010**	**Jan 15, 2010**	**Jan 15, 2010**	**Jan 15, 2010**	**Jan 15, 2010**
Analysis Type	**Units**			% RPD	% Recovery	% Recovery	mg/L
Organochlorine Pesticides		Batch	Batch	Batch	Batch		
4.4'-DDD		< 0.05	< 0.05	< 1	103	97	< 0.05
4.4'-DDE		< 0.05	< 0.05	< 1	92	88	< 0.05
4.4'-DDT		< 0.05	< 0.05	< 1	119	94	< 0.05
a-BHC		< 0.05	< 0.05	< 1	96	92	< 0.05
Aldrin		< 0.05	< 0.05	< 1	99	98	< 0.05
b-BHC		< 0.05	< 0.05	< 1	70	76	< 0.05
Chlordane		< 0.1	< 0.1	< 1	-	-	< 0.1
d-BHC		< 0.05	< 0.05	< 1	102	96	< 0.05
Dieldrin		< 0.05	< 0.05	< 1	92	91	< 0.05
Endosulfan I		< 0.05	< 0.05	< 1	98	97	< 0.05
Endosulfan II		< 0.05	< 0.05	< 1	77	88	< 0.05
Endosulfan sulphate		< 0.05	< 0.05	< 1	90	87	< 0.05
Endrin		< 0.05	< 0.05	< 1	86	85	< 0.05
Endrin aldehyde		< 0.05	< 0.05	< 1	130	129	< 0.05
Endrin ketone		< 0.05	< 0.05	< 1	83	78	< 0.05
g-BHC (Lindane)		< 0.05	< 0.05	< 1	98	92	< 0.05
Heptachlor		< 0.05	< 0.05	< 1	88	83	< 0.05
Heptachlor epoxide		< 0.05	< 0.05	< 1	81	80	< 0.05
Hexachlorobenzene		< 0.05	< 0.05	< 1	94	88	< 0.05
Methoxychlor		< 0.05	< 0.05	< 1	81	71	< 0.05
Toxophene		< 0.1	< 0.1	< 1	-	-	< 0.1
Heavy Metals		Batch	Batch	Batch	Batch		
Arsenic		< 2	< 2	< 1	90	100	< 2
Cadmium		< 0.5	< 0.5	< 1	101	105	< 0.5
Chromium		8.8	7.2	19	104	113	< 5
Copper		6.1	< 5	100	102	105	< 5
Lead		< 5	< 5	< 1	89	100	< 5
Mercury		< 0.1	< 0.1	< 1	71	87	< 0.1

COMMENTS:

mgt Environmental

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Douglas Partners Pty. Ltd.
68 Brighton St
Richmond

Victoria 3121

Client Sample	**DUP2**	**DUP2**	**RPD**	**SPIKE**	**LCS**	**Method blank**
Lab Number	**10-JA02813**	**10-JA02813**	**10-JA02813**	**10-JA02813**	**Batch**	**Batch**
QA Description		**Duplicate**	**Duplicate % RPD**	**Spike % Recovery**	**% Recovery**	
Matrix	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**
Sample Date	**Jan 15, 2010**	**Jan 15, 2010**	**Jan 15, 2010**	**Jan 15, 2010**	**Jan 15, 2010**	**Jan 15, 2010**
Analysis Type	**Units**		% RPD	% Recovery	% Recovery	mg/L
Heavy Metals		Batch	Batch	Batch	Batch		
Molybdenum		< 10	< 10	< 1	100	104	< 10
Nickel		< 5	< 5	< 1	96	106	< 5
Selenium		< 2	< 2	< 1	92	101	< 2
Silver		< 5	< 5	< 1	98	101	< 5
Tin		< 10	< 10	< 1	100	107	< 10
Zinc		5.1	< 5	100	91	101	< 5

COMMENTS:

APPENDIX F

Quality Assurance/Quality Control

APPENDIX F

QUALITY ASSURANCE/QUALITY CONTROL
ENVIRONMENTAL SITE ASSESSMENT
250 TAYLORS ROAD, DELAHEY

1. DATA QUALITY OBJECTIVES

Data quality objectives (DQO) were developed for the soil sampling undertaken to ensure the integrity and reproducibility of the tests and to provide a check on the potential for cross-contamination during the sampling process.

The procedures undertaken to achieve the DQO included deployment of trained personnel familiar with soil sampling techniques. Laboratory QA/QC was undertaken and fulfilled by Ecowise Environmental Pty Ltd (Ecowise) and MGT Environmental (MGT).

Quality Assurance (QA) was maintained by:

- Compliance with a Project Quality Plan written for the objectives of the study.
- Using qualified environmental scientists and engineers to undertake the field supervision and sampling.
- Following the DP operating procedures for soil sampling, field testing and decontamination as presented in Table F1.
- Using NATA accredited laboratories for sample testing that utilise standard analytical laboratory methods of the US EPA, the APHA and Victorian EPA.

Table F1 : Field Procedures
(from Douglas Partners Field Procedures Manual)

Abbreviation	Procedure Name
FPM LOG	Logging
FPM DECONT	Decontamination of Personnel and Equipment
FPM ENVID	Sample Identification, Handling, Transport and Storage of Contaminated Samples
FPM ENVSAMP	Sampling of Contaminated Soils and Sludges
FPM PIDETC	Operation of Field Analysers

2. Field Quality Assurance/Quality Control

DP split samples into two in the field and sent both samples to the primary laboratory (Ecowise) for analysis without any indication of their duplication. Both samples were analysed for the same parameters. This procedure is known as blind duplicate sampling.

DP also split samples into two in the field and sent one sample to the primary laboratory (Ecowise) and one sample to the secondary laboratory (MGT) for analysis. Both samples were analysed for the same parameters. This procedure is known as split duplicate sampling.

A measure of laboratory precision is obtained by calculating the relative percent difference (RPD) between duplicate pairs, as shown in equation (1) below. The RPD has a value between 0% and 200%, and DP generally adopts a criterion of between 0% and 50% as acceptable, depending on the contaminant.

$$\%RPD = \frac{|C_{original} - C_{duplicate}|}{Average(C_{original}, C_{duplicate})} \times 100 \qquad (1)$$

2.1 Blind Duplicate Testing

One blind duplicate soil sample was analysed during this assessment and the results are provided in Table F2.

Table F2 : Blind Duplicate Analysis

Analyte	BH15-1	DUP1	RPD (%)
Arsenic	<5	<5	BBL
Cadmium	<0.2	<0.2	BBL
Chromium	32	25	24.6
Copper	7	6	15.4
Lead	19	18	5.4
Mercury	<0.05	<0.05	BBL
Molybdenum	<5	<5	BBL
Nickel	9	7	25.0
Selenium	<5	<5	BBL
Silver	<5	<5	BBL
Tin	<5	<5	BBL
Zinc	13	17	26.7
OCP	ND	ND	BBL

Results in mg/kg unless otherwise stated
BBL: Both results below the laboratory reporting limit
Bold exceeds 50% criterion

The RPDs for the soil blind duplicate sample were in the range 0% to 26.7% with all 13 RPDs below the adopted 50% criterion, or both results below the laboratory reporting limit.

2.2 Split Duplicate Samples

One split duplicate soil sample was analysed during this assessment and the results are provided in Table F3.

Table F3 : Split Duplicate Analysis

Analyte	BH15-1	DUP2	RPD (%)
Arsenic	<5	3.0	BBL
Cadmium	<0.2	<0.5	BBL
Chromium	32	30	6.5
Copper	7	7.5	6.9
Lead	19	11	53.3
Mercury	<0.05	<0.1	BBL
Molybdenum	<5	<10	BBL
Nickel	9	8.2	9.3
Selenium	<5	<2	BBL
Silver	<5	<5	BBL
Tin	<5	<10	BBL
Zinc	13	17	26.7
OCP	ND	ND	BBL

Results in mg/kg unless otherwise stated
BBL: Both results below the laboratory reporting limit
Bold exceeds 50% criterion

The RPDs for the soil split duplicate sample were in the range 0% to 53.3% with 12 of the 13 RPDs below the adopted 50% criterion, or both results below the laboratory reporting limit. The one elevated RPD result was associated with the reported lead results for the primary and split duplicate samples. The elevated RPD result for lead was associated with small variations in low lead concentrations that were well below the adopted assessment criteria.

3. Laboratory Quality Assurance/Quality Control

Quality Control (QC) of the laboratory program was achieved by the following means:

- Method blanks - the laboratory ran reagent blanks to confirm the equipment and standards used were uncontaminated.
- Laboratory duplicates - the laboratory split samples internally and conducted tests on separate extracts.
- Laboratory spikes - samples were spiked by the laboratory with a known concentration of contaminants and subsequently tested for recovery.

3.1 Method Blanks

All method blanks returned results below the laboratory reporting limit and are therefore acceptable.

3.2 Laboratory Duplicates

The relative percent difference (RPD) between duplicate pairs is calculated to measure laboratory precision. DP generally adopts a criterion of 50% as acceptable. The laboratory RPDs ranged from 0% to 28.1% with all 213 RPD results within the adopted acceptable range of 0% to 50%.

3.3 Laboratory Spikes

The recovery for individual contaminants ranged between 70% and 124%, with all 161 spike results within the adopted acceptable range of 70% to 130% for inorganics and 60% to 140% for organics.

3.4 QA/QC Conclusions

The accuracy and precision of the soil testing procedures, as inferred by the QA/QC data, is considered by DP to be of sufficient standard to enable the data, as reported by Ecowise and MGT, to be used by DP for interpretation of site contamination conditions.

Douglas Partners
Geotechnics / Environment / Groundwater

Integrated Practical Solutions

Report on
Preliminary Site Investigation for Contamination

Proposed Rezoning
250 Taylors Road, Delahey

Prepared for
Broadcast Australia Pty Ltd

Project :42662.01
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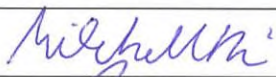
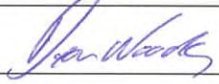
The undersigned, on behalf of Douglas Partners Pty Ltd, confirm that this document and all attached drawings, logs and test results have been checked and reviewed for errors, omissions and inaccuracies.

	Signature		Date issued
Author		Mitchell Dixon	14 February 2019
Reviewer		Dean Woods	14 February 2019

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Report on Preliminary Site Investigation for Contamination
Proposed Rezoning
250 Taylors Road, Delahey

1. Introduction

This report presents the results of an updated preliminary site investigation for contamination (PSI) undertaken by Douglas Partners Pty Ltd (DP) for a proposed rezoning at 250 Taylors Road, Delahey. The initial investigation was completed by DP in 2010, and this updated investigation and report was commissioned in an email dated 21 December 2018 by Joss Engebretsen of Broadcast Australia Pty Ltd. The investigation was undertaken in accordance with DP's proposal MEL180505 dated 20 December 2018.

The site is currently vacant and is adjacent to Broadcast Australia's AM radio mast. The aim of the investigation was to update the older 2010 report to reference current criteria, and confirm whether any changes have occurred to ground conditions between 2010 when the previous sampling was undertaken and 2019. This was undertaken by re-sampling approximately 30% of the original test locations (eight locations) as well as collecting samples from an area that was excluded from the 2010 testing. Comments are provided on the potential for contamination and the level of investigation required with reference to planning documentation.

2. Scope of Work

The original Environmental Site Assessment performed in 2010 was carried out in accordance with the scope of work outlined in DP's proposal MEL090407 dated 11 December 2009, with the additional work being carried out as per DP's proposal MEL180505 dated 21 December 2018. The combined scope of work comprised:

- A desktop site history review and site walkover inspection to identify the potential for contamination at the site;
- Set out of twenty-five (25) sample locations in a broad grid pattern across the site;
- Environmental drilling at each sample location using a solid flight auger drilling rig. The boreholes were drilled to a target depth of 0.5 m;
- At each sample location, the soil profile was logged and soil samples were generally collected at the site surface (0 - 0.1 m depth) and 0.5 m depth, or to suit the soil horizons encountered during drilling;
- Re-drilling of eight of the original 25 sample locations in 2019 using a hand auger to a depth of 0.5 m, including similar sampling as previous;
- Drilling of an additional three borehole sample locations in the brick and tile business in the south-western corner of the site, also using a hand auger to a depth of approximately 0.5 m;

- Laboratory analysis of selected soil samples for a broad range of potential contaminants. For the samples collected from the eight re-sampled locations, this comprised:
    - o two samples for a broad range of analytes known as an EPA screen (comprising metals (arsenic, cadmium, chromium (VI), copper, lead, mercury, molybdenum, nickel, tin, selenium, silver and zinc), total cyanide, total fluoride, speciated phenols (halogenated and non-halogenated), monocyclic aromatic hydrocarbons, (including benzene, toluene, ethyl benzene and xylenes known as BTEX), polycyclic aromatic hydrocarbons (PAH), total recoverable hydrocarbons (TRH), polychlorinated biphenyls (PCB), chlorinated hydrocarbons (volatile and semi-volatile) and organochlorine pesticides (OCP));
    - o Eight samples for OCPs and metals as in the EPA screen (with total chromium instead of chromium VI); and
    - o One quality control replicate sample for the same metals as above.
- For the three additional boreholes, laboratory analysis comprised:
    - o One sample for an EPA screen as above; and,
    - o Two samples for TRH, PAH and metals as in an EPA screen.

Preparation of a factual report detailing the site history review and site conditions encountered during field work, interpretation and comparison of laboratory results to updated adopted criteria.

It should be noted that the scope of work for this assessment comprised a preliminary site investigation in general accordance with Section 3 of Australian Standard AS 4482.1-2005 *Guide to the investigation and sampling of sites with potentially contaminated land* and does not constitute a detailed site investigation as defined by Australian Standard AS 4482.1-2005.

The objective of the PSI is to determine whether there has been potentially contaminating land uses and to conduct limited sampling and laboratory analysis to produce evidence through an investigation to indicate whether a site is potentially contaminated and to determine whether a detailed site investigation should be conducted.

In addition, the scope of work conducted is suitable for a preliminary assessment of the waste soil categorisation but may not satisfy the requirements of EPA Publication IWRG702 Soil Sampling and EPA Publication IWRG621 Soil Hazard Categorisation and Management – the current industry guideline for assessing soil prior to off-site disposal or re-use. Therefore, further testing is likely to be required to meet EPA requirements for off-site disposal of site soils, depending on volumes of soil generated during site development and building works.

3. Site Identification and Description

3.1 Site Identification

The site is located on the northern side of Taylors Road, Delahey as shown on Drawing 1, Appendix B. The site is described as Lot B on Plan of Subdivision PS817647S and comprises an irregular shaped parcel of land covering an area of approximately 46 hectares. A copy of the proposed plan of subdivision is provided in Appendix B. It is anticipated that any future urban development will be subject to further subdivision to be undertaken by subsequent purchasers of the land.

The site is bounded by Taylors Road to the south, Kings Road to the west, and Sydenham Road and the Sydenham railway line to the east. The area to the north of the site comprises a large area (approximately 49 hectares) of mostly vacant land occupied by the Broadcast Australia Sydenham Transmitting Station and radio masts. The land to the north of the site is described as Lot A on Plan of Subdivision PS817647S and is excluded from the current assessment. A copy of the planning property report for the site is provided in Appendix B.

A summary of site planning details in presented in Table 1.

Table 1 : Planning details of 250 Taylors Road Delahey

Identification	Description
Local Government Area	Brimbank
Current Zoning	Road Zone – Category 1 (RDZ1) Special Use Zone (SUZ) Special Use Zone – Schedule 2 (SUZ2)
Overlays	Development Contributions Plan Overlay (DCPO) Development Contributions Plan Overlay – Schedule 2 (DCPO2) Environmental Audit Overlay (EAO) Environmental Significance Overlay (ESO) Environmental Significance Overlay (ESO) – Schedule 1 (ESO1) Environmental Significance Overlay (ESO) – Schedule 2 (ESO2) Special Building Overlay (SBO) Special Building Overlay Schedule (SBO)
Areas of Aboriginal Cultural Heritage Sensitivity	All or part of the site
Current Land Use	Vacant land adjacent to Broadcast Australia AM radio transmission

3.2 Site Inspection

A site inspection was conducted by a DP Environmental Engineer on 7 January 2019 to update DP's previous site inspection on 13 January 2010. At the time of the 2019 inspection, the majority of the site comprised vacant grassed land. Photographs of the site are provided in Appendix B.

A business selling bricks, roof tiles and pavers was located in the south western corner of the site, on the north eastern corner of the Taylors Road and Kings Road intersection. Due to the revision of the plan of subdivision between 2010 and 2019, a site visit and sampling was undertaken within the newly added area on 6 February 2019. A telecommunications tower and two small buildings associated with the tower were located within a fenced off area in the south-eastern section of the site fronting Taylors Road, and were not included within the scope of this PSI, and not investigated.

Two areas of mature trees were present on the site, one within a fenced off area in the north eastern section of the site, the other in the vicinity of an empty dam located in the south-eastern section of the site and to the north of the telecommunications tower.

No visual or olfactory evidence of potential contamination, such as imported filling, spills, stains or odours, were observed during the January site inspection. Similarly, no visual or olfactory evidence of soil contamination was observed during the brick and tile shop inspection. Aggregate gravel and broken tile pieces were placed on top of the natural soil, but no other imported filling was observed.

The surrounding land use comprised residential properties to the east beyond the Sydenham railway line, residential properties and three large water storage tanks to the south beyond Taylors Road, a small shopping centre and residential properties to the west beyond Kings Road and vacant land occupied by the Broadcast Australia Sydenham Transmitting Station and radio masts to the north.

4. Existing Environment

4.1 Topography and Geology

With reference to the Geological Survey of Victoria's 1:63,360 scale Sunbury sheet, the site surface geology was found to be Quaternary Age Newer Volcanics Basalt. The natural soil profile is generally characterised by a variable thickness of residual silt and clay overlying basalt floaters and bedrock. The natural soil profile encountered during the investigation was considered to be consistent with the geological setting.

The topography was observed to be generally flat with a slight slope to the south east.

4.2 Hydrology and Hydrogeology

No surface water features were present at the site at the time of the inspection, though a small localised dip in the land was present in the south east of the site which may fill with water when there is enough rain in a short period. The nearest body of water is Taylors lakes, located approximately 2 km north of the site area, however, due to the observed slight slope to the south-east, it is possible that the groundwater on site may flow towards Jones creek, which is approximately 4 km south of the site.

A search of the Visualising Victoria's Groundwater (VVG) website (http://www.vvg.org.au/) estimates the depth of groundwater to be between five and ten metres deep. On the same database, the groundwater salinity is expected to be between 7,000 and 13,000 mg/l. With reference to the State Environment Protection Policy (Waters), this most likely places the groundwater within Segment E (Government of Victoria 2018), with protected beneficial uses comprising the following:

- Water dependent ecosystems and species;
- Agriculture and irrigation (stock watering);
- Water-based recreation (primary contact recreation);
- Traditional Owner cultural values; and
- Buildings and structures.

5. Site History Review

5.1 Scope of Review

As the history of the site has not changed since the previous investigation in 2010, the results of that investigation have been reproduced in this updated report, with some minor additions.

The site history review was carried out in general accordance with Section 3 of Australian Standards AS 4482.1-2005 *Guide to the investigation and sampling of sites with potentially contaminated soil*. The site history review was conducted utilising information from the following sources:

- Publicly available aerial photographs from 1951, 1960, 1970, 1982 and 1991;
- Google Earth Website, aerial photography from 2006;
- Nearmap aerial photography from 2014 and 2018;
- Certificate of Land Title Search;
- The Victorian EPA Priority Site Register; and
- The Broadcast Australia website.

5.2 Aerial Photographs

Historical aerial photographs from 1951, 1960, 1970, 1982 and 1991 were obtained from the then Department of Sustainability and Environment (DSE), now Department of Environment, Land, Water and Planning. Other aerial photography from 2006 was obtained from the Google Earth website. An additional two recent aerial photographs (2014 and 2018) were sourced from Nearmap. Aerial photographs were reviewed to determine the likely past uses of the site. Copies of the aerial photographs are included in Appendix D.

Aerial photography from 1951 indicates that the site and surrounding area appears to comprise undeveloped land possibly used for grazing. The dam and area of trees observed in the south eastern section of the site during the site inspection were present in this photograph. A rural residence appears to be present in the south-eastern section of the site, fronting Taylors Road and south of the dam. Taylors Road and the Sydenham Railway line were well established at this time. In addition, a radio mast and a small building were present within the vacant land to the north of the site.

Aerial photography from 1960 indicates very little change to the site and the surrounding area. The existing Broadcast Australia main administration building appears to be present to the north of the site, fronting Sydenham Road.

Aerial photography from 1970 indicates very little change to the site with the exception of the first signs of the area of trees observed in the north eastern section of the site during the site inspection. The former Melbourne and Metropolitan Board of Works (MMBW) water storage site had commenced operation with one large water tank visible to the south of the site beyond Taylors Road.

Aerial photography from 1982 indicates that the rural residence present in the south eastern section of the site appears to have been demolished. The remainder of the site appears to be relatively unchanged. Low density residential development is evident to the east of the site beyond the railway line and to the south of the site beyond Taylors Road. The MMBW site on the southern side of Taylors Road had expanded with the addition of a second large water storage tank.

Aerial photography from 1991 indicates very little change to the site. Low density residential development is well established to the east, south and west of the site. The MMBW site on the southern side of Taylors Road had expanded further with the addition of a third large water storage tank.

Aerial photography from 2006 indicates that the business selling bricks, roof tiles and pavers had been established in the south western corner of the site. The remainder of the site appears to be relatively unchanged. The main change to the surrounding area is the addition of Kings Road to the west of the site and construction of a new shopping centre to the west of the site on the north western corner of Taylors Road and Kings Road.

Aerial photography from 2014 and 2018 show no significant visible changes have occurred on or around the site since the 2006 aerial image.

Based on the aerial photographs, it appears that the site has remained undeveloped and possibly used for pastoral/grazing purposes from at least 1951.

5.3 Certificates of Title

A historical land title search was conducted by CIMA Office Services. Determination of the ownership or occupancy of the property, including company names, can assist in the identification of previous land uses and therefore establish potentially contaminating activities.

The historical land title search indicates that prior to 1932 the site comprised Crown land. On 18 March 1932, the site, and land to the north of the site, was granted to Margaret McAuley for use as a Farm Allotment. The Commonwealth of Australia re-acquired the land on 2 August 1937 in order to be used for broadcasting purposes.

The land was transferred to NTL Australia Pty Ltd in 2000 prior to when NTL Australia was re-branded as Broadcast Australia Pty Ltd in 2002.

Copies of the historical land title search documentation are provided in Appendix B.

5.4 EPA Priority Site Register

A search of the EPA Priority Site Register indicated that as of 30 November 2018 the site was not present on the register and therefore neither a Clean Up Notice pursuant to Section 62A or a Pollution Abatement Notice pursuant to Section 31A or 31B of the Environment Protection Act 1970, had been issued. The relevant extract of the EPA Priority Site Register is provided in Appendix D.

5.5 Potential for Contamination

Based on the available site history information, the site and land to the north of the site comprised crown land up until 1932 when a Farm Allotment was granted to Margaret McAuley. In 1937, the Commonwealth of Australia re-acquired the land and the government owned and operated National Transmission Network (NTN) commenced broadcasting from the land to the north of the site. The NTN was sold to National Transcommunications Limited (NTL) Australia in 1999 (prior to the land being transferred to NTL Australia in 2000) and was re-branded as Broadcast Australia in 2002. Broadcast Australia was still broadcasting from the land to the north of the site at the time of this assessment. From 1937 until the present day, the site has comprised vacant land adjacent to the broadcasting operational area. No specific sources of potential contamination were identified within the brick and tile business and it is possible that the site was used for pastoral/grazing purposes in the past.

The potential for contamination at the site is considered to be low, as the previous uses of the land do not appear in either Table 1 of the Potentially Contaminated Land General Practice note (DSE 2005) or in the Planning and Environment Act 1987 section 12 (2) (a) definition of potentially contaminated land. However, there is a low potential for contamination from previous rural land uses, which could include the disturbance of the land and the placement of filling in isolated pockets, burial of animals or used farm equipment and materials and/or chemicals (pesticides and herbicides) and the application of the latter. Potential contaminants associated with agricultural activities include Organochlorine Pesticides (OCP) and heavy metals. Impacts associated with broad acre application of pesticides would typically be confined to the near surface horizon, and therefore the soil sampling undertaken in this investigation should provide information regarding the potential for this contamination to be present on site.

6. Field Work Methodology

6.1 2010 Sampling

The initial field work was conducted on 14 January 2010 and comprised collection of soil samples from twenty-five (25) borehole locations, designated B1 to B25. The borehole co-ordinates were recorded by using a hand held GPS unit set to reference WGS84 horizontal datum and UTM zone 55 map grids, with an estimated accuracy of ± 5 m. The approximate borehole locations are shown on Drawing 1, Appendix B.

The drilling was conducted by Horizon Drilling under the supervision of an experienced DP field engineer. The bores were drilled using solid flight auger drilling methods. At each borehole location, the soil profile was logged and soil samples were generally collected at the site surface (0-0.1 m) and 0.5 m depth, or to suit the soil horizons encountered during drilling. The borehole locations were positioned in a broad gird pattern across the site and are considered to provide general site coverage. No boreholes were drilled within the land occupied by the business selling bricks, roof tiles and pavers, located in the south western corner of the site.

Environmental sampling was performed according to the standard operating procedures outlined in the DP Field Procedures Manual. The general sampling procedure comprised:

- Collection of soil samples off the auger using disposable nitrile gloves (a new pair of gloves were used for each sample);
- Labelling laboratory prepared glass jar sample containers with individual and unique identification including project number, sampling date, borehole number and sample number;
- Placing samples into prepared glass jars and then into a cooled, insulated and sealed container;
- Decontaminating all sampling equipment using a 3% solution of phosphate free detergent and then rinsing with potable water prior to collection of each sample; and
- Transportation of samples to the testing laboratory under chain of custody documentation.

6.2 2019 Sampling

Further field work was conducted on 7 January 2019 and comprised collection of soil samples from eight of the 25 previously set out borehole locations – B3-A, B6-A, B9-A, B12-A, B16-A, B19-A, B21-A, and B23-A. On 6 February 2019, three new locations were also sampled within the parcel of land occupied by the brick and tile shop in the south-western corner of the site. The resampled borehole locations were located approximately by using the previously recorded GPS coordinates, and the new coordinates of each "–A" location as well as the three new boreholes were recorded by GPS with reference to WGS184 horizontal datum and UTM zone 55 map grids. The updated sampling locations are shown in Drawing 1, Appendix B.

Samples were collected via hand auger used by an experienced DP field engineer. At each borehole location, the soil profile was logged and compared to previous records, and samples were collected from surface level and at approximately 0.5 m depths.

Environmental sampling was performed according to the standard operating procedures outlined in the DP Field Procedures Manual. The general sampling procedure is the same as outlined above in Section 6.1.

7. Field Work Results

Detailed descriptions of the ground conditions encountered in the boreholes are presented on the borehole logs in Appendix C. These should be read in conjunction with The Notes Relating to This Report in Appendix A.

The subsurface conditions encountered in the investigation were consistent with the broad geological setting of the area. The subsurface conditions generally comprised a shallow layer of natural silt ranging from 0.02 m to 0.2 m depth, overlying natural high plasticity basalt-derived silty clay. No visual or olfactory evidence of potential contamination, including the presence of imported filling material, staining or odours were observed during the field work. These findings were confirmed with the re-sampled locations. A layer of basalt gravel was present at the brick and tile shop in the south-western corner of the site overlying the same natural soil found elsewhere on site. This gravel is considered to be quarry sourced crushed rock and is not an imported filling material.

8. Site Assessment Criteria

DP compared the soil laboratory results to published ecological, human health, vapour intrusion, and management assessment criteria presented in the *National Environment Protection (Assessment of Site Contamination) Measure 1999* (as amended 2013), referred to as “the NEPM”, (SCEW, 2013), and *Technical Report no. 10, Health screening levels for petroleum hydrocarbons in soil and groundwater* (CRC CARE, 2011). It should be noted that the assessment criteria are not ‘clean-up’ criteria, are used as a ‘first-pass’ assessment of risk, and as such are conservative values.

DP adopted ecological and health assessment criteria specific to soil conditions, depth and the proposed low-density residential land-use. Details of the adopted assessment criteria are presented below.

8.1 Ecological Assessment Criteria

Site specific Ecological Investigation Levels (EILs) and Ecological Screening Levels (ESLs) for a low density residential land-use setting were used to evaluate potential risks to ecosystems and were calculated as follows:

- EILs for arsenic, DDT, naphthalene, lead, copper, nickel, chromium (III), and zinc were calculated using the NEPM toolbox (http://www.nepc.gov.au/nepms/assessment-site-contamination/toolbox). The state of Victoria and a low traffic volume were adopted, as well as a clay content of 10% (based on the silt samples, which made up the majority of the tested samples and provided a more conservative value than using higher clay content percentages). The mean average of two pH results (6.9 pH units) from natural soils at the site and the average of the three closest surface CEC values recorded in soil from the Victorian background Soil Database V1.0.0 (15.0 cmolc/kg dwt) were also applied to the toolbox to generate the EILs. As the site area was not being actively used at the time of the assessment the criteria for aged contamination was adopted. The toolbox EIL outputs are presented in Appendix E.
- EILs for cadmium, manganese and mercury were sourced from Olszowy et al. (1995), referenced in section 2.5.7 of Schedule B1 - Guideline on Investigation Levels for Soil and Groundwater, of the National Environmental Protection Measure (NEPM) for Assessment of Site Contamination, December 1999 (amendment 2013); and
- ESLs for selected hydrocarbons were taken directly from Table 1B(6) of the NEPM.

The adopted EILs are presented in Table E1, Appendix E.

8.2 Human Health Assessment Criteria

To assess the risk to Human Health, DP adopted generic Health Investigation Levels (HILs) from Table 1A(1) of Schedule B1 of the NEPM, and Health Screening Levels (HSLs) for direct contact were adopted from Table A4 of CRC CARE's Technical Report No.10.

To assess the risk of vapour intrusion, DP adopted HSLs from Table 1A(3) of Schedule B1 of the NEPM.

Management limits were used to evaluate the likelihood of formation of observable light non-aqueous phase liquids (LNAPL), fire and explosive hazards, and effects on buried infrastructure and were adopted from Table 1B(7) of Schedule B1 of the NEPM.

8.3 Waste Categorisation

If soil is to be removed from a site it should be categorised as waste material in accordance with the current EPA guidelines outlined in the EPA June 2009 Publication IWRG621, Soil Hazard Categorisation and Management, which is the current industry standard used to assess soil prior to offsite disposal. Under the guidelines, soil can be classified into one of four categories based on its relative hazard.

From least to most contaminated, the categories are:

- Fill Material
- Category C Contaminated Soil
- Category B Contaminated Soil
- Category A Contaminated Soil.

8.3.1 Fill Material

This classification consists of soil (being clay, silt and sand), gravel and rock, all being naturally occurring materials. The total contaminant concentration must be below the total concentration TCO specified in Table 2 of EPA Publication IWRG621 otherwise the material must be classified as a prescribed waste (Contaminated soil).

Soil may contain naturally elevated levels of metals, such as arsenic, or other constituents. Where it can be demonstrated that the constituents of concern are naturally elevated, EPA does not consider these soils to be 'contaminated'. However, the deposit of Fill Material with naturally elevated constituents must still be managed to ensure that it will not adversely affect human health and the environment.

EPA has no restriction on where Fill Material may be disposed although councils may have other requirements. The deposit of Fill Material must not result in any off-site impact on surface or groundwaters. The industry refers to Fill Material as "clean fill". Fill material may contain contaminants above background levels and may not be suitable for all uses.

8.3.2 Category C Contaminated Soil

Soil with total contaminant concentrations above the Fill Material upper limits specified in Table 2 of EPA Publication IWRG621, but not exceeding both the total contaminant TC1 and leachable concentration level ASLP1 specified in Table 2 of EPA Publication IWRG621. Category C contaminated soil can only be disposed off-site to select landfills licensed by EPA to accept Category C contaminated soil. Vehicles transporting Category C contaminated soil must have a current EPA Waste Transport Permit and an EPA Waste Transport Certificate must be completed for soil tracking purposes. All loads should be covered to prevent wind-blown loss. Leaks or spills of contaminated material to the environment must be prevented.

8.3.3 Category B Contaminated Soil

Soil with total contaminant concentrations and/or leachable concentrations above the Category C upper limits specified in Table 2 of EPA Publication IWRG621, but not exceeding both the total contaminant TC2 and leachable concentration level ASLP2 specified in Table 2 of EPA Publication IWRG621. Category B contaminated soil can only be disposed off-site to select landfills licensed by EPA to accept Category B contaminated soil. There is currently only one landfill facility in Victoria licensed to accept Category B contaminated soil, SUEZ Aust Limited at Lyndhurst.

Vehicles transporting Category B contaminated soil must also have a current EPA Waste Transport Permit and a waste transport certificate for soil tracking purposes. All loads should be covered to prevent wind-blown loss. Leaks or spills of contaminated material to the environment must be prevented.

8.3.4 Category A Contaminated Soil

Soils with any contaminant concentration or leachable concentration above the highest value specified in EPA Publication IWRG621 are classified as Category A Contaminated Soils. Category A contaminated soil cannot be disposed off-site to landfill without prior treatment. Commonly these soils are transported to a licensed facility for treatment prior to land filling.

9. Laboratory Testing

9.1 Laboratory Analysis Program

The January 2019 sampling consisted of:
Two samples were tested for a broad range of analytes known as an EPA screen (comprising metals (arsenic, cadmium, chromium (VI), copper, lead, mercury, molybdenum, nickel, tin, selenium, silver and zinc), total cyanide, total fluoride, speciated phenols (halogenated and non-halogenated), monocyclic aromatic hydrocarbons, (including benzene, toluene, ethyl benzene and xylenes known as BTEX), polycyclic aromatic hydrocarbons (PAH), total recoverable hydrocarbons (TRH), polychlorinated biphenyls (PCB), chlorinated hydrocarbons (volatile and semi-volatile) and organochlorine pesticides (OCP)).

In addition, eight samples were tested for OCPs and metals as in the EPA screen (with total chromium instead of chromium VI). For quality control purposes, one intra-laboratory replicate soil sample was taken and tested for metals as above.

The additional sampling of the brick and tile business in the south-western corner of the site consisted of one sample being tested for an EPA screen, and two samples for metals, TRH and PAH.

9.2 Laboratory Analysis Results

All laboratory results from the sampling undertaken in both 2010 and 2019 were below all adopted ecological and human health criteria. Preliminary waste soil categorisation based on comparing the laboratory results to EPA publication IWRG621, would likely indicate that the soil would be categorised as clean Fill Material, however, one sample taken in the brick shop area exceeded both the pH and nickel concentration limits for Fill Material. This was most likely attributable to naturally elevated levels of nickel and alkaline pH of the basalt gravel in this location, and not indicative of contamination.

All results and criteria are tabulated in Tables E1 and E2 in Appendix E.

10. Quality Assurance/Quality Control

In the current updated testing, one intra-laboratory replicate soil sample was taken and tested for metals: B6-A-DUP, which was a duplicate of soil sample B6-A-2. To measure laboratory precision, the relative percent difference (RPD) between the original and duplicate sample was calculated as shown in equation (1) below. The RPD has a value between 0% and 200%, and DP generally adopts a criterion of between 0% and 50% as acceptable, depending on the contaminant.

$$\%RPD = \frac{|C_{original} - C_{duplicate}|}{Average(C_{original}, C_{duplicate})} \times 100 \qquad (1)$$

If the RPD is above 50% but the results of analysis are less than 10 times the laboratory reporting limit, they are also considered acceptable.

All RPD values calculated for the sample pair tested were below 50%, with the highest RPD value calculated to be 18%. Therefore, this was considered acceptable.

One more intra-laboratory duplicate sample and one inter-laboratory duplicate sample were also tested during the initial testing phase in 2010 – DUP1 and DUP2 respectively, which were both duplicate samples of B15-1. DUP1 had a largest RPD of 27%, under the 50% criterion, and the highest recorded RPD for DUP2 was 53%, which is above the 50% criterion but the analysis results were also less than ten times the laboratory reporting limit. Therefore, all of the reported RPD results are considered to be acceptable. The calculated RPD results are presented in Table E3, Appendix E.

11. Conclusions and Recommendations

Based upon the available site history data, the potential for gross contamination at the site is considered to be low, which is supported by the findings of both the initial testing and report completed in 2010, and the updated sampling completed in 2019. No sources of contamination were identified in the investigation, and all soil samples tested did not report any contaminants in concentrations above the adopted site use criteria.

Preliminary waste soil categorisation conducted on the soil samples with respect to EPA Publication IWRG621 reported concentrations of all analytes for all samples tested to be below the Fill Material upper limits, with one exception. One sample in the south-western corner of the site was determined to have both a pH and nickel concentration above the Fill Material limit; however this is considered to a result of the natural concentrations present within basaltic gravel observed at the location. Therefore, if this soil were to be removed off-site, it would likely be categorised as clean Fill Material based upon these results, however, additional testing may be required depending on the volume of soil to be removed.

The DSE practice note provides guidance to planners and applicants on the level of environmental site assessment required for a planning scheme amendment or planning permit application. The practice note provides an assessment matrix for the level of assessment required taking into consideration the proposed land use and the potential for contamination based upon the current or previous land use. The assessment matrix indicates that for a site with a low potential for contamination that is proposed to be used for residential purposes, General Duty under Section 12(2)(b) and Section 60(1)(a)(iii) of the Planning and Environment Act 1987 is required. An environmental audit is only required if the potential for contamination is high, and a detailed site investigation is recommended for a medium potential for contamination if insufficient information is available to determine if an audit is appropriate.

As the site is considered to have a low potential for contamination based upon this PSI, it is considered that no further investigation is necessary to satisfy the Planning and Environment Act and general Practice Note.

Ministerial Direction No.1 Potentially Contaminated Land requires a planning authority to satisfy itself that the environmental conditions of potentially contaminated land are or will be suitable for a sensitive land use (such as residential use) by way of the environmental audit process. However, in accordance with the Direction, potentially contaminated land is defined as land used or known to have been used for industry, mining or the storage of chemicals, gas, wastes or liquid fuel. This site is not considered to represent potentially contaminated land in accordance with Ministerial Direction No.1 and hence the requirement to implement the environmental audit process should not apply.

In addition, the DSE practice note indicates that a planning authority should remove an EAO if it determines that the land is not potentially contaminated. Based upon the results of this investigation, it is considered appropriate that the EAO be removed (or not applied to the site as part of a future planning scheme amendment). However, the EAO should be retained for the land to the north of the site (Lot A on Plan of Subdivision PS817647S) subject to further assessment.

It should be noted that the scope of work for this assessment comprised a preliminary site investigation in general accordance with Section 3 of Australian Standard AS 4482.1-2005 Guide to the investigation and sampling of sites with potentially contaminated land and does not constitute a detailed site investigation as defined by Australian Standard AS 4482.1-2005. The objective of the preliminary site investigation is to determine whether there has been potentially contaminating land use and to conduct limited sampling and laboratory analysis to produce evidence through an investigation to indicate whether a site is potentially contaminated and to determine whether a detailed site investigation should be conducted. Based upon the available site history data, and the results of the sampling and laboratory analysis conducted, a detailed site investigation is not considered to be necessary.

12. References

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- Douglas Partners Pty Ltd (2010), *42662.00 Report on Environmental Site Assessment,* 18 February 2010.
- Douglas Partners Pty Ltd: "*Field Procedures Manual*" and "*Project Management Manual*", which form part of the Company Quality System (accredited to AS/NZS ISO 9001:2015).
- DSE (2005), *Potentially Contaminated Land, General Practice Note, June 2005*, Department of Sustainability and the Environment, Canberra, Australia
- EPA Victoria (2009a), *Soil Hazard Categorisation and Management*, Publication IWRG621, June 2009, Environment Protection Authority Victoria, Melbourne, Australia
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- SCEW (2013), *National Environment Protection (Assessment of Site Contamination) Measure 1999* (as amended 2013) [ASC NEPM], Standing Council on Environment and Water (SCEW), incorporating the National Environment Protection Council (NEPC).
- Standards Australia (2005), Guide to the sampling and investigation of sites with potentially contaminated soil. Part 1: Non-volatile and semi-volatile compounds AS4482.1-2005, 2 November 2005, Standards Australia.
- Mikkonen, H.G., Bentley, P.D., Barker, A.O., Dasika, R., Wallis, C.J., Clarke, B.O., Reichman, S.M., 2018. Victorian Background Soil Database, Version 1.0. RMIT University, Melbourne, Australia. http://doi.org/10.4225/61/5a3ae6d48570c.

13. Limitations

Douglas Partners (DP) has prepared this report for this project at 250 Taylors Road, Delahey in accordance with DP's proposal dated 20 December 2018 and acceptance received from Joss Engebretsen dated 21 December 2018. The work was carried out under DP's Conditions of Engagement. This report is provided for the exclusive use of Broadcast Australia Pty Ltd for this project only and for the purposes as described in the report. It should not be used by or relied upon for other projects or purposes on the same or other site or by a third party. Any party so relying upon this report beyond its exclusive use and purpose as stated above, and without the express written consent of DP, does so entirely at its own risk and without recourse to DP for any loss or damage. In preparing this report DP has necessarily relied upon information provided by the client and/or their agents.

The results provided in the report are indicative of the sub-surface conditions on the site only at the specific sampling and/or testing locations, and then only to the depths investigated and at the time the work was carried out. Sub-surface conditions can change abruptly due to variable geological processes and also as a result of human influences. Such changes may occur after DP's field testing has been completed.

DP's advice is based upon the conditions encountered during this investigation. The accuracy of the advice provided by DP in this report may be affected by undetected variations in ground conditions across the site between and beyond the sampling and/or testing locations. The advice may also be limited by budget constraints imposed by others or by site accessibility.

This report must be read in conjunction with all of the attached and should be kept in its entirety without separation of individual pages or sections. DP cannot be held responsible for interpretations or conclusions made by others unless they are supported by an expressed statement, interpretation, outcome or conclusion stated in this report.

This report, or sections from this report, should not be used as part of a specification for a project, without review and agreement by DP. This is because this report has been written as advice and opinion rather than instructions for construction.

The contents of this report do not constitute formal design components such as are required, by the Health and Safety Legislation and Regulations, to be included in a Safety Report specifying the hazards likely to be encountered during construction and the controls required to mitigate risk. This design process requires risk assessment to be undertaken, with such assessment being dependent upon factors relating to likelihood of occurrence and consequences of damage to property and to life. This, in turn, requires project data and analysis presently beyond the knowledge and project role respectively of DP. DP may be able, however, to assist the client in carrying out a risk assessment of potential hazards contained in the Comments section of this report, as an extension to the current scope of works, if so requested, and provided that suitable additional information is made available to DP. Any such risk assessment would, however, be necessarily restricted to the environmental components set out in this report and to their application by the project designers to project design, construction, maintenance and demolition.

Douglas Partners Pty Ltd

Appendix A

About This Report

About this Report

Douglas Partners

Introduction

These notes have been provided to amplify DP's report in regard to classification methods, field procedures and the comments section. Not all are necessarily relevant to all reports.

DP's reports are based on information gained from limited subsurface excavations and sampling, supplemented by knowledge of local geology and experience. For this reason, they must be regarded as interpretive rather than factual documents, limited to some extent by the scope of information on which they rely.

Copyright

Borehole and Test Pit Logs

The borehole and test pit logs presented in this report are an engineering and/or geological interpretation of the subsurface conditions, and their reliability will depend to some extent on frequency of sampling and the method of drilling or excavation. Ideally, continuous undisturbed sampling or core drilling will provide the most reliable assessment, but this is not always practicable or possible to justify on economic grounds. In any case the boreholes and test pits represent only a very small sample of the total subsurface profile.

Interpretation of the information and its application to design and construction should therefore take into account the spacing of boreholes or pits, the frequency of sampling, and the possibility of other than 'straight line' variations between the test locations.

Groundwater

Where groundwater levels are measured in boreholes there are several potential problems, namely:

- In low permeability soils groundwater may enter the hole very slowly or perhaps not at all during the time the hole is left open;
- A localised, perched water table may lead to an erroneous indication of the true water table;
- Water table levels will vary from time to time with seasons or recent weather changes. They may not be the same at the time of construction as are indicated in the report; and
- The use of water or mud as a drilling fluid will mask any groundwater inflow. Water has to be blown out of the hole and drilling mud must first be washed out of the hole if water measurements are to be made.

More reliable measurements can be made by installing standpipes which are read at intervals over several days, or perhaps weeks for low permeability soils. Piezometers, sealed in a particular stratum, may be advisable in low permeability soils or where there may be interference from a perched water table.

Reports

The report has been prepared by qualified personnel, is based on the information obtained from field and laboratory testing, and has been undertaken to current engineering standards of interpretation and analysis. Where the report has been prepared for a specific design proposal, the information and interpretation may not be relevant if the design proposal is changed. If this happens, DP will be pleased to review the report and the sufficiency of the investigation work.

Every care is taken with the report as it relates to interpretation of subsurface conditions, discussion of geotechnical and environmental aspects, and recommendations or suggestions for design and construction. However, DP cannot always anticipate or assume responsibility for:

- Unexpected variations in ground conditions. The potential for this will depend partly on borehole or pit spacing and sampling frequency;
- Changes in policy or interpretations of policy by statutory authorities; or
- The actions of contractors responding to commercial pressures.

If these occur, DP will be pleased to assist with investigations or advice to resolve the matter.

About this Report

Site Anomalies

In the event that conditions encountered on site during construction appear to vary from those which were expected from the information contained in the report, DP requests that it be immediately notified. Most problems are much more readily resolved when conditions are exposed rather than at some later stage, well after the event.

Information for Contractual Purposes

Where information obtained from this report is provided for tendering purposes, it is recommended that all information, including the written report and discussion, be made available. In circumstances where the discussion or comments section is not relevant to the contractual situation, it may be appropriate to prepare a specially edited document. DP would be pleased to assist in this regard and/or to make additional report copies available for contract purposes at a nominal charge.

Site Inspection

The company will always be pleased to provide engineering inspection services for geotechnical and environmental aspects of work to which this report is related. This could range from a site visit to confirm that conditions exposed are as expected, to full time engineering presence on site.

Sampling

Sampling is carried out during drilling or test pitting to allow engineering examination (and laboratory testing where required) of the soil or rock.

Disturbed samples taken during drilling provide information on colour, type, inclusions and, depending upon the degree of disturbance, some information on strength and structure.

Undisturbed samples are taken by pushing a thin-walled sample tube into the soil and withdrawing it to obtain a sample of the soil in a relatively undisturbed state. Such samples yield information on structure and strength, and are necessary for laboratory determination of shear strength and compressibility. Undisturbed sampling is generally effective only in cohesive soils.

Test Pits

Test pits are usually excavated with a backhoe or an excavator, allowing close examination of the in-situ soil if it is safe to enter into the pit. The depth of excavation is limited to about 3 m for a backhoe and up to 6 m for a large excavator. A potential disadvantage of this investigation method is the larger area of disturbance to the site.

Large Diameter Augers

Boreholes can be drilled using a rotating plate or short spiral auger, generally 300 mm or larger in diameter commonly mounted on a standard piling rig. The cuttings are returned to the surface at intervals (generally not more than 0.5 m) and are disturbed but usually unchanged in moisture content. Identification of soil strata is generally much more reliable than with continuous spiral flight augers, and is usually supplemented by occasional undisturbed tube samples.

Continuous Spiral Flight Augers

The borehole is advanced using 90-115 mm diameter continuous spiral flight augers which are withdrawn at intervals to allow sampling or in-situ testing. This is a relatively economical means of drilling in clays and sands above the water table. Samples are returned to the surface, or may be collected after withdrawal of the auger flights, but they are disturbed and may be mixed with soils from the sides of the hole. Information from the drilling (as distinct from specific sampling by SPTs or undisturbed samples) is of relatively low reliability, due to the remoulding, possible mixing or softening of samples by groundwater.

Non-core Rotary Drilling

The borehole is advanced using a rotary bit, with water or drilling mud being pumped down the drill rods and returned up the annulus, carrying the drill cuttings. Only major changes in stratification can be determined from the cuttings, together with some information from the rate of penetration. Where drilling mud is used this can mask the cuttings and reliable identification is only possible from separate sampling such as SPTs.

Continuous Core Drilling

A continuous core sample can be obtained using a diamond tipped core barrel, usually with a 50 mm internal diameter. Provided full core recovery is achieved (which is not always possible in weak rocks and granular soils), this technique provides a very reliable method of investigation.

Standard Penetration Tests

Standard penetration tests (SPT) are used as a means of estimating the density or strength of soils and also of obtaining a relatively undisturbed sample. The test procedure is described in Australian Standard 1289, Methods of Testing Soils for Engineering Purposes - Test 6.3.1.

The test is carried out in a borehole by driving a 50 mm diameter split sample tube under the impact of a 63 kg hammer with a free fall of 760 mm. It is normal for the tube to be driven in three successive 150 mm increments and the 'N' value is taken as the number of blows for the last 300 mm. In dense sands, very hard clays or weak rock, the full 450 mm penetration may not be practicable and the test is discontinued.

The test results are reported in the following form.

- In the case where full penetration is obtained with successive blow counts for each 150 mm of, say, 4, 6 and 7 as:

  4,6,7
  N=13

- In the case where the test is discontinued before the full penetration depth, say after 15 blows for the first 150 mm and 30 blows for the next 40 mm as:

  15, 30/40 mm

The results of the SPT tests can be related empirically to the engineering properties of the soils.

Dynamic Cone Penetrometer Tests / Perth Sand Penetrometer Tests

Dynamic penetrometer tests (DCP or PSP) are carried out by driving a steel rod into the ground using a standard weight of hammer falling a specified distance. As the rod penetrates the soil the number of blows required to penetrate each successive 150 mm depth are recorded. Normally there is a depth limitation of 1.2 m, but this may be extended in certain conditions by the use of extension rods. Two types of penetrometer are commonly used.

- Perth sand penetrometer - a 16 mm diameter flat ended rod is driven using a 9 kg hammer dropping 600 mm (AS 1289, Test 6.3.3). This test was developed for testing the density of sands and is mainly used in granular soils and filling.
- Cone penetrometer - a 16 mm diameter rod with a 20 mm diameter cone end is driven using a 9 kg hammer dropping 510 mm (AS 1289, Test 6.3.2). This test was developed initially for pavement subgrade investigations, and correlations of the test results with California Bearing Ratio have been published by various road authorities.

Soil Descriptions

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Description and Classification Methods

The methods of description and classification of soils and rocks used in this report are based on Australian Standard AS 1726-1993, Geotechnical Site Investigations Code. In general, the descriptions include strength or density, colour, structure, soil or rock type and inclusions.

Soil Types

Soil types are described according to the predominant particle size, qualified by the grading of other particles present:

Type	Particle size (mm)
Boulder	>200
Cobble	63 - 200
Gravel	2.36 - 63
Sand	0.075 - 2.36
Silt	0.002 - 0.075
Clay	<0.002

The sand and gravel sizes can be further subdivided as follows:

Type	Particle size (mm)
Coarse gravel	20 - 63
Medium gravel	6 - 20
Fine gravel	2.36 - 6
Coarse sand	0.6 - 2.36
Medium sand	0.2 - 0.6
Fine sand	0.075 - 0.2

The proportions of secondary constituents of soils are described as:

Term	Proportion	Example
And	Specify	Clay (60%) and Sand (40%)
Adjective	20 - 35%	Sandy Clay
Slightly	12 - 20%	Slightly Sandy Clay
With some	5 - 12%	Clay with some sand
With a trace of	0 - 5%	Clay with a trace of sand

Definitions of grading terms used are:

- Well graded - a good representation of all particle sizes
- Poorly graded - an excess or deficiency of particular sizes within the specified range
- Uniformly graded - an excess of a particular particle size
- Gap graded - a deficiency of a particular particle size with the range

Cohesive Soils

Cohesive soils, such as clays, are classified on the basis of undrained shear strength. The strength may be measured by laboratory testing, or estimated by field tests or engineering examination. The strength terms are defined as follows:

Description	Abbreviation	Undrained shear strength (kPa)
Very soft	vs	<12
Soft	s	12 - 25
Firm	f	25 - 50
Stiff	st	50 - 100
Very stiff	vst	100 - 200
Hard	h	>200

Cohesionless Soils

Cohesionless soils, such as clean sands, are classified on the basis of relative density, generally from the results of standard penetration tests (SPT), cone penetration tests (CPT) or dynamic penetrometers (PSP). The relative density terms are given below:

Relative Density	Abbreviation	SPT N value	CPT qc value (MPa)
Very loose	vl	<4	<2
Loose	l	4 - 10	2 -5
Medium dense	md	10 - 30	5 - 15
Dense	d	30 - 50	15 - 25
Very dense	vd	>50	>25

Soil Descriptions

Soil Origin

It is often difficult to accurately determine the origin of a soil. Soils can generally be classified as:

- Residual soil - derived from in-situ weathering of the underlying rock;
- Transported soils - formed somewhere else and transported by nature to the site; or
- Filling - moved by man.

Transported soils may be further subdivided into:

- Alluvium - river deposits
- Lacustrine - lake deposits
- Aeolian - wind deposits
- Littoral - beach deposits
- Estuarine - tidal river deposits
- Talus - scree or coarse colluvium
- Slopewash or Colluvium - transported downslope by gravity assisted by water. Often includes angular rock fragments and boulders.

Rock Strength

Rock strength is defined by the Point Load Strength Index ($Is_{(50)}$) and refers to the strength of the rock substance and not the strength of the overall rock mass, which may be considerably weaker due to defects. The test procedure is described by Australian Standard 4133.4.1 - 2007. The terms used to describe rock strength are as follows:

Term	Abbreviation	Point Load Index $Is_{(50)}$ MPa	Approximate Unconfined Compressive Strength MPa*
Extremely low	EL	<0.03	<0.6
Very low	VL	0.03 - 0.1	0.6 - 2
Low	L	0.1 - 0.3	2 - 6
Medium	M	0.3 - 1.0	6 - 20
High	H	1 - 3	20 - 60
Very high	VH	3 - 10	60 - 200
Extremely high	EH	>10	>200

* Assumes a ratio of 20:1 for UCS to $Is_{(50)}$. It should be noted that the UCS to $Is_{(50)}$ ratio varies significantly for different rock types and specific ratios should be determined for each site.

Degree of Weathering

The degree of weathering of rock is classified as follows:

Term	Abbreviation	Description
Extremely weathered	EW	Rock substance has soil properties, i.e. it can be remoulded and classified as a soil but the texture of the original rock is still evident.
Highly weathered	HW	Limonite staining or bleaching affects whole of rock substance and other signs of decomposition are evident. Porosity and strength may be altered as a result of iron leaching or deposition. Colour and strength of original fresh rock is not recognisable
Moderately weathered	MW	Staining and discolouration of rock substance has taken place
Slightly weathered	SW	Rock substance is slightly discoloured but shows little or no change of strength from fresh rock
Fresh stained	Fs	Rock substance unaffected by weathering but staining visible along defects
Fresh	Fr	No signs of decomposition or staining

Degree of Fracturing

The following classification applies to the spacing of natural fractures in diamond drill cores. It includes bedding plane partings, joints and other defects, but excludes drilling breaks.

Term	Description
Fragmented	Fragments of <20 mm
Highly Fractured	Core lengths of 20-40 mm with some fragments
Fractured	Core lengths of 40-200 mm with some shorter and longer sections
Slightly Fractured	Core lengths of 200-1000 mm with some shorter and longer sections
Unbroken	Core lengths mostly > 1000 mm

Rock Descriptions

Rock Quality Designation

The quality of the cored rock can be measured using the Rock Quality Designation (RQD) index, defined as:

$$\text{RQD \%} = \frac{\text{cumulative length of 'sound' core sections} \geq 100 \text{ mm long}}{\text{total drilled length of section being assessed}}$$

where 'sound' rock is assessed to be rock of low strength or better. The RQD applies only to natural fractures. If the core is broken by drilling or handling (i.e. drilling breaks) then the broken pieces are fitted back together and are not included in the calculation of RQD.

Stratification Spacing

For sedimentary rocks the following terms may be used to describe the spacing of bedding partings:

Term	Separation of Stratification Planes
Thinly laminated	< 6 mm
Laminated	6 mm to 20 mm
Very thinly bedded	20 mm to 60 mm
Thinly bedded	60 mm to 0.2 m
Medium bedded	0.2 m to 0.6 m
Thickly bedded	0.6 m to 2 m
Very thickly bedded	> 2 m

Symbols & Abbreviations

Douglas Partners

Introduction

These notes summarise abbreviations commonly used on borehole logs and test pit reports.

Drilling or Excavation Methods

C	Core drilling
R	Rotary drilling
SFA	Spiral flight augers
NMLC	Diamond core - 52 mm dia
NQ	Diamond core - 47 mm dia
HQ	Diamond core - 63 mm dia
PQ	Diamond core - 81 mm dia

Water

▷	Water seep
▽	Water level

Sampling and Testing

A	Auger sample
B	Bulk sample
D	Disturbed sample
E	Environmental sample
U_{50}	Undisturbed tube sample (50mm)
W	Water sample
pp	Pocket penetrometer (kPa)
PID	Photo ionisation detector
PL	Point load strength Is(50) MPa
S	Standard Penetration Test
V	Shear vane (kPa)

Description of Defects in Rock

The abbreviated descriptions of the defects should be in the following order: Depth, Type, Orientation, Coating, Shape, Roughness and Other. Drilling and handling breaks are not usually included on the logs.

Defect Type

B	Bedding plane
Cs	Clay seam
Cv	Cleavage
Cz	Crushed zone
Ds	Decomposed seam
F	Fault
J	Joint
Lam	Lamination
Pt	Parting
Sz	Sheared Zone
V	Vein

Orientation

The inclination of defects is always measured from the perpendicular to the core axis.

h	horizontal
v	vertical
sh	sub-horizontal
sv	sub-vertical

Coating or Infilling Term

cln	clean
co	coating
he	healed
inf	infilled
stn	stained
ti	tight
vn	veneer

Coating Descriptor

ca	calcite
cbs	carbonaceous
cly	clay
fe	iron oxide
mn	manganese
slt	silty

Shape

cu	curved
ir	irregular
pl	planar
st	stepped
un	undulating

Roughness

po	polished
ro	rough
sl	slickensided
sm	smooth
vr	very rough

Other

fg	fragmented
bnd	band
qtz	quartz

Symbols & Abbreviations

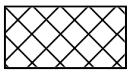
Graphic Symbols for Soil and Rock

General


Asphalt


Road base

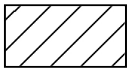

Concrete


Filling

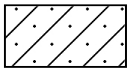
Soils


Topsoil

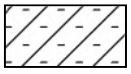

Peat

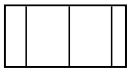

Clay


Silty clay

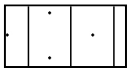

Sandy clay

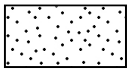

Gravelly clay


Shaly clay

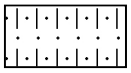

Silt


Clayey silt


Sandy silt


Sand

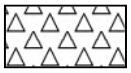

Clayey sand


Silty sand


Gravel


Sandy gravel


Cobbles, boulders

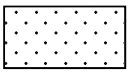

Talus

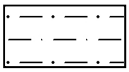
Sedimentary Rocks

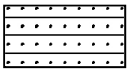

Boulder conglomerate

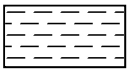

Conglomerate


Conglomeratic sandstone

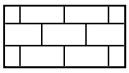

Sandstone


Siltstone

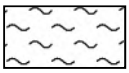

Laminite

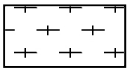

Mudstone, claystone, shale

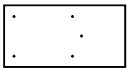

Coal


Limestone

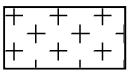
Metamorphic Rocks

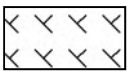

Slate, phyllite, schist

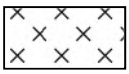

Gneiss

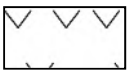

Quartzite

Igneous Rocks


Granite


Dolerite, basalt, andesite

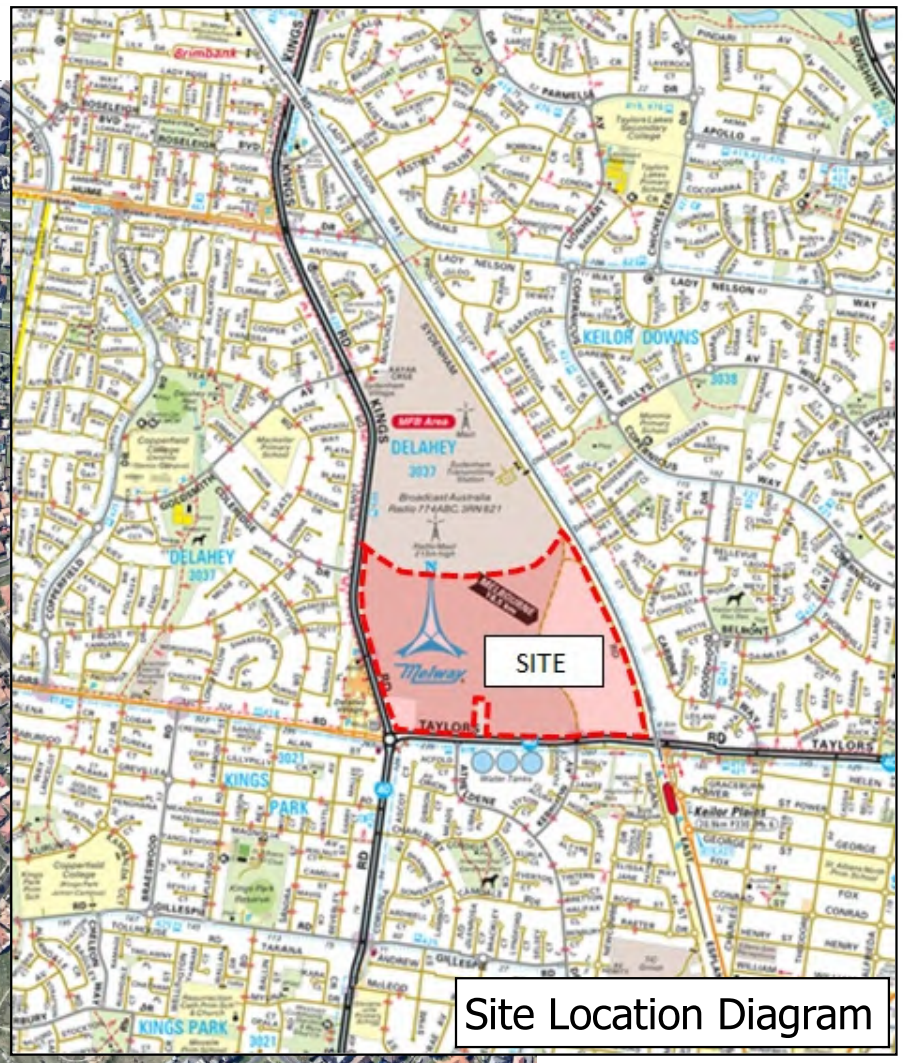

Dacite, epidote


Tuff, breccia


Porphyry

Appendix B

Drawings
Photographs
Planning Property Report
Proposed Plan of Subdivision



Site Location Diagram

Legend

- Re-sampled boreholes
- Previously sampled boreholes
- Additional boreholes
- Site Boundary

100 0 100 200 300 400 m

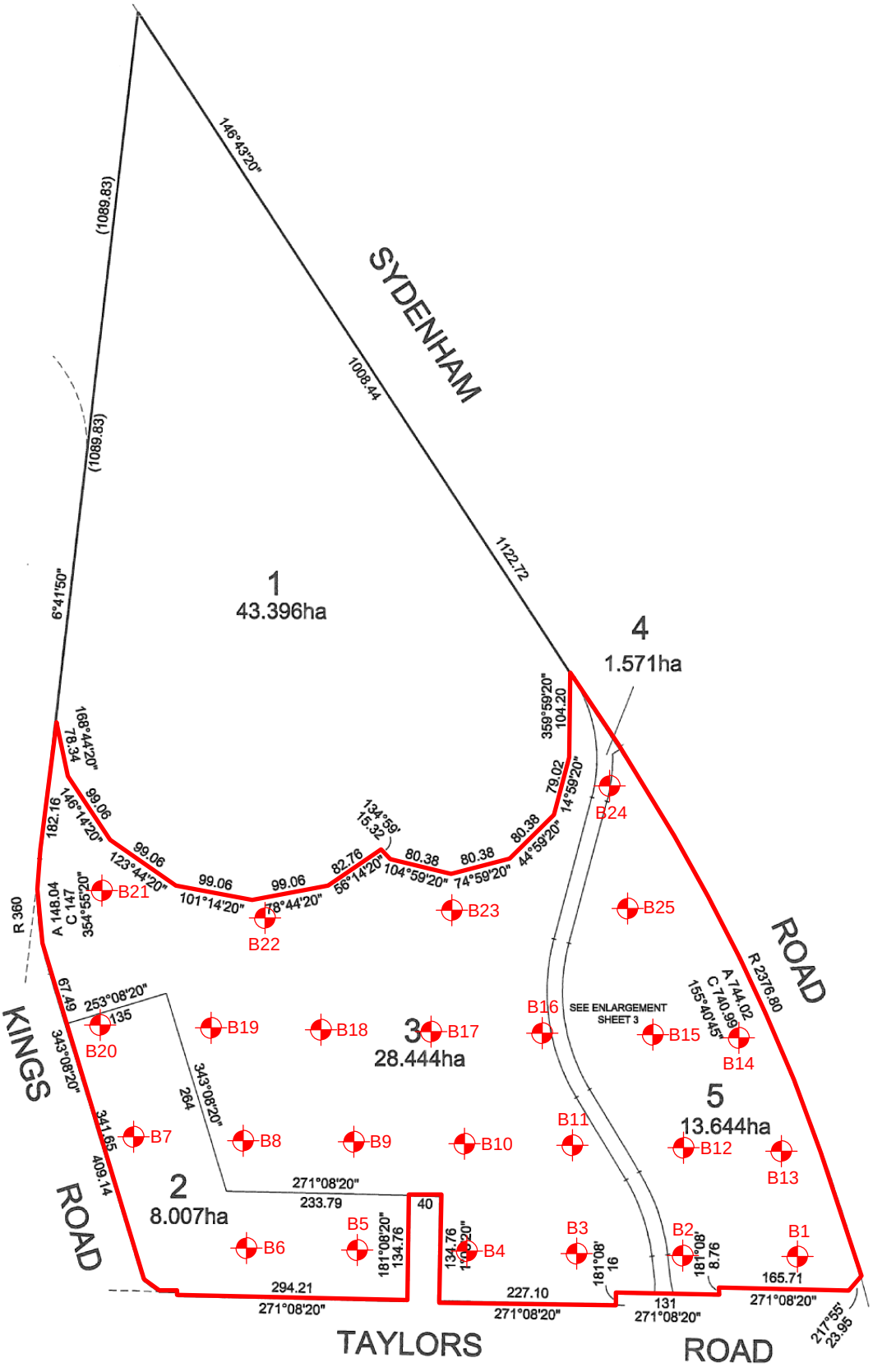
Douglas Partners
Geotechnics | Environment | Groundwater

TITLE: **Borehole Location Plan**
Preliminary Site Investigation Update
250 Taylors Road, Delahey

N

OFFICE: Melbourne
DRAWN BY: MJID
DATE: 6 February 2019

CLIENT: Broadcast Australia Pty Ltd
PROJECT No: 42662.01
DRAWING No: 1
REVISION: 2
SCALE: 1:6,000



LEGEND:

B6 Approximate Borehole Location

Site Boundary (as in 2010, see 2019 for update)

0 100 200 300 400 500

Approximate Scale (m)

Douglas Partners
Geotechnics · Environment · Groundwater

Sydney, Melbourne, Darwin, Brisbane, Perth, Newcastle, Cambelltown, Wyong, Townsville, Cairns

TITLE:

BOREHOLE LOCATION PLAN
ENVIRONMENTAL SITE ASSESSMENT
250 TAYLORS ROAD, DELAHEY

CLIENT: BROADCAST AUSTRALIA PTY LTD			
DRAWN BY: TD	SCALE: AS SHOWN	PROJECT: 42662.00	OFFICE: MELBOURNE
APPROVED BY:		DATE: JANUARY 2010	DRAWING NO: 2

Photo 1 – View of the site looking north west towards the radio masts on land to the north of the site (2010).

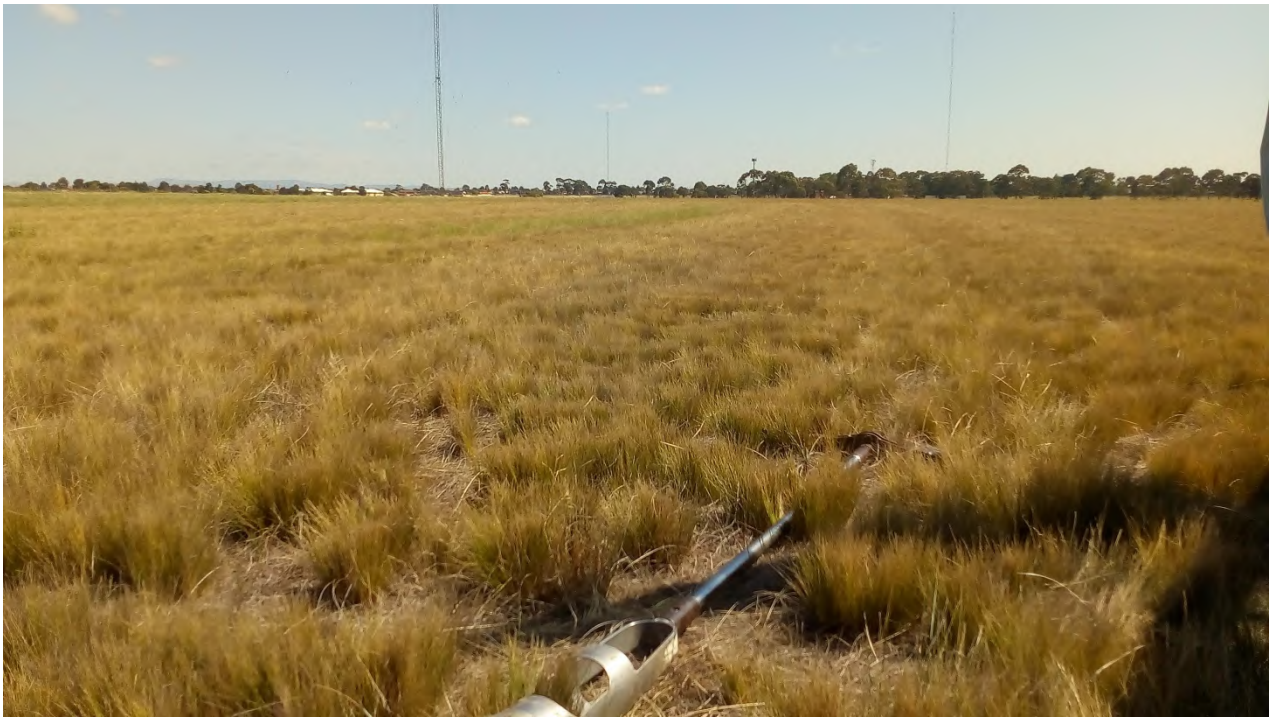


Photo 2 – View of site looking north towards the radio masts on the north of site (2019).

Douglas Partners Geotechnics / Environment / Groundwater	**Site Photographs**	PROJECT: 42662.01
	PSI Update	PLATE No: 1
	250 Taylors Road, Delahey	REV: 0
	CLIENT: Broadcast Australia Pty Ltd	DATE: 9-Jan-19

Photo 3 – View of the site looking east towards the railway line (2010).

Photo 4 – View of the site looking south towards Taylors Road. The business selling bricks, roof tiles and pavers is visible in the south western corner of the site (2010).

Douglas Partners Geotechnics / Environment / Groundwater	**Site Photographs**	PROJECT: 42662.01
	PSI Update	PLATE No: 2
	250 Taylors Road, Delahey	REV: 0
	CLIENT: Broadcast Australia Pty Ltd	DATE: 9-Jan-19

Photo 5 – View of the site looking south towards Taylors road (2019).

Photo 6 – The brick and roof tile business is still present in the south western corner of the site (2019).

Douglas Partners Geotechnics / Environment / Groundwater	**Site Photographs**	PROJECT: 42662.01
	PSI Update	PLATE No: 3
	250 Taylors Road, Delahey	REV: 0
	CLIENT: Broadcast Australia Pty Ltd	DATE: 9-Jan-19

Photo 7 – View of the site looking west towards Kings Road (2010)

Photo 8 – View of the site looking west towards Kings Road (2019)

Douglas Partners Geotechnics / Environment / Groundwater	**Site Photographs**	PROJECT: 42662.01
	PSI Update	PLATE No: 4
	250 Taylors Road, Delahey	REV: 0
	CLIENT: Broadcast Australia Pty Ltd	DATE: 9-Jan-19

Photo 9 – Silt and Clay material observed across site, photo from location B6-A (2019).

Douglas Partners Geotechnics / Environment / Groundwater	**Site Photographs**	PROJECT:	42662.01
	PSI Update	PLATE No:	5
	250 Taylors Road, Delahey	REV:	0
	CLIENT: Broadcast Australia Pty Ltd	DATE:	9-Jan-19

PLANNING PROPERTY REPORT

Environment, Land, Water and Planning

From www.planning.vic.gov.au on 10 January 2019 10:09 AM

PROPERTY DETAILS

Address:	**250 TAYLORS ROAD DELAHEY 3037**
Lot and Plan Number:	**Lot 2 TP12442**
Standard Parcel Identifier (SPI):	**2\TP12442**
Local Government Area (Council):	**BRIMBANK** www.brimbank.vic.gov.au
Council Property Number:	**931303**
Planning Scheme:	**Brimbank** planning-schemes.delwp.vic.gov.au/schemes/brimbank
Directory Reference:	**Melway 13 H6**

UTILITIES

Rural Water Corporation:	**Southern Rural Water**
Melbourne Water Retailer:	**City West Water**
Melbourne Water:	**inside drainage boundary**
Power Distributor:	**POWERCOR**

STATE ELECTORATES

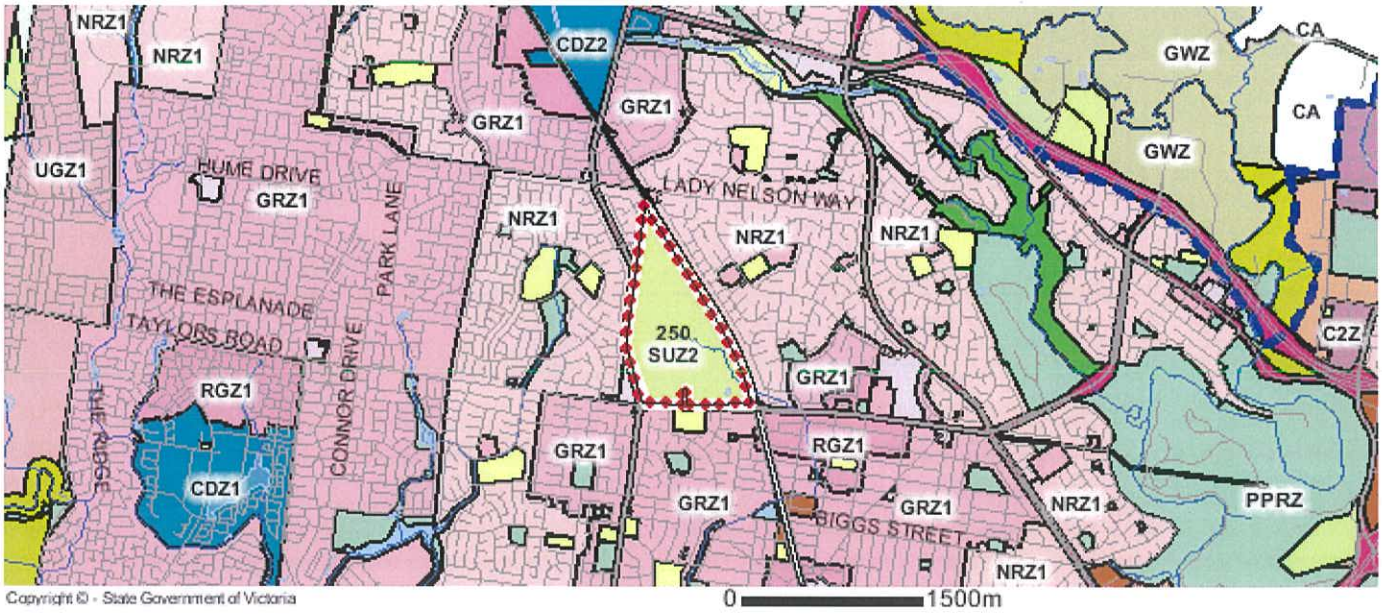
Legislative Council:	**WESTERN METROPOLITAN**
Legislative Assembly:	**SYDENHAM**

Planning Zones

ROAD ZONE - CATEGORY 1 (RDZ1)

SPECIAL USE ZONE (SUZ)

SPECIAL USE ZONE - SCHEDULE 2 (SUZ2)



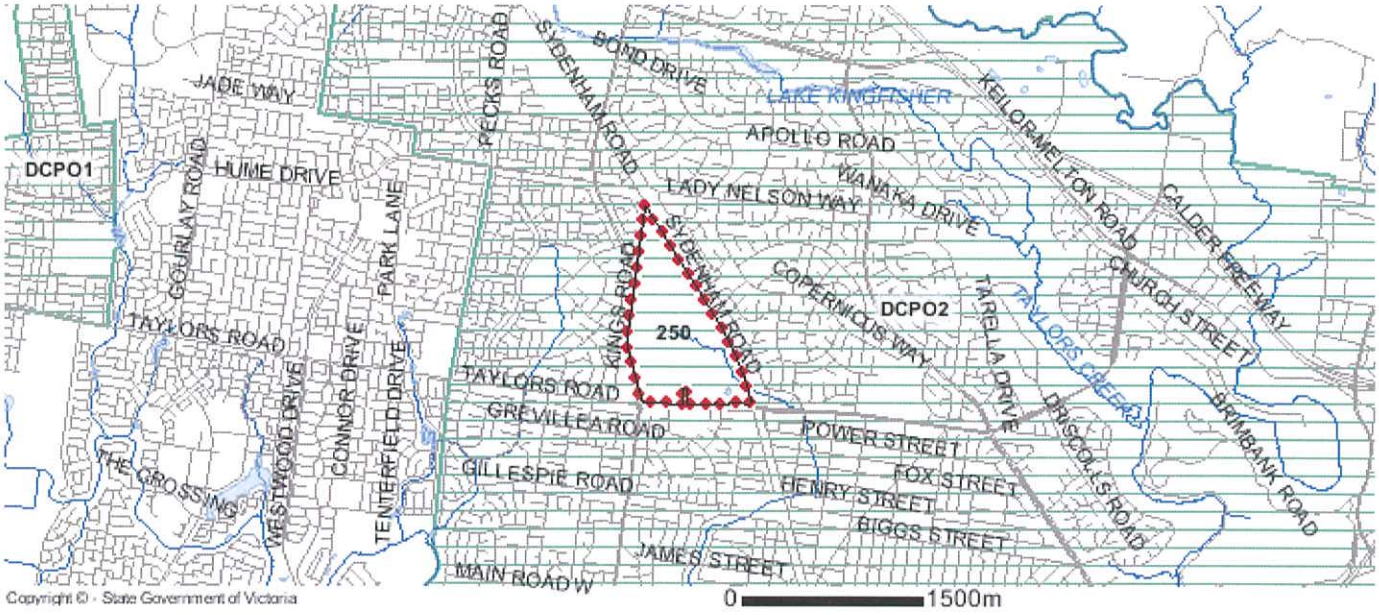
- C1Z - Commercial 1
- C2Z - Commercial 2
- CA - Commonwealth Land (not in scheme)
- CDZ - Comprehensive Development
- FZ - Farming
- GRZ - General Residential
- GWAZ - Green Wedge A
- GWZ - Green Wedge
- IN1Z - Industrial 1
- IN3Z - Industrial 3
- MUZ - Mixed Use
- NRZ - Neighbourhood Residential
- PCRZ - Public Conservation & Resource
- PPRZ - Public Park & Recreation
- PUZ1 - Public Use - Service & Utility
- PUZ2 - Public Use - Education
- PUZ4 - Public Use - Transport
- PUZ5 - Public Use - Cemetery / Crematorium
- PUZ6 - Public Use - Local Government
- PUZ7 - Public Use - Other Public Use
- RCZ - Rural Conservation
- RDZ1 - Road - Category 1
- RGZ - Residential Growth
- SUZ - Special Use
- UFZ - Urban Floodway
- UGZ - Urban Growth

Note: labels for zones may appear outside the actual zone - please compare the labels with the legend.

Planning Overlays

DEVELOPMENT CONTRIBUTIONS PLAN OVERLAY (DCPO)

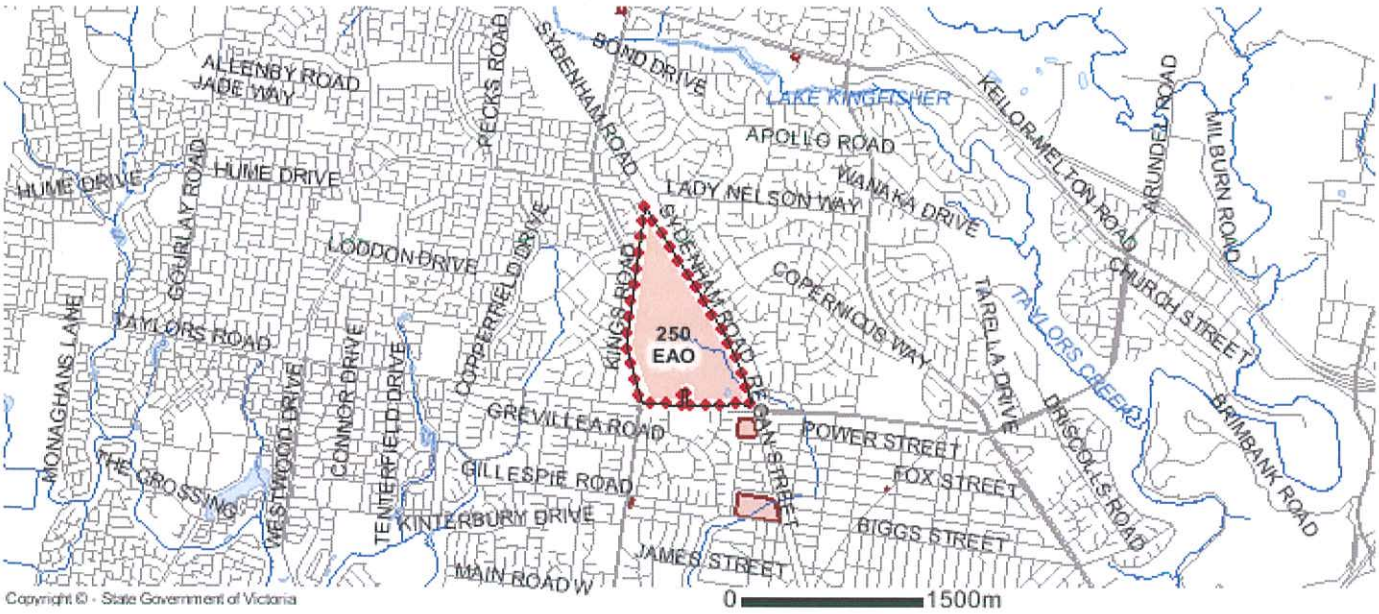
DEVELOPMENT CONTRIBUTIONS PLAN OVERLAY - SCHEDULE 2 (DCPO2)



DCPO - Development Contributions Plan

Note: due to overlaps, some overlays may not be visible, and some colours may not match those in the legend.

ENVIRONMENTAL AUDIT OVERLAY (EAO)



EAO - Environmental Audit

Note: due to overlaps, some overlays may not be visible, and some colours may not match those in the legend.

Planning Overlays

ENVIRONMENTAL SIGNIFICANCE OVERLAY (ESO)

ENVIRONMENTAL SIGNIFICANCE OVERLAY - SCHEDULE 1 (ESO1)

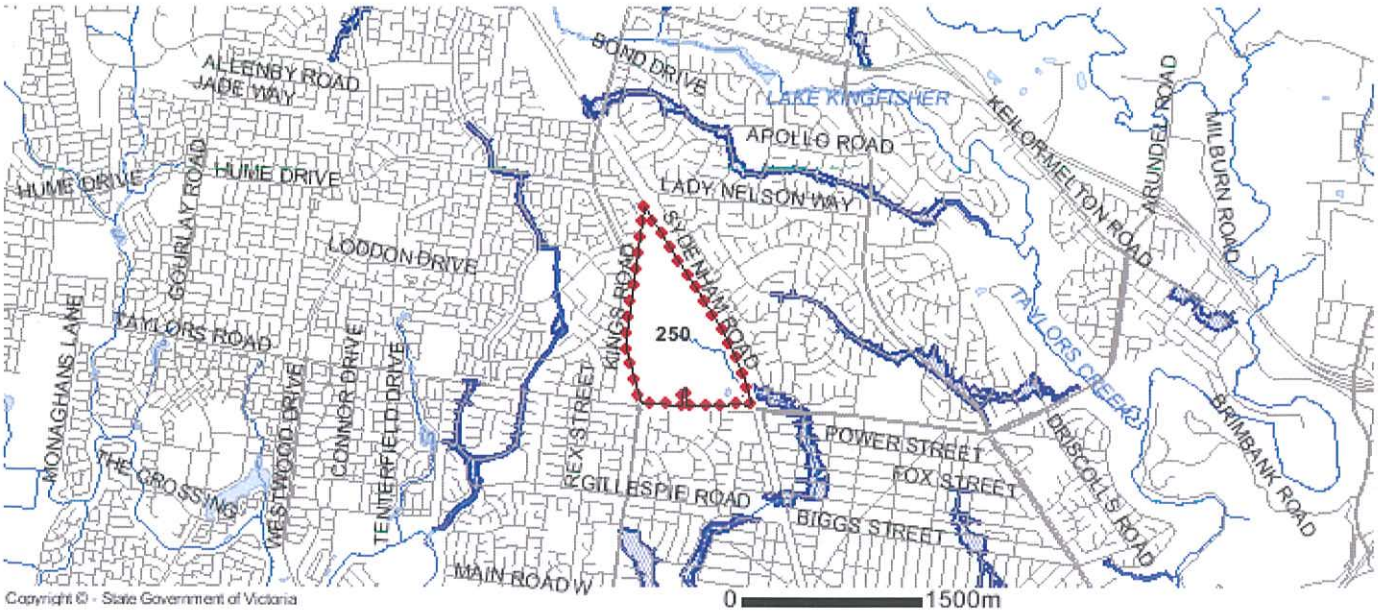
ENVIRONMENTAL SIGNIFICANCE OVERLAY - SCHEDULE 2 (ESO2)

ESO - Environmental Significance

Note: due to overlaps, some overlays may not be visible, and some colours may not match those in the legend.

SPECIAL BUILDING OVERLAY (SBO)

SPECIAL BUILDING OVERLAY SCHEDULE (SBO)



SBO - Special Building

Note: due to overlaps, some overlays may not be visible, and some colours may not match those in the legend.

PLANNING PROPERTY REPORT

Environment, Land, Water and Planning

Planning Overlays

OTHER OVERLAYS

Other overlays in the vicinity not directly affecting this land

DESIGN AND DEVELOPMENT OVERLAY (DDO)

DEVELOPMENT PLAN OVERLAY (DPO)

HERITAGE OVERLAY (HO)

INFRASTRUCTURE CONTRIBUTIONS OVERLAY (ICO)

INCORPORATED PLAN OVERLAY (IPO)

LAND SUBJECT TO INUNDATION OVERLAY (LSIO)

MELBOURNE AIRPORT ENVIRONS OVERLAY (MAEO)

PUBLIC ACQUISITION OVERLAY (PAO)

SIGNIFICANT LANDSCAPE OVERLAY (SLO)

DDO - Design and Development

DPO - Development Plan

HO - Heritage

ICO - Infrastructure Contributions

IPO - Incorporated Plan

LSIO - Land Subject to Inundation

MAEO - unknown

PAO - Public Acquisition

SLO - Significant Landscape

Note: due to overlaps, some overlays may not be visible, and some colours may not match those in the legend.

Areas of Aboriginal Cultural Heritage Sensitivity

All or part of this property is an 'area of cultural heritage sensitivity'.

'Areas of cultural heritage sensitivity' are defined under the Aboriginal Heritage Regulations 2018, and include registered Aboriginal cultural heritage places and land form types that are generally regarded as more likely to contain Aboriginal cultural heritage.

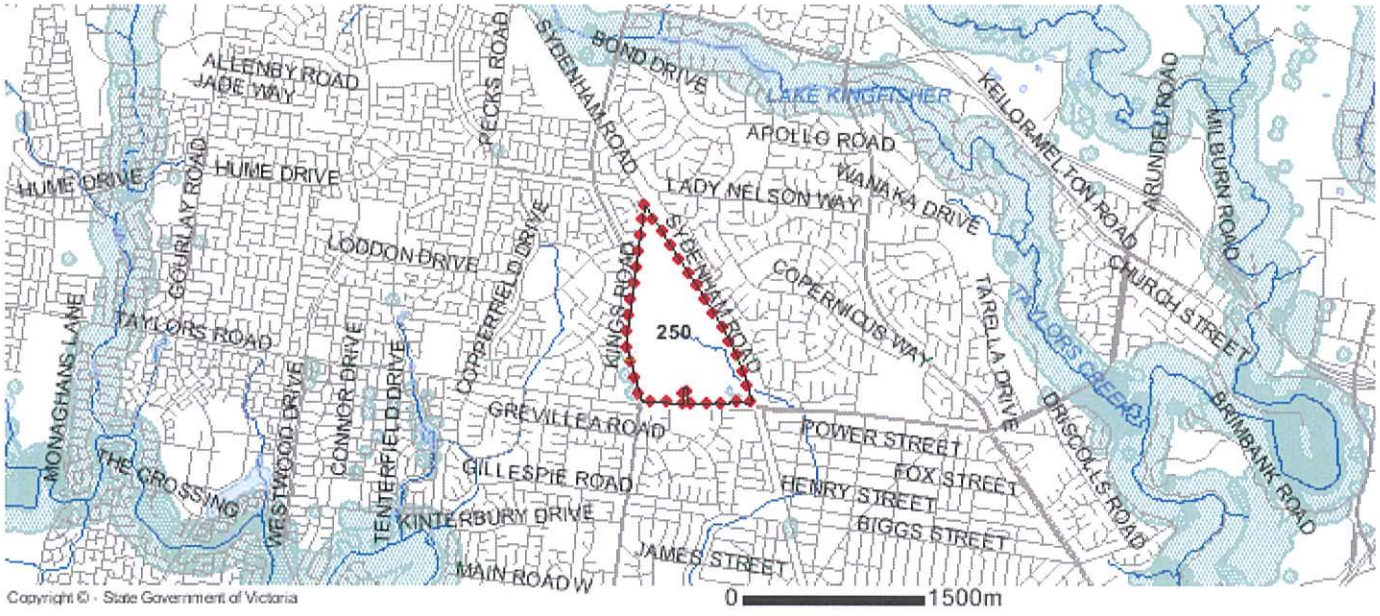
Under the Aboriginal Heritage Regulations 2018, 'areas of cultural heritage sensitivity' are one part of a two part trigger which require a 'cultural heritage management plan' be prepared where a listed 'high impact activity' is proposed.

If a significant land use change is proposed (for example, a subdivision into 3 or more lots), a cultural heritage management plan may be triggered. One or two dwellings, works ancillary to a dwelling, services to a dwelling, alteration of buildings and minor works are examples of works exempt from this requirement.

Under the Aboriginal Heritage Act 2006, where a cultural heritage management plan is required, planning permits, licences and work authorities cannot be issued unless the cultural heritage management plan has been approved for the activity.

For further information about whether a Cultural Heritage Management Plan is required go to http://www.aav.nrms.net.au/aavQuestion1.aspx

More information, including links to both the Aboriginal Heritage Act 2006 and the Aboriginal Heritage Regulations 2018, can also be found here - https://www.vic.gov.au/aboriginalvictoria/heritage/planning-and-heritage-management-processes.html



Aboriginal Heritage

Further Planning Information

Planning scheme data last updated on 11 December 2018.

A **planning scheme** sets out policies and requirements for the use, development and protection of land.
This report provides information about the zone and overlay provisions that apply to the selected land.
Information about the State and local policy, particular, general and operational provisions of the local planning scheme that may affect the use of this land can be obtained by contacting the local council or by visiting https://www.planning.vic.gov.au

This report is NOT a **Planning Certificate** issued pursuant to Section 199 of the *Planning and Environment Act 1987*.
It does not include information about exhibited planning scheme amendments, or zonings that may abut the land.
To obtain a Planning Certificate go to Titles and Property Certificates at Landata - https://www.landata.vic.gov.au

For details of surrounding properties, use this service to get the Reports for properties of interest.

To view planning zones, overlay and heritage information in an interactive format visit http://mapshare.maps.vic.gov.au/vicplan

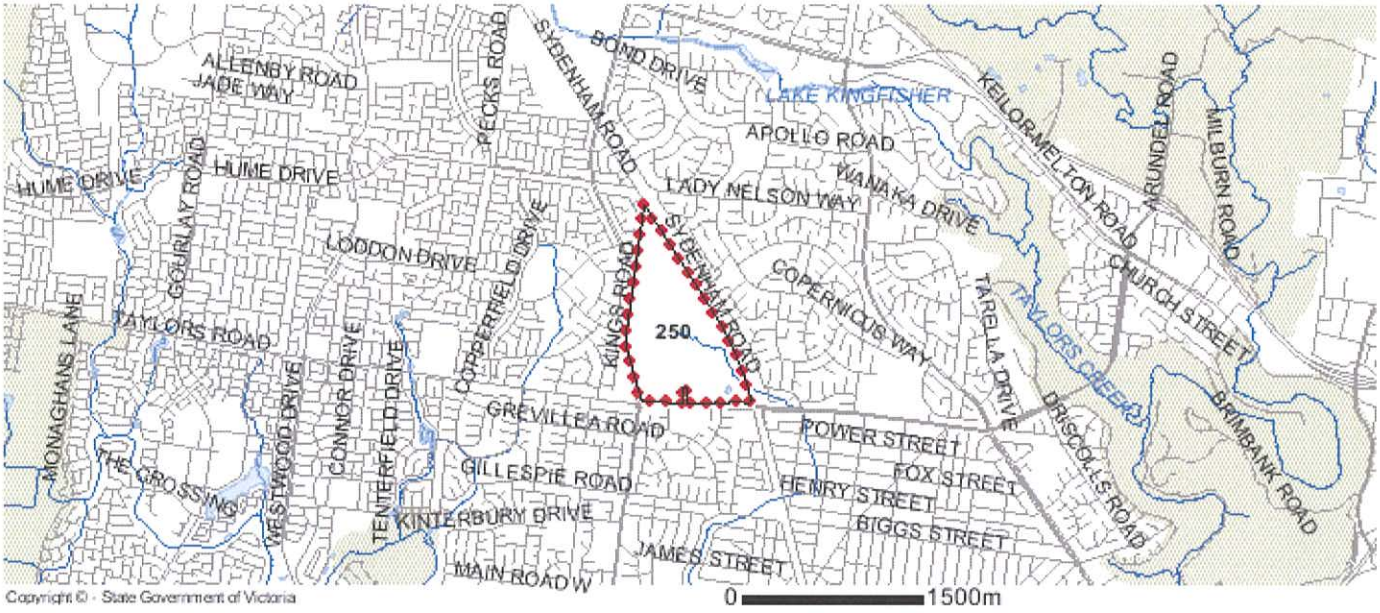
For other information about planning in Victoria visit https://www.planning.vic.gov.au

PLANNING PROPERTY REPORT

Environment, Land, Water and Planning

Designated Bushfire Prone Area

This property is not in a designated bushfire prone area.
No special bushfire construction requirements apply. Planning provisions may apply.



Designated Bushfire Prone Area

Designated bushfire prone areas as determined by the Minister for Planning are in effect from 8 September 2011 and amended from time to time.

The Building Regulations 2018 through application of the Building Code of Australia, apply bushfire protection standards for building works in designated bushfire prone areas.

Designated bushfire prone areas maps can be viewed on VicPlan at http://mapshare.maps.vic.gov.au/vicplan or at the relevant local council.

Note: prior to 8 September 2011, the whole of Victoria was designated as bushfire prone area for the purposes of the building control system.

Further information about the building control system and building in bushfire prone areas can be found on the Victorian Building Authority website www.vba.vic.gov.au

Copies of the Building Act and Building Regulations are available from www.legislation.vic.gov.au

For Planning Scheme Provisions in bushfire areas visit https://www.planning.vic.gov.au

PLAN OF SUBDIVISION

LRS USE ONLY
EDITION

PLAN NUMBER
PS 817647S

LOCATION OF LAND

PARISH: MARIBYRNONG

TOWNSHIP: - - -

SECTION: B

CROWN ALLOTMENT: 25 (PART)

CROWN PORTION: - - -

TITLE REFERENCES: VOL. 10758 FOL. 746

LAST PLAN REFERENCE: LOT 2 TP12442M

POSTAL ADDRESS: (at time of subdivision) 250 TAYLORS ROAD DELAHEY 3061

MGA 94 CO-ORDINATES: (of approx. centre of plan) E: 304797 N: 5822784 ZONE: 55 DATUM: GDA94

COUNCIL NAME: BRIMBANK CITY COUNCIL

VESTING OF ROADS OR RESERVES

IDENTIFIER	COUNCIL/BODY/PERSON
NIL	

NOTATIONS

DEPTH LIMITATION DOES NOT APPLY

SURVEY: THIS PLAN IS BASED ON SURVEY

THIS SURVEY HAS BEEN CONNECTED TO PERMANENT MARKS No(s). 1202 AND 1196

NOT IN A PROCLAIMED SURVEY AREA

STAGING
THIS IS NOT A STAGED SUBDIVISION
PLANNING PERMIT No.

NOTATIONS

THIS IS A SPEAR PLAN

TANGENT POINTS ARE SHOWN THUS:

ESTATE: - - - **AREA:** 95.06ha **No. OF LOTS:** 2 **MELWAY:** 13:H6

EASEMENT INFORMATION

LEGEND: A - APPURTENANT E - ENCUMBERING EASEMENT R - ENCUMBERING EASEMENT (ROAD)

EASEMENT REFERENCE	PURPOSE	WIDTH (METRES)	ORIGIN	LAND BENEFITED OR IN FAVOUR OF
(E-1)	DRAINAGE	SEE PLAN	THIS PLAN	BRIMBANK CITY COUNCIL

Breese Pitt Dixon Pty Ltd
1/19 Cato Street
Hawthorn East Vic 3123
Ph: 8823 2300 Fax: 8823 2310
www.bpd.com.au info@bpd.com.au

CHECKED D.SMALE DATE: 03/12/18

REF: 7800 VERSION: 4

LICENSED SURVEYOR: SIMON COX

ORIGINAL SHEET SIZE A3

PLAN OF SUBDIVISION

PLAN NUMBER
PS 817647S

MGA94 ZONE 55

SYDENHAM

KINGS ROAD

KINGS ROAD

TAYLORS ROAD

(1089.83)
1019.48
146°43'20"
1122.72
6°41'55"
343°08'20"
409.14
70.35
120°50'
C316.88
A334.66
R294
354°55'20"
C147
A148.04
R 360
88°13'30"
252.83
43°14'50"
C309.59
A343.84
R219
146°45'
A&C3.57
155°40'45"
155°43'20"
R 2376.80
C740.99
(C737.46)
A744.02
(A740.45)
271°08'20"
40
181°08'20"
134.76
134.76
1°08'20"
294.21
271°08'20"
(227.10)
271°08'20"
131
271°08'20"
165.71
271°08'20"
181°08'
16
181°08'
8.76
23.95
217°55'
343°08'20"
24.27
307°09'
24.35
271°10'
4.91
1°09'
271°08'20"

A
48.96 ha

B
46.10 ha

(E-1)
SEE SHEET 3
SEE SHEET 4

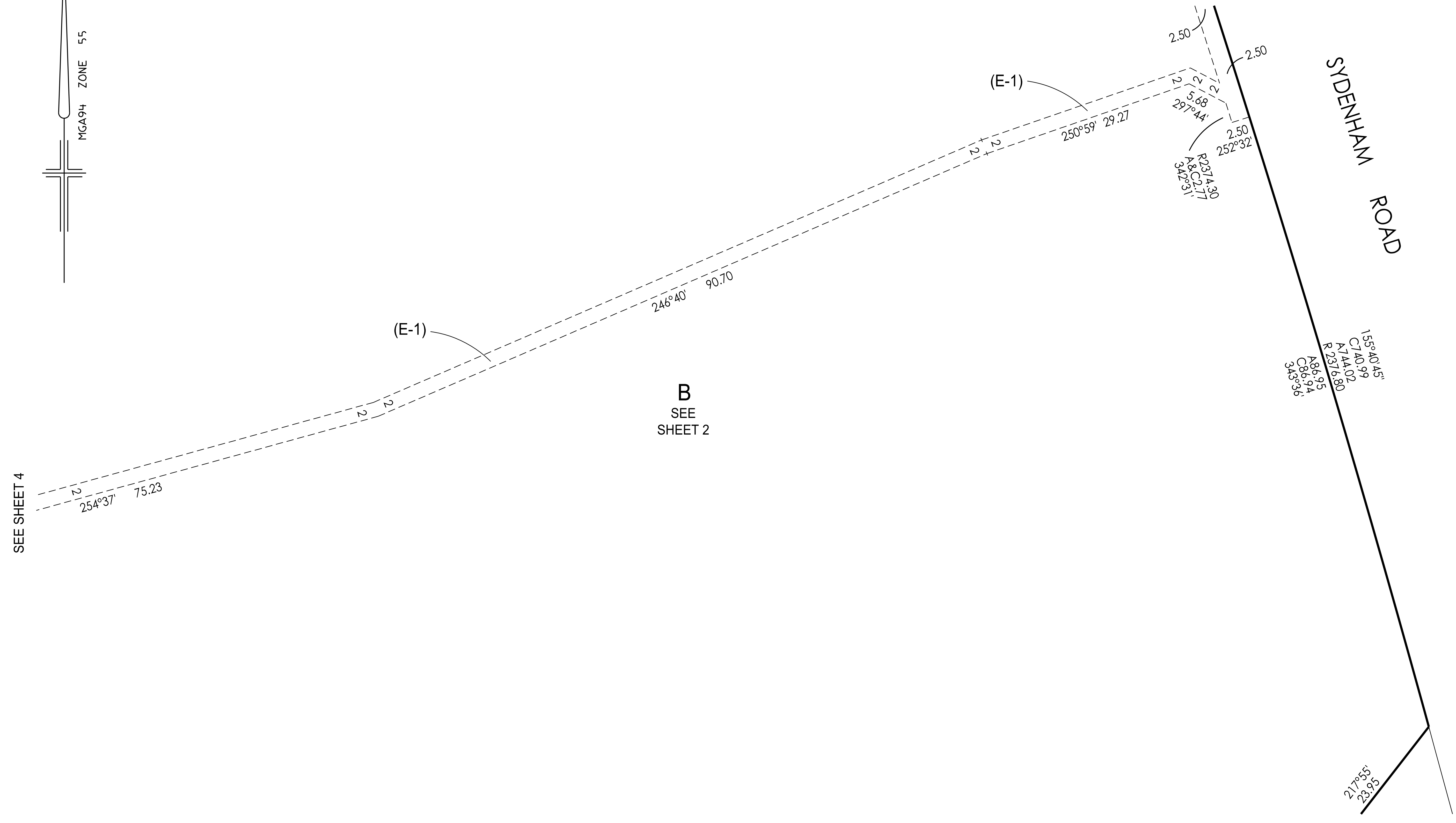
ENLARGEMENT
(NOT TO SCALE)

ENLARGEMENT
(NOT TO SCALE)

Breese Pitt Dixon Pty Ltd 1/19 Cato Street Hawthorn East Vic 3123 Ph: 8823 2300 Fax: 8823 2310 www.bpd.com.au info@bpd.com.au	SCALE 1:5000	100 0 100 200 LENGTHS ARE IN METRES	ORIGINAL SHEET SIZE A3	SHEET 2
			REF: 7800	VERSION: 4
LICENSED SURVEYOR: SIMON COX				

PLAN OF SUBDIVISION

PLAN NUMBER
PS 817647S



Breese Pitt Dixon Pty Ltd
1/19 Cato Street
Hawthorn East Vic 3123
Ph: 8823 2300 Fax: 8823 2310
www.bpd.com.au info@bpd.com.au

SCALE 1:500

10 0 10 20
LENGTHS ARE IN METRES

REF: 7800 VERSION: 4

LICENSED SURVEYOR: SIMON COX

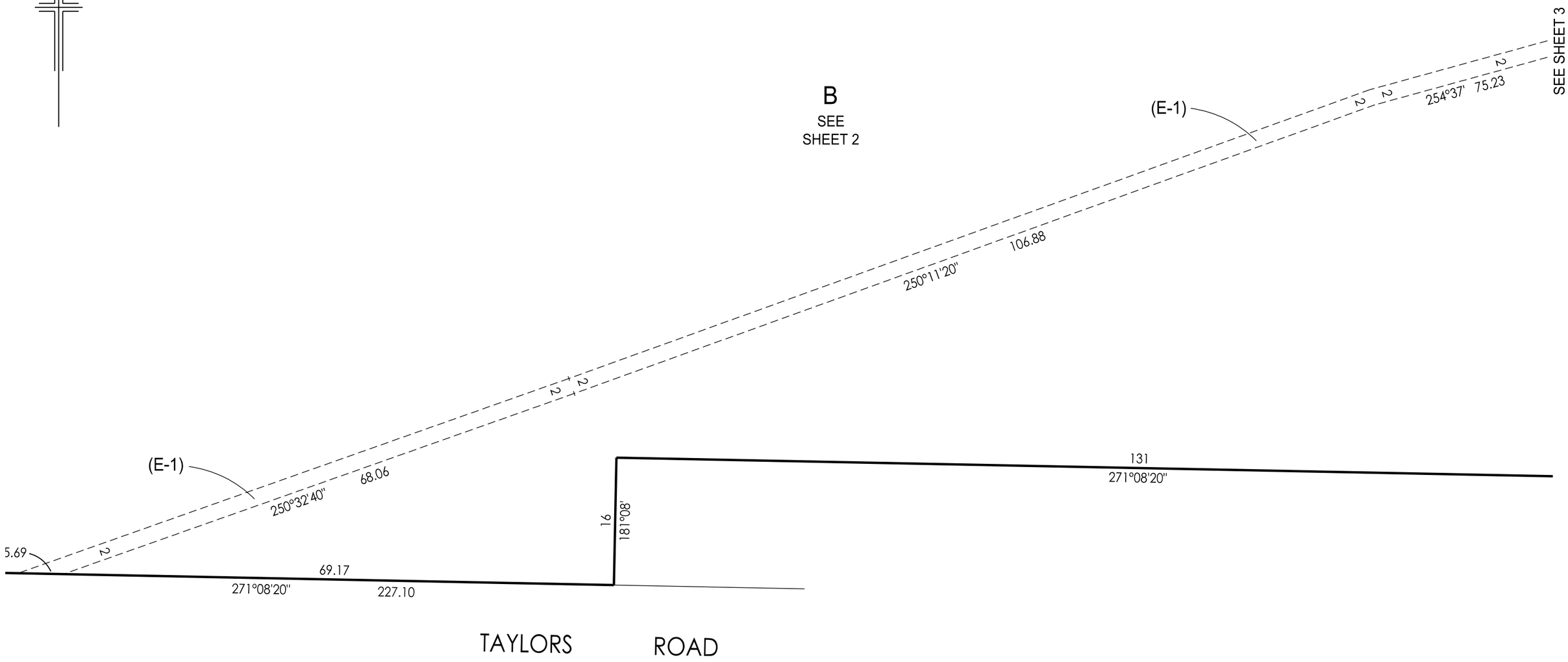
ORIGINAL SHEET SIZE A3

PLAN OF SUBDIVISION

PLAN NUMBER
PS 817647S

MGA94 ZONE 55

B
SEE
SHEET 2



TAYLORS ROAD

Breese Pitt Dixon Pty Ltd
1/19 Cato Street
Hawthorn East Vic 3123
Ph: 8823 2300 Fax: 8823 2310
www.bpd.com.au info@bpd.com.au

SCALE
1:500

10 0 10 20
LENGTHS ARE IN METRES

REF: 7800 VERSION: 4

ORIGINAL
SHEET SIZE A3

SHEET 4

LICENSED SURVEYOR: SIMON COX

Appendix C

Borehole Logs

BOREHOLE LOG

CLIENT: Broadcast Australia Pty Ltd
PROJECT: Phase 1 & 2 Environmental Site Assessment
LOCATION: 250 Taylors Road, Delahey

SURFACE LEVEL: --
EASTING: 305384
NORTHING: 5822174
DIP/AZIMUTH: 90°/--

BORE No: B1
PROJECT No: 42662.00
DATE: 14 Jan 2010
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Well Construction Details
		SILT (ML): Hard, pale brown, humid.		D	0.0	B1-1			
	0.2	SILTY CLAY (CH): Hard, brown, damp to moist.			0.1				
				D	0.4	B1-2			
	0.5	Bore discontinued at 0.5m			0.5				
	1								1

RIG: Custom 4WD **DRILLER:** Horizon Drilling **LOGGED:** TD **CASING:** NA
TYPE OF BORING: Solid Flight Auger
WATER OBSERVATIONS: No free groundwater observed
REMARKS: Datum WGS 84, UTM Zone 55H

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

BOREHOLE LOG

CLIENT: Broadcast Australia Pty Ltd
PROJECT: Phase 1 & 2 Environmental Site Assessment
LOCATION: 250 Taylors Road, Delahey

SURFACE LEVEL: --
EASTING: 305238
NORTHING: 5822175
DIP/AZIMUTH: 90°/--

BORE No: B2
PROJECT No: 42662.00
DATE: 14 Jan 2010
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Well Construction Details
		SILT (ML): Hard, pale brown, humid.		D	0.0	B2-1			
	0.2	SILTY CLAY (CH): Hard, brown, damp to moist.			0.1				
				D	0.4	B2-2			
	0.5	Bore discontinued at 0.5m			0.5				
	1								1

RIG: Custom 4WD **DRILLER:** Horizon Drilling **LOGGED:** TD **CASING:** NA
TYPE OF BORING: Solid Flight Auger
WATER OBSERVATIONS: No free groundwater observed
REMARKS: Datum WGS 84, UTM Zone 55H

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

BOREHOLE LOG

CLIENT: Broadcast Australia Pty Ltd
PROJECT: Phase 1 & 2 Environmental Site Assessment
LOCATION: 250 Taylors Road, Delahey

SURFACE LEVEL: --
EASTING: 305103
NORTHING: 5822177
DIP/AZIMUTH: 90°/--

BORE No: B3
PROJECT No: 42662.00
DATE: 14 Jan 2010
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Well Construction Details
		SILT (ML): Hard, pale brown, humid.		D	0.0	B3-1			
	0.1	SILTY CLAY (CH): Hard, brown, damp to moist.			0.1				
				D	0.4	B3-2			
	0.5	Bore discontinued at 0.5m			0.5				
	1								1

RIG: Custom 4WD **DRILLER:** Horizon Drilling **LOGGED:** TD **CASING:** NA
TYPE OF BORING: Solid Flight Auger
WATER OBSERVATIONS: No free groundwater observed
REMARKS: Datum WGS 84, UTM Zone 55H

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

BOREHOLE LOG

CLIENT: Broadcast Australia Pty Ltd
PROJECT: Phase 1 & 2 Environmental Site Assessment
LOCATION: 250 Taylors Road, Delahey

SURFACE LEVEL: --
EASTING: 304964
NORTHING: 5822180
DIP/AZIMUTH: 90°/--

BORE No: B4
PROJECT No: 42662.00
DATE: 14 Jan 2010
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Well Construction Details
		SILT (ML): Hard, pale brown, humid.		D	0.0	B4-1			
	0.1	SILTY CLAY (CH): Hard, brown, moist.			0.1				
				D	0.4	B4-2			
	0.5	Bore discontinued at 0.5m			0.5				
	1								1

RIG: Custom 4WD **DRILLER:** Horizon Drilling **LOGGED:** TD **CASING:** NA
TYPE OF BORING: Solid Flight Auger
WATER OBSERVATIONS: No free groundwater observed
REMARKS: Datum WGS 84, UTM Zone 55H

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

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BOREHOLE LOG

CLIENT: Broadcast Australia Pty Ltd
PROJECT: Phase 1 & 2 Environmental Site Assessment
LOCATION: 250 Taylors Road, Delahey

SURFACE LEVEL: --
EASTING: 304824
NORTHING: 5822182
DIP/AZIMUTH: 90°/--

BORE No: B5
PROJECT No: 42662.00
DATE: 14 Jan 2010
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Well Construction Details
		SILT (ML): Hard, pale brown, humid.		D	0.0	B5-1			
	0.05	SILTY CLAY (CH): Hard, brown, moist.			0.05				
					0.4				
				D		B5-2			
	0.5	Bore discontinued at 0.5m			0.5				
	1								1

RIG: Custom 4WD **DRILLER:** Horizon Drilling **LOGGED:** TD **CASING:** NA
TYPE OF BORING: Solid Flight Auger
WATER OBSERVATIONS: No free groundwater observed
REMARKS: Datum WGS 84, UTM Zone 55H

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

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Geotechnics / Environment / Groundwater

BOREHOLE LOG

CLIENT: Broadcast Australia Pty Ltd
PROJECT: Phase 1 & 2 Environmental Site Assessment
LOCATION: 250 Taylors Road, Delahey

SURFACE LEVEL: --
EASTING: 304684
NORTHING: 5822185
DIP/AZIMUTH: 90°/--

BORE No: B6
PROJECT No: 42662.00
DATE: 14 Jan 2010
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Well Construction Details
		SILT (ML): Hard, pale brown, humid.		D	0.0	B6-1			
	0.05	SILTY CLAY (CH): Hard, brown, moist.			0.05				
				D	0.4	B6-2			
		Basalt boulder at 0.5 m depth.			0.5				
	0.55	Bore discontinued at 0.55m. Auger refusal on basalt boulder/rock.							
	1								1

RIG: Custom 4WD **DRILLER:** Horizon Drilling **LOGGED:** TD **CASING:** NA
TYPE OF BORING: Solid Flight Auger
WATER OBSERVATIONS: No free groundwater observed
REMARKS: Datum WGS 84, UTM Zone 55H

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

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BOREHOLE LOG

CLIENT: Broadcast Australia Pty Ltd
PROJECT: Phase 1 & 2 Environmental Site Assessment
LOCATION: 250 Taylors Road, Delahey

SURFACE LEVEL: --
EASTING: 304540
NORTHING: 5822326
DIP/AZIMUTH: 90°/--

BORE No: B7
PROJECT No: 42662.00
DATE: 14 Jan 2010
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Well Construction Details
		SILT (ML): Hard, grey, humid.		D	0.0	B7-1			
	0.1	SILTY CLAY (CH): Hard, brown, damp to moist.			0.1				
				D	0.4	B7-2			
	0.5	Bore discontinued at 0.5m			0.5				
	1								1

RIG: Custom 4WD **DRILLER:** Horizon Drilling **LOGGED:** TD **CASING:** NA
TYPE OF BORING: Solid Flight Auger
WATER OBSERVATIONS: No free groundwater observed
REMARKS: Datum WGS 84, UTM Zone 55H

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

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BOREHOLE LOG

CLIENT: Broadcast Australia Pty Ltd
PROJECT: Phase 1 & 2 Environmental Site Assessment
LOCATION: 250 Taylors Road, Delahey

SURFACE LEVEL: --
EASTING: 304680
NORTHING: 5822320
DIP/AZIMUTH: 90°/--

BORE No: B8
PROJECT No: 42662.00
DATE: 14 Jan 2010
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Well Construction Details
		SILT (ML): Hard, pale brown, humid.		D	0.0	B8-1			
	0.1	SILTY CLAY (CH): Hard, brown, moist to damp.			0.1				
		Some calcareous silt and sand below 0.4 m depth.		D	0.4	B8-2			
	0.5	Bore discontinued at 0.5m			0.5				
	1								1

RIG: Custom 4WD **DRILLER:** Horizon Drilling **LOGGED:** TD **CASING:** NA
TYPE OF BORING: Solid Flight Auger
WATER OBSERVATIONS: No free groundwater observed
REMARKS: Datum WGS 84, UTM Zone 55H

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

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BOREHOLE LOG

CLIENT: Broadcast Australia Pty Ltd
PROJECT: Phase 1 & 2 Environmental Site Assessment
LOCATION: 250 Taylors Road, Delahey

SURFACE LEVEL: --
EASTING: 304820
NORTHING: 5822320
DIP/AZIMUTH: 90°/--

BORE No: B9
PROJECT No: 42662.00
DATE: 14 Jan 2010
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Well Construction Details
		SILT (ML): Hard, pale brown, humid.		D	0.0	B9-1			
	0.05	SILTY CLAY (CH): Hard, brown, damp to moist.			0.05				
		Grey below 0.4 m depth.		D	0.4	B9-2			
	0.5	Bore discontinued at 0.5m			0.5				
	1								1

RIG: Custom 4WD **DRILLER:** Horizon Drilling **LOGGED:** TD **CASING:** NA
TYPE OF BORING: Solid Flight Auger
WATER OBSERVATIONS: No free groundwater observed
REMARKS: Datum WGS 84, UTM Zone 55H

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

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BOREHOLE LOG

CLIENT: Broadcast Australia Pty Ltd
PROJECT: Phase 1 & 2 Environmental Site Assessment
LOCATION: 250 Taylors Road, Delahey

SURFACE LEVEL: --
EASTING: 304960
NORTHING: 5822317
DIP/AZIMUTH: 90°/--

BORE No: B10
PROJECT No: 42662.00
DATE: 14 Jan 2010
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Well Construction Details
		SILT (ML): Hard, pale brown, humid.		D	0.0	B10-1			
	0.05	SILTY CLAY (CH): Hard, brown, damp to moist.			0.05				
					0.4				
				D		B10-2			
	0.5	Bore discontinued at 0.5m			0.5				
	1								1

RIG: Custom 4WD **DRILLER:** Horizon Drilling **LOGGED:** TD **CASING:** NA
TYPE OF BORING: Solid Flight Auger
WATER OBSERVATIONS: No free groundwater observed
REMARKS: Datum WGS 84, UTM Zone 55H

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

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BOREHOLE LOG

CLIENT: Broadcast Australia Pty Ltd
PROJECT: Phase 1 & 2 Environmental Site Assessment
LOCATION: 250 Taylors Road, Delahey

SURFACE LEVEL: --
EASTING: 305098
NORTHING: 5822315
DIP/AZIMUTH: 90°/--

BORE No: B11
PROJECT No: 42662.00
DATE: 14 Jan 2010
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Well Construction Details
		SILT (ML): Hard, pale brown, humid.		D	0.0	B11-1			
	0.05	SILTY CLAY (CH): Hard, brown, damp to moist.			0.05				
		Grey and brown below 0.4 m depth.		D	0.4	B11-2			
	0.5	Bore discontinued at 0.5m			0.5				
	1								1

RIG: Custom 4WD **DRILLER:** Horizon Drilling **LOGGED:** TD **CASING:** NA
TYPE OF BORING: Solid Flight Auger
WATER OBSERVATIONS: No free groundwater observed
REMARKS: Datum WGS 84, UTM Zone 55H

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

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BOREHOLE LOG

CLIENT: Broadcast Australia Pty Ltd
PROJECT: Phase 1 & 2 Environmental Site Assessment
LOCATION: 250 Taylors Road, Delahey

SURFACE LEVEL: --
EASTING: 305240
NORTHING: 5822312
DIP/AZIMUTH: 90°/--

BORE No: B12
PROJECT No: 42662.00
DATE: 14 Jan 2010
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Well Construction Details
	0.02	SILT (ML): Hard, pale brown, humid.		D	0.0 0.02	B12-1			
		SILTY CLAY (CH): Hard, brown, damp to moist.							
		Some calcareous silt and sand below 0.4 m depth.		D	0.4	B12-2			
	0.5	Bore discontinued at 0.5m			0.5				
	1								1

RIG: Custom 4WD **DRILLER:** Horizon Drilling **LOGGED:** TD **CASING:** NA

TYPE OF BORING: Solid Flight Auger

WATER OBSERVATIONS: No free groundwater observed

REMARKS: Datum WGS 84, UTM Zone 55H

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

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BOREHOLE LOG

CLIENT: Broadcast Australia Pty Ltd
PROJECT: Phase 1 & 2 Environmental Site Assessment
LOCATION: 250 Taylors Road, Delahey

SURFACE LEVEL: --
EASTING: 305363
NORTHING: 5822308
DIP/AZIMUTH: 90°/--

BORE No: B13
PROJECT No: 42662.00
DATE: 14 Jan 2010
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Well Construction Details
	0.02	SILT (ML): Hard, pale grey brown, humid.		D	0.0 0.02	B13-1			
		SILTY CLAY (CH): Hard, brown, damp to moist.							
				D	0.4	B13-2			
	0.5	Bore discontinued at 0.5m			0.5				
	1								1

RIG: Custom 4WD **DRILLER:** Horizon Drilling **LOGGED:** TD **CASING:** NA
TYPE OF BORING: Solid Flight Auger
WATER OBSERVATIONS: No free groundwater observed
REMARKS: Datum WGS 84, UTM Zone 55H

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

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BOREHOLE LOG

CLIENT: Broadcast Australia Pty Ltd
PROJECT: Phase 1 & 2 Environmental Site Assessment
LOCATION: 250 Taylors Road, Delahey

SURFACE LEVEL: --
EASTING: 305309
NORTHING: 5822452
DIP/AZIMUTH: 90°/--

BORE No: B14
PROJECT No: 42662.00
DATE: 14 Jan 2010
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Well Construction Details
		SILT (ML): Hard, pale grey brown, humid.		D	0.0	B14-1			
	0.05	SILTY CLAY (CH): Hard, brown, damp to moist.			0.05				
		Grey brown and orange brown below 0.3 m depth.			0.4				
				D		B14-2			
	0.5	Bore discontinued at 0.5m			0.5				
	1								1

RIG: Custom 4WD **DRILLER:** Horizon Drilling **LOGGED:** TD **CASING:** NA
TYPE OF BORING: Solid Flight Auger
WATER OBSERVATIONS: No free groundwater observed
REMARKS: Datum WGS 84, UTM Zone 55H

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

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BOREHOLE LOG

CLIENT: Broadcast Australia Pty Ltd
PROJECT: Phase 1 & 2 Environmental Site Assessment
LOCATION: 250 Taylors Road, Delahey

SURFACE LEVEL: --
EASTING: 305200
NORTHING: 5822455
DIP/AZIMUTH: 90°/--

BORE No: B15
PROJECT No: 42662.00
DATE: 14 Jan 2010
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Well Construction Details
		SILT (ML): Hard, pale brown, humid.		D	0.0	B15-1, DUP1, DUP2			
	0.1	SILTY CLAY (CH): Hard, brown, damp to moist.			0.1				
				D	0.4	B15-2			
	0.5	Bore discontinued at 0.5m			0.5				
	1								1

RIG: Custom 4WD **DRILLER:** Horizon Drilling **LOGGED:** TD **CASING:** NA
TYPE OF BORING: Solid Flight Auger
WATER OBSERVATIONS: No free groundwater observed
REMARKS: Datum WGS 84, UTM Zone 55H

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

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BOREHOLE LOG

CLIENT: Broadcast Australia Pty Ltd
PROJECT: Phase 1 & 2 Environmental Site Assessment
LOCATION: 250 Taylors Road, Delahey

SURFACE LEVEL: --
EASTING: 305060
NORTHING: 5822458
DIP/AZIMUTH: 90°/--

BORE No: B16
PROJECT No: 42662.00
DATE: 14 Jan 2010
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Well Construction Details
		SILT (ML): Hard, pale brown, humid.		D	0.0	B16-1			
	0.05	SILTY CLAY (CH): Hard, brown, damp to moist.			0.05				
					0.4				
		Grey below 0.45 m depth.		D		B16-2			
	0.5	Bore discontinued at 0.5m			0.5				
	1								1

RIG: Custom 4WD **DRILLER:** Horizon Drilling **LOGGED:** TD **CASING:** NA
TYPE OF BORING: Solid Flight Auger
WATER OBSERVATIONS: No free groundwater observed
REMARKS: Datum WGS 84, UTM Zone 55H

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

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BOREHOLE LOG

CLIENT: Broadcast Australia Pty Ltd
PROJECT: Phase 1 & 2 Environmental Site Assessment
LOCATION: 250 Taylors Road, Delahey

SURFACE LEVEL: --
EASTING: 304920
NORTHING: 5822460
DIP/AZIMUTH: 90°/--

BORE No: B17
PROJECT No: 42662.00
DATE: 14 Jan 2010
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Well Construction Details
		SILT (ML): Hard, pale brown, humid.		D	0.0	B17-1			
	0.05	SILTY CLAY (CH): Hard, brown, damp to moist.			0.05				
					0.4				
				D		B17-2			
	0.5	Bore discontinued at 0.5m			0.5				
	1								1

RIG: Custom 4WD **DRILLER:** Horizon Drilling **LOGGED:** TD **CASING:** NA
TYPE OF BORING: Solid Flight Auger
WATER OBSERVATIONS: No free groundwater observed
REMARKS: Datum WGS 84, UTM Zone 55H

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

BOREHOLE LOG

CLIENT: Broadcast Australia Pty Ltd
PROJECT: Phase 1 & 2 Environmental Site Assessment
LOCATION: 250 Taylors Road, Delahey

SURFACE LEVEL: --
EASTING: 304780
NORTHING: 5822461
DIP/AZIMUTH: 90°/--

BORE No: B18
PROJECT No: 42662.00
DATE: 14 Jan 2010
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Well Construction Details
		SILT (ML): Hard, pale brown, humid.		D	0.0	B18-1			
	0.05	SILTY CLAY (CH): Hard, brown, damp to moist.			0.05				
					0.4				
				D		B18-2			
	0.5	Bore discontinued at 0.5m			0.5				
	1								1

RIG: Custom 4WD **DRILLER:** Horizon Drilling **LOGGED:** TD **CASING:** NA
TYPE OF BORING: Solid Flight Auger
WATER OBSERVATIONS: No free groundwater observed
REMARKS: Datum WGS 84, UTM Zone 55H

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

BOREHOLE LOG

CLIENT: Broadcast Australia Pty Ltd
PROJECT: Phase 1 & 2 Environmental Site Assessment
LOCATION: 250 Taylors Road, Delahey

SURFACE LEVEL: --
EASTING: 304640
NORTHING: 5822464
DIP/AZIMUTH: 90°/--

BORE No: B19
PROJECT No: 42662.00
DATE: 14 Jan 2010
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Well Construction Details
	0.02	SILT (ML): Hard, grey, humid.		D	0.0	B19-1			
		SILTY CLAY (CH): Hard, grey, moist.			0.02				
		Becoming pale gey with depth.		D	0.4	B19-2			
	0.5	Bore discontinued at 0.5m			0.5				
	1								1

RIG: Custom 4WD **DRILLER:** Horizon Drilling **LOGGED:** TD **CASING:** NA
TYPE OF BORING: Solid Flight Auger
WATER OBSERVATIONS: No free groundwater observed
REMARKS: Datum WGS 84, UTM Zone 55H

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

BOREHOLE LOG

CLIENT: Broadcast Australia Pty Ltd
PROJECT: Phase 1 & 2 Environmental Site Assessment
LOCATION: 250 Taylors Road, Delahey

SURFACE LEVEL: --
EASTING: 304500
NORTHING: 5822467
DIP/AZIMUTH: 90°/--

BORE No: B20
PROJECT No: 42662.00
DATE: 14 Jan 2010
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Well Construction Details
		SILT (ML): Hard, pale grey, humid		D	0.0	B20-1			
	0.1	SILTY CLAY (CH): Hard, brown, damp to moist.			0.1				
				D	0.4	B20-2			
	0.5	Bore discontinued at 0.5m			0.5				
	1								1

RIG: Custom 4WD **DRILLER:** Horizon Drilling **LOGGED:** TD **CASING:** NA
TYPE OF BORING: Solid Flight Auger
WATER OBSERVATIONS: No free groundwater observed
REMARKS: Datum WGS 84, UTM Zone 55H

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

BOREHOLE LOG

CLIENT: Broadcast Australia Pty Ltd
PROJECT: Phase 1 & 2 Environmental Site Assessment
LOCATION: 250 Taylors Road, Delahey

SURFACE LEVEL: --
EASTING: 304500
NORTHING: 5822640
DIP/AZIMUTH: 90°/--

BORE No: B21
PROJECT No: 42662.00
DATE: 14 Jan 2010
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Well Construction Details
		SILT (ML): Hard, pale brown, humid.		D	0.0	B21-1			
	0.05	SILTY CLAY (CH): Hard, brown, damp to moist.			0.05				
					0.4				
				D		B21-2			
	0.5	Bore discontinued at 0.5m			0.5				
	1								1

RIG: Custom 4WD **DRILLER:** Horizon Drilling **LOGGED:** TD **CASING:** NA
TYPE OF BORING: Solid Flight Auger
WATER OBSERVATIONS: No free groundwater observed
REMARKS: Datum WGS 84, UTM Zone 55H

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

BOREHOLE LOG

CLIENT: Broadcast Australia Pty Ltd
PROJECT: Phase 1 & 2 Environmental Site Assessment
LOCATION: 250 Taylors Road, Delahey

SURFACE LEVEL: --
EASTING: 304707
NORTHING: 5822604
DIP/AZIMUTH: 90°/--

BORE No: B22
PROJECT No: 42662.00
DATE: 14 Jan 2010
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Well Construction Details
		SILT (ML): Hard, pale brown, humid.		D	0.0	B22-1			
	0.1	SILTY CLAY (CH): Hard, brown, damp to moist.			0.1				
				D	0.4	B22-2			
	0.5	Bore discontinued at 0.5m			0.5				
	1								1

RIG: Custom 4WD **DRILLER:** Horizon Drilling **LOGGED:** TD **CASING:** NA
TYPE OF BORING: Solid Flight Auger
WATER OBSERVATIONS: No free groundwater observed
REMARKS: Datum WGS 84, UTM Zone 55H

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

BOREHOLE LOG

CLIENT: Broadcast Australia Pty Ltd
PROJECT: Phase 1 & 2 Environmental Site Assessment
LOCATION: 250 Taylors Road, Delahey

SURFACE LEVEL: --
EASTING: 304945
NORTHING: 5822614
DIP/AZIMUTH: 90°/--

BORE No: B23
PROJECT No: 42662.00
DATE: 14 Jan 2010
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Well Construction Details
		SILT (ML): Hard, pale brown, humid.		D	0.0	B23-1			
	0.05	SILTY CLAY (CH): Hard, brown, damp to moist.			0.05				
					0.4				
				D		B23-2			
	0.5	Bore discontinued at 0.5m			0.5				
	1								1

RIG: Custom 4WD **DRILLER:** Horizon Drilling **LOGGED:** TD **CASING:** NA
TYPE OF BORING: Solid Flight Auger
WATER OBSERVATIONS: No free groundwater observed
REMARKS: Datum WGS 84, UTM Zone 55H

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

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BOREHOLE LOG

CLIENT: Broadcast Australia Pty Ltd
PROJECT: Phase 1 & 2 Environmental Site Assessment
LOCATION: 250 Taylors Road, Delahey

SURFACE LEVEL: --
EASTING: 305145
NORTHING: 5822772
DIP/AZIMUTH: 90°/--

BORE No: B24
PROJECT No: 42662.00
DATE: 14 Jan 2010
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Well Construction Details
		SILT (ML): Hard, pale brown, humid.		D	0.0	B24-1			
	0.05	SILTY CLAY (CH): Hard, brown, damp to moist.			0.05				
					0.4				
				D		B24-2			
	0.5	Bore discontinued at 0.5m			0.5				
	1								1

RIG: Custom 4WD **DRILLER:** Horizon Drilling **LOGGED:** TD **CASING:** NA
TYPE OF BORING: Solid Flight Auger
WATER OBSERVATIONS: No free groundwater observed
REMARKS: Datum WGS 84, UTM Zone 55H

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

BOREHOLE LOG

CLIENT: Broadcast Australia Pty Ltd
PROJECT: Phase 1 & 2 Environmental Site Assessment
LOCATION: 250 Taylors Road, Delahey

SURFACE LEVEL: --
EASTING: 305168
NORTHING: 5822616
DIP/AZIMUTH: 90°/--

BORE No: B25
PROJECT No: 42662.00
DATE: 14 Jan 2010
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Well Construction Details
		SILT (ML): Hard, pale brown, humid.		D	0.0	B25-1			
	0.1	SILTY CLAY (CH): Hard, brown, damp to moist.			0.1				
				D	0.4	B25-2			
	0.5	Bore discontinued at 0.5m			0.5				
	1								1

RIG: Custom 4WD **DRILLER:** Horizon Drilling **LOGGED:** TD **CASING:** NA
TYPE OF BORING: Solid Flight Auger
WATER OBSERVATIONS: No free groundwater observed
REMARKS: Datum WGS 84, UTM Zone 55H

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

BOREHOLE LOG

CLIENT: Broadcast Australia Pty Ltd
PROJECT: Proposed Rezoning
LOCATION: 250 Taylors Road, Delahey

SURFACE LEVEL:
EASTING: 305107
NORTHING: 5822172
DIP/AZIMUTH: -90/--

BORE No: B3-A
PROJECT NO: 42662.01
DATE: 7/1/2019
SHEET: 1 of 1

DRILLING						MATERIAL			
PROGRESS			SAMPLING						
DRILLING & CASING	WATER	GROUND WATER LEVELS	GEO	ENV	IDs and REMARKS	RL / DEPTH (m)	GRAPHIC LOG	DESCRIPTION OF STRATA	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	TEST RESULTS & COMMENTS
		No free groundwater observed		E	B3-A-1	0.0		SILT (ML): pale brown; with some rootlets	humid		
								0.15m			
								SILTY CLAY (CH): brown	humid to damp	H	
				E	B3-A-2						
						0.5		0.50m			
								Bore discontinued at 0.50m depth Target Depth Reached			
						1.0					

REFER TO EXPLANATORY NOTES FOR DESCRIPTION OF SYMBOLS AND ABBREVIATIONS

RIG: Hand Auger **DRILLER:** **LOGGED:** MJID **CHECKED:** MJID

REMARKS:

GRID DATUM: MGA94 Zone 55

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
B	Bulk sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	▻	Water seep	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▼	Water level	SPT	Standard penetration test
E	Envirnmental Sample	PID	Photo ionisation detector (ppm)	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

BOREHOLE LOG

CLIENT: Broadcast Australia Pty Ltd
PROJECT: Proposed Rezoning
LOCATION: 250 Taylors Road, Delahey

SURFACE LEVEL:
EASTING: 304685
NORTHING: 5822202
DIP/AZIMUTH: -90/--

BORE No: B6-A
PROJECT NO: 42662.01
DATE: 7/1/2019
SHEET: 1 of 1

DRILLING						MATERIAL				
PROGRESS			SAMPLING							
DRILLING & CASING	WATER	GROUND WATER LEVELS	GEO	ENV	IDs and REMARKS	RL / DEPTH (m)	GRAPHIC LOG	DESCRIPTION OF STRATA	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	TEST RESULTS & COMMENTS
		No free groundwater observed		E	B6-A-1	0.0		SILT (ML): brown grey; some rootlets	humid	H	
								0.05m			
								SILTY CLAY (CH): brown grey; some rootlets	damp to moist	F	
				E	B6-A-2						
						0.5		0.50m			
								Bore discontinued at 0.50m depth Target Depth Reached			
						1.0					

REFER TO EXPLANATORY NOTES FOR DESCRIPTION OF SYMBOLS AND ABBREVIATIONS

RIG: Hand Auger **DRILLER:** **LOGGED:** MJID **CHECKED:** MJID

REMARKS: **GRID DATUM:** MGA94 Zone 55

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
B	Bulk sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	▻	Water seep	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▼	Water level	SPT	Standard penetration test
E	Envirnmental Sample	PID	Photo ionisation detector (ppm)	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

BOREHOLE LOG

CLIENT: Broadcast Australia Pty Ltd
PROJECT: Proposed Rezoning
LOCATION: 250 Taylors Road, Delahey

SURFACE LEVEL:
EASTING: 304836
NORTHING: 5822313
DIP/AZIMUTH: -90/--

BORE No: B9-A
PROJECT NO: 42662.01
DATE: 7/1/2019
SHEET: 1 of 1

DRILLING						MATERIAL			
PROGRESS			SAMPLING						
DRILLING & CASING	WATER	GROUND WATER LEVELS	GEO	ENV	IDs and REMARKS	RL / DEPTH (m)	GRAPHIC LOG	DESCRIPTION OF STRATA	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	TEST RESULTS & COMMENTS
		No free groundwater observed		E	B9-A-1	0.0		SILT (ML): brown; some rootlets	humid	VH	
								0.10m			
								SILTY CLAY (CH): orange brown	humid to damp	F	
				E	B9-A-2			0.50m			
						0.5		Bore discontinued at 0.50m depth Target Depth Reached			
						1.0					

REFER TO EXPLANATORY NOTES FOR DESCRIPTION OF SYMBOLS AND ABBREVIATIONS

RIG: Hand Auger **DRILLER:** **LOGGED:** MJID **CHECKED:** MJID

REMARKS:

GRID DATUM: MGA94 Zone 55

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
B	Bulk sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	▻	Water seep	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▼	Water level	SPT	Standard penetration test
E	Envirnmental Sample	PID	Photo ionisation detector (ppm)	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

BOREHOLE LOG

CLIENT: Broadcast Australia Pty Ltd
PROJECT: Proposed Rezoning
LOCATION: 250 Taylors Road, Delahey

SURFACE LEVEL:
EASTING: 305242
NORTHING: 5822305
DIP/AZIMUTH: -90/--

BORE No: B12-A
PROJECT NO: 42662.01
DATE: 7/1/2019
SHEET: 1 of 1

DRILLING						MATERIAL				
PROGRESS			SAMPLING							
DRILLING & CASING	WATER	GROUND WATER LEVELS	GEO	ENV	IDs and REMARKS	RL / DEPTH (m)	GRAPHIC LOG	DESCRIPTION OF STRATA	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	TEST RESULTS & COMMENTS
		No free groundwater observed		E	B12-A-1	0.0		SILT (ML): brown, pale brown; some rootlets			
								0.05m SILTY CLAY (CH): brown red, some grey	humid	H	
				E	B12-A-2			0.50m			
						0.5		Bore discontinued at 0.50m depth Target Depth Reached			
						1.0					

REFER TO EXPLANATORY NOTES FOR DESCRIPTION OF SYMBOLS AND ABBREVIATIONS

RIG: Hand Auger **DRILLER:** **LOGGED:** MJID **CHECKED:** MJID

REMARKS: **GRID DATUM:** MGA94 Zone 55

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
B	Bulk sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	▻	Water seep	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▼	Water level	SPT	Standard penetration test
E	Envirnmental Sample	PID	Photo ionisation detector (ppm)	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

BOREHOLE LOG

CLIENT: Broadcast Australia Pty Ltd
PROJECT: Proposed Rezoning
LOCATION: 250 Taylors Road, Delahey

SURFACE LEVEL:
EASTING: 305058
NORTHING: 5822450
DIP/AZIMUTH: -90/--

BORE No: B16-A
PROJECT NO: 42662.01
DATE: 7/1/2019
SHEET: 1 of 1

DRILLING						MATERIAL				
PROGRESS			SAMPLING							
DRILLING & CASING	WATER	GROUND WATER LEVELS	GEO	ENV	IDs and REMARKS	RL / DEPTH (m)	GRAPHIC LOG	DESCRIPTION OF STRATA	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	TEST RESULTS & COMMENTS
		No free groundwater observed		E	B16-A-1	0.0		SILT (ML): pale brown; some rootlets	humid		
								0.10m			
								SILTY CLAY (CH): brown	humid to damp	H	
				E	B16-A-2			0.50m			
						0.5		Bore discontinued at 0.50m depth Target Depth Reached			
						1.0					

REFER TO EXPLANATORY NOTES FOR DESCRIPTION OF SYMBOLS AND ABBREVIATIONS

RIG: Hand Auger **DRILLER:** **LOGGED:** MJID **CHECKED:** MJID

REMARKS:

GRID DATUM: MGA94 Zone 55

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
B	Bulk sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	▻	Water seep	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▼	Water level	SPT	Standard penetration test
E	Envirnmental Sample	PID	Photo ionisation detector (ppm)	V	Shear vane (kPa)

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Geotechnics / Environment / Groundwater

BOREHOLE LOG

CLIENT: Broadcast Australia Pty Ltd
PROJECT: Proposed Rezoning
LOCATION: 250 Taylors Road, Delahey

SURFACE LEVEL:
EASTING: 304642
NORTHING: 5822457
DIP/AZIMUTH: -90/--

BORE No: B19-A
PROJECT NO: 42662.01
DATE: 7/1/2019
SHEET: 1 of 1

DRILLING						MATERIAL				
PROGRESS			SAMPLING							
DRILLING & CASING	WATER	GROUND WATER LEVELS	GEO	ENV	IDs and REMARKS	RL / DEPTH (m)	GRAPHIC LOG	DESCRIPTION OF STRATA	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	TEST RESULTS & COMMENTS
		No free groundwater observed		E	B19-A-1	0.0		SILT (ML): grey	humid	VH	
								0.04m			
								SILTY CLAY (CH): grey	humid to moist	H	
				E	B19-A-2			0.50m			
						0.5		Bore discontinued at 0.50m depth Target Depth Reached			
						1.0					

REFER TO EXPLANATORY NOTES FOR DESCRIPTION OF SYMBOLS AND ABBREVIATIONS

RIG: Hand Auger **DRILLER:** **LOGGED:** MJID **CHECKED:** MJID

REMARKS:

GRID DATUM: MGA94 Zone 55

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
B	Bulk sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	▻	Water seep	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▼	Water level	SPT	Standard penetration test
E	Envirnmental Sample	PID	Photo ionisation detector (ppm)	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

BOREHOLE LOG

CLIENT: Broadcast Australia Pty Ltd
PROJECT: Proposed Rezoning
LOCATION: 250 Taylors Road, Delahey

SURFACE LEVEL:
EASTING: 304497
NORTHING: 5822578
DIP/AZIMUTH: -90/--

BORE No: B21-A
PROJECT NO: 42662.01
DATE: 7/1/2019
SHEET: 1 of 1

DRILLING						MATERIAL				
PROGRESS			SAMPLING							
DRILLING & CASING	WATER	GROUND WATER LEVELS	GEO	ENV	IDs and REMARKS	RL / DEPTH (m)	GRAPHIC LOG	DESCRIPTION OF STRATA	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	TEST RESULTS & COMMENTS
		No free groundwater observed		E	B21-A-1	0.0		SILT (ML): pale grey	humid		
								0.05m			
								SILTY CLAY (CH): brown grey	humid to moist	H	
				E	B21-A-2						
						0.5		0.50m			
								Bore discontinued at 0.50m depth Target Depth Reached			
						1.0					

REFER TO EXPLANATORY NOTES FOR DESCRIPTION OF SYMBOLS AND ABBREVIATIONS

RIG: Hand Auger **DRILLER:** **LOGGED:** MJID **CHECKED:** MJID

REMARKS: **GRID DATUM:** MGA94 Zone 55

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
B	Bulk sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	▻	Water seep	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▼	Water level	SPT	Standard penetration test
E	Envirnmental Sample	PID	Photo ionisation detector (ppm)	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

BOREHOLE LOG

CLIENT: Broadcast Australia Pty Ltd
PROJECT: Proposed Rezoning
LOCATION: 250 Taylors Road, Delahey

SURFACE LEVEL:
EASTING: 304946
NORTHING: 5822620
DIP/AZIMUTH: -90/--

BORE No: B23-A
PROJECT NO: 42662.01
DATE: 7/1/2019
SHEET: 1 of 1

DRILLING						MATERIAL				
PROGRESS			SAMPLING							
DRILLING & CASING	WATER	GROUND WATER LEVELS	GEO	ENV	IDs and REMARKS	RL / DEPTH (m)	GRAPHIC LOG	DESCRIPTION OF STRATA	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	TEST RESULTS & COMMENTS
		No free groundwater observed		E	B23-A-1	0.0		SILT (ML): pale grey brown	humid		
								0.03m SILTY CLAY (CH): brown	humid to damp	H	
				E	B23-A-2			0.50m			
						0.5		Bore discontinued at 0.50m depth Target Depth Reached			
						1.0					

REFER TO EXPLANATORY NOTES FOR DESCRIPTION OF SYMBOLS AND ABBREVIATIONS

RIG: Hand Auger **DRILLER:** **LOGGED:** MJID **CHECKED:** MJID

REMARKS: **GRID DATUM:** MGA94 Zone 55

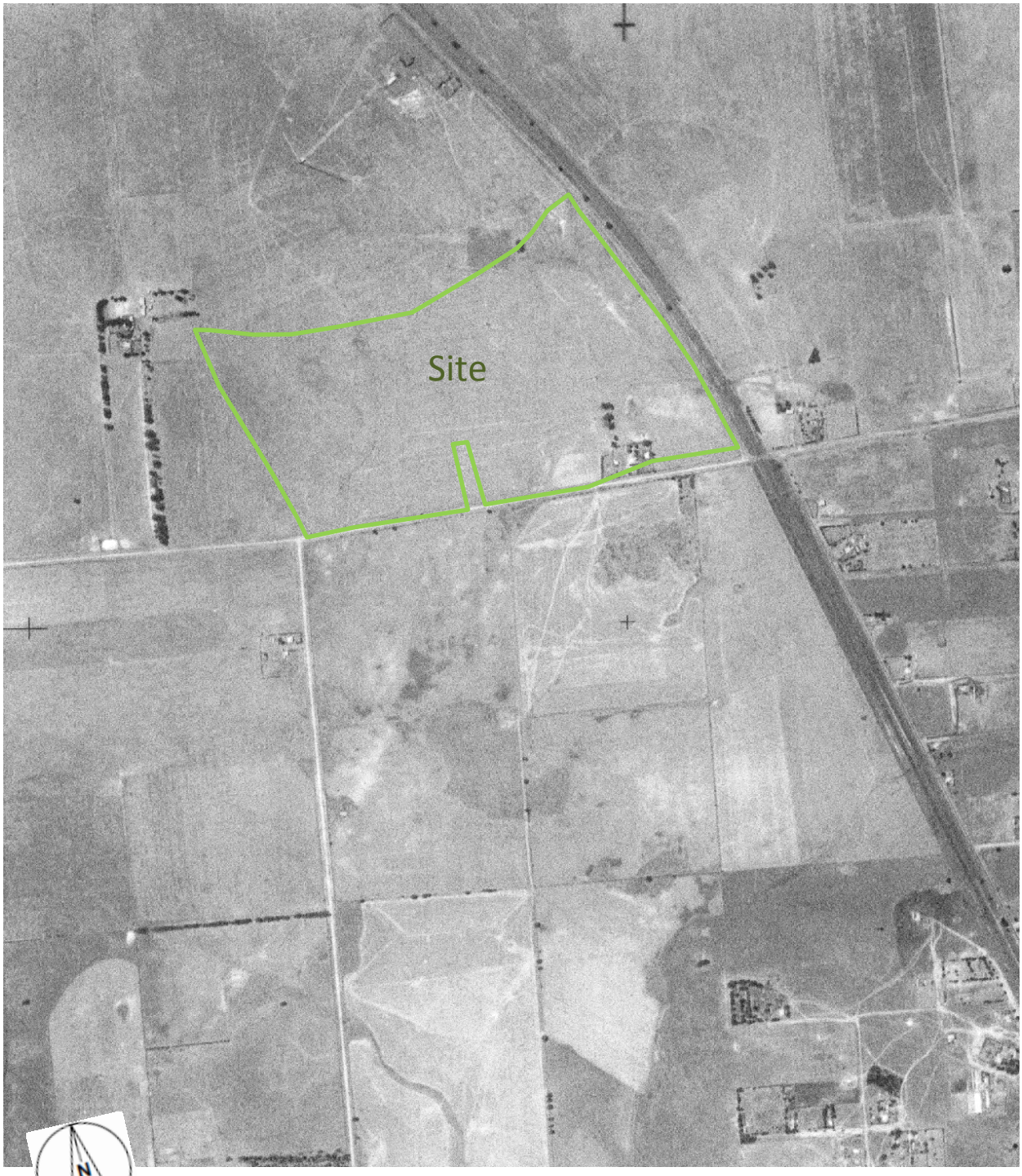
SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
B	Bulk sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	▻	Water seep	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▼	Water level	SPT	Standard penetration test
E	Envirnmental Sample	PID	Photo ionisation detector (ppm)	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

Appendix D

Site History Documents



Aerial Photograph from 1951
Sourced from DELWP
Film 1420, 12,200 feet, photo number 134

Douglas Partners Geotechnics / Environment / Groundwater	**Aerial Photographs**	Project 42662.01
	250 Taylors Road, Delahey	Plate No: 1
		Rev: 1
	Client: Broadcast Australia Pty Ltd	Date: 1 Feb 2019

Aerial Photograph from 1960
Sourced from DELWP
Film 1280, 8,200 feet, Photo number 72

Douglas Partners Geotechnics I Environment I Groundwater	**Aerial Photographs**	Project 42662.01
	250 Taylors Road, Delahey	Plate No: 2
		Rev: 1
	Client: Broadcast Australia Pty Ltd	Date: 1 Feb 2019

Aerial photograph from 1970,
Sourced from DELWP
Film 2364, 5,100 feet, Photo number 161

Douglas Partners Geotechnics I Environment I Groundwater	**Aerial Photographs**	Project 42662.01
	250 Taylors Road, Delahey	Plate No: 3
		Rev: 1
	Client: Broadcast Australia Pty Ltd	Date: 1 Feb 2019

N

Aerial Photograph from 1982,
Sourced from DELWP
Film 3695, 13,000 feet, Photo number 201

Douglas Partners Geotechnics I Environment I Groundwater	**Aerial Photographs**	Project 42662.01
	250 Taylors Road, Delahey	Plate No: 4
		Rev: 1
	Client: Broadcast Australia Pty Ltd	Date: 1 Feb 2019

Aerial Photograph from 1991,
Sourced from DELWP
Film 4412, 8,300 feet, photo number 50

Douglas Partners Geotechnics / Environment / Groundwater	**Aerial Photographs**	Project 42662.01
	250 Taylors Road, Delahey	Plate No: 5
		Rev: 1
	Client: Broadcast Australia Pty Ltd	Date: 1 Feb 2019

N

Aerial photograph from 2006,
Sourced from Google Earth

Douglas Partners Geotechnics / Environment / Groundwater	**Aerial Photographs**	Project 42662.01
	250 Taylors Road, Delahey	Plate No: 6
		Rev: 1
	Client: Broadcast Australia Pty Ltd	Date: 1 Feb 2019

N

September 2014 Aerial image
Sourced from NearMap

Douglas Partners Geotechnics / Environment / Groundwater	**Aerial Photographs**	Project 42662.01
	250 Taylors Road, Delahey	Plate No: 7
		Rev: 1
	Client: Broadcast Australia Pty Ltd	Date: 1 Feb 2019

October 2018 Aerial image
Sourced from NearMap

Douglas Partners Geotechnics / Environment / Groundwater	**Aerial Photographs**	Project 42662.01
	250 Taylors Road, Delahey	Plate No: 8
		Rev: 1
	Client: Broadcast Australia Pty Ltd	Date: 1 Feb 2019

State Government Victoria
Department of Sustainability and Environment

Description: Lot 2 of Plan TP12442M

SPI	Parish	Municipality
2\TP12442	Unknown	Unknown

Address:	Property Municipality:	Property Number:
2-148 SYDENHAM ROAD, DELAHEY 3037	BRIMBANK	307983
250 TAYLORS ROAD, DELAHEY 3037	BRIMBANK	931303

Related Title(s)

Volume Folio:			
10533/210 (Cancelled)	View Title	10758/746	View Title

Related Owners Corporations:
No Owners Corporation could be located

View Plan

View Survey Reports

Home	Account: 25700	Victoria The Place To Be	Fee: $5.66 GST: $0.56 Total: $6.22	06/01/2010 12:17PM

Your reference: cima

Number: **10021370**

Product Report

Search Type	Customer	Reference	Document
Register	**25700**	**cima**	**Title 10758/746**

Search Statement supplied and Plan to be supplied.

FINAL SEARCH STATEMENT **Land Victoria**

Security No : 124032302216Y Volume 10758 Folio 746

Produced 06/01/2010 12:17 PM

ACTIVITY IN THE LAST 125 DAYS

NIL

STATEMENT END

NOTE

This statement details any dealing with the land being searched which has either been registered within the last 105 days or which remains unregistered other than a dealing affecting a Subdivision Act plan or strata or cluster subdivision a memorandum of which or a reference to which has been or is to be entered on the plan.

If the land is part of a Subdivision Act plan or strata or cluster subdivision the relevant plan should be inspected.

Incl GST:**$0.00** Fee: **$8.95**

REGISTER SEARCH STATEMENT (Title Search) Transfer of Land Act 1958

VOLUME 10758 FOLIO 746

Security no : 124032302214C
Produced 06/01/2010 12:17 pm

LAND DESCRIPTION
Lot 2 on Title Plan 012442M.
PARENT TITLE Volume 10533 Folio 210
Created by instrument AC378604R 02/10/2003

REGISTERED PROPRIETOR
Estate Fee Simple
Sole Proprietor
BROADCAST AUSTRALIA PTY LTD of LEVEL 3, 655 PACIFIC HIGHWAY ST LEONARDS NSW

2065
W601596E 16/02/2000

ENCUMBRANCES, CAVEATS AND NOTICES

Any encumbrances created by Section 98 Transfer of Land Act 1958 or Section

24 Subdivision Act 1988 and any other encumbrances shown or entered on the plan set out under DIAGRAM LOCATION below.

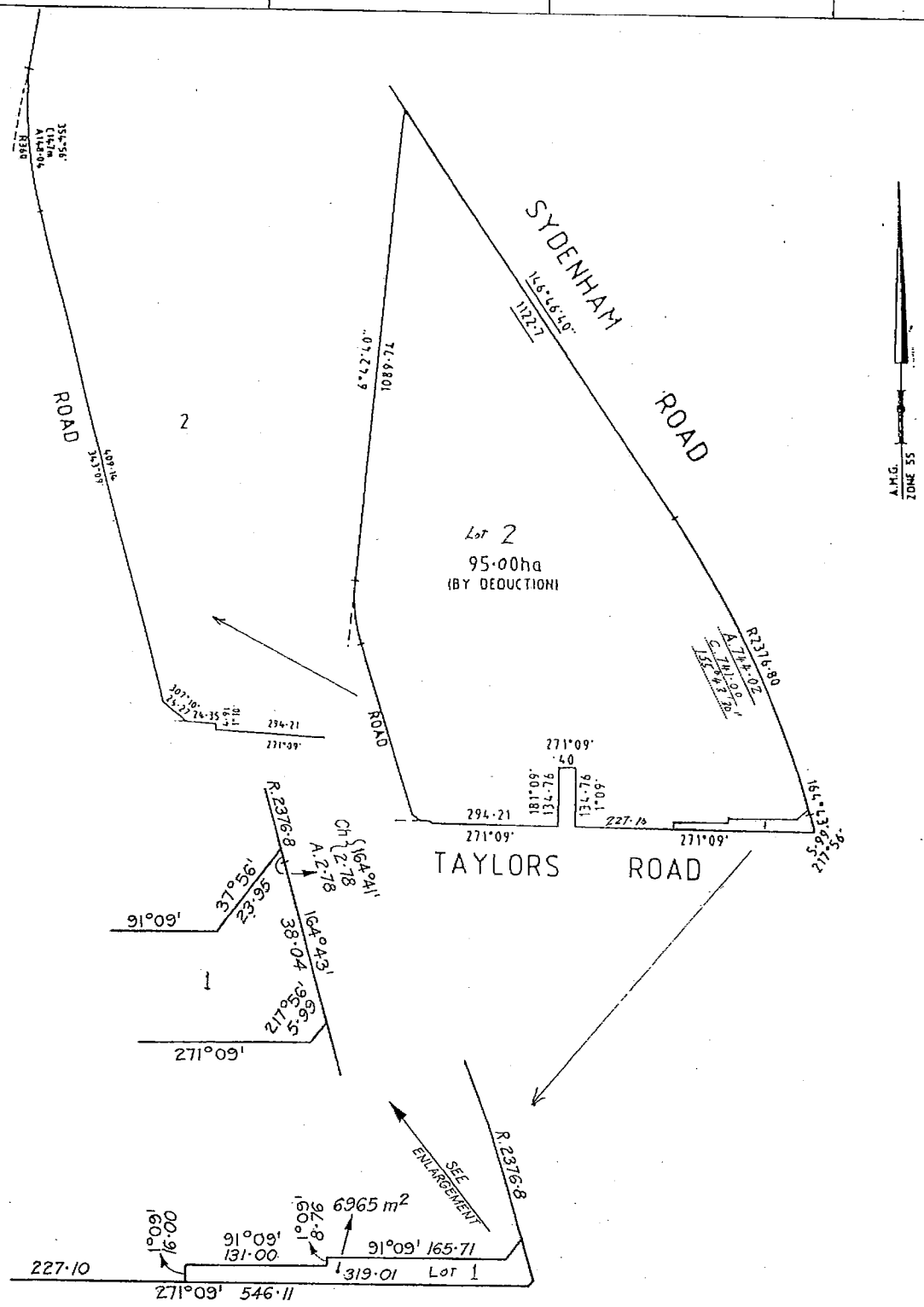
DIAGRAM LOCATION
SEE TP012442M FOR FURTHER DETAILS AND BOUNDARIES

ACTIVITY IN THE LAST 125 DAYS

NIL

DOCUMENT END

TITLE PLAN		EDITION 1	TP12442M



LENGTHS ARE IN METRES	SCALE	SHEET SIZE A3	FILE NO: V699600W
© Victorian Land Titles Office	Drawn By:	DEALING CODE:	Sheet 2 of 2

TITLE PLAN		EDITION 1	TP12442M

Location of Land

Parish: MARIBYRNONG
Township:
Section: B
Crown Allotment: 25 (PART)
Crown Portion:

LTO Base Record: DCMB
Last Plan Reference: TP7724F (LOT 2)
Title References: VOL. 10351 FOL. 934
Depth Limitation: NIL

Notations

Easement Information

Easement Reference	Purpose / Authority	Width (Metres)	Origin	Land benefitted / In favour of

THIS PLAN HAS BEEN PREPARED FOR LAND TITLES OFFICE TITLE DIAGRAM PURPOSES

Checked by .....

Date 27 / 1 / 99

Assistant Registrar of Titles

SEE SHEET 2

LENGTHS ARE IN METRES	SCALE	SHEET SIZE A3	FILE NO: V699600W

© Victorian Land Titles Office	Drawn By:	DEALING CODE:	Sheet 1 of 2

Number: **10021372**

Product Report

Search Type	Customer	Reference	Document
Historical	**25700**	**cima**	**Title 10758/746**

Historical Search Statement supplied.

Incl GST:**$0.00** Fee: **$6.20**

HISTORICAL SEARCH STATEMENT

Produced 06/01/2010 12:18 PM

Volume 10758 Folio 746
Folio Creation: Created as a computer folio
Parent title Volume 10533 Folio 210

HISTORICAL SEARCH STATEMENT

RECORD OF ALTS DEALINGS

Date Lodged for Registration	Date Recorded on Register	Dealing	Imaged	Dealing Type and Details

RECORD OF VOTS DEALINGS

Date Lodged for Registration	Date Recorded on Register	Dealing	Imaged
22/06/2006	23/06/2006	AE431138J	Y

APPLICATION RE NOTICE OF INTENTION TO ACQUIRE LAND
NOTICE as to part Section 10(1) Land Acquisition and Compensation Act 1986
ROADS CORPORATION
ADDRESS FOR SERVICE OF NOTICES
VICROADS PROPERTY, ROADS CORPORATION of 60 DENMARK STREET KEW VIC 3101
AE431138J 22/06/2006

31/07/2006	01/08/2006	AE513223N	Y

CANCELLATION OF NOTICE OF INTENTION TO AQUIRE
NOTICE AE431138J REMOVED

STATEMENT END

HISTORICAL SEARCH STATEMENT

VOTS Snapshot

Volume 10758 Folio 746
124007881043B
Produced 21/10/2003 02:59 pm

LAND DESCRIPTION
Lot 2 on Title Plan 012442M.
PARENT TITLE Volume 10533 Folio 210
Created by instrument AC378604R 02/10/2003

REGISTERED PROPRIETOR
Estate Fee Simple
Sole Proprietor
BROADCAST AUSTRALIA PTY LTD of LEVEL 3, 655 PACIFIC HIGHWAY ST LEONARDS NSW 2065
W601596E 16/02/2000

ENCUMBRANCES, CAVEATS AND NOTICES

Any encumbrances created by Section 98 Transfer of Land Act 1958 or Section 24 Subdivision Act 1988 and any other encumbrances shown or entered on the plan set out under DIAGRAM LOCATION below.

DIAGRAM LOCATION
SEE TP012442M FOR FURTHER DETAILS AND BOUNDARIES

Number: **10021373**

Product Report

Search Type	Customer	Reference	Document
Historical	**25700**	**cima**	**Title 10533/210**

Historical Search Statement supplied.

Incl GST:**$0.00** Fee: **$6.20**

HISTORICAL SEARCH STATEMENT

Produced 06/01/2010 12:18 PM

Volume 10533 Folio 210
Folio Creation: Details Unknown
Parent title Volume 10425 Folio 452

HISTORICAL SEARCH STATEMENT

RECORD OF ALTS DEALINGS

Date Lodged for Registration	Date Recorded on Register	Dealing	Imaged	Dealing Type and Details

RECORD OF VOTS DEALINGS

Date Lodged for Registration	Date Recorded on Register	Dealing	Imaged
02/10/2003	21/10/2003	AC378604R	Y

Cancelled by AC378604R

STATEMENT END

HISTORICAL SEARCH STATEMENT

VOTS Snapshot

Volume 10533 Folio 210
124007880830J
Produced 21/10/2003 02:56 pm

LAND DESCRIPTION
Lot 2 on Title Plan 012442M.
PARENT TITLE Volume 10425 Folio 452
Created by instrument W745474K 27/04/2000

REGISTERED PROPRIETOR
Estate Fee Simple
Sole Proprietor
NTL AUSTRALIA PTY LIMITED of LEVEL 5 BLUE BLDG. BENJAMIN OFFICES BENJAMIN WAY BELCONNEN ACT 2617
W601596E 16/02/2000

ENCUMBRANCES, CAVEATS AND NOTICES

Any encumbrances created by Section 98 Transfer of Land Act 1958 or Section 24 Subdivision Act 1988 and any other encumbrances shown or entered on the plan set out under DIAGRAM LOCATION below.

DIAGRAM LOCATION
SEE TP012442M FOR FURTHER DETAILS AND BOUNDARIES

Number: **10021375**

Product Report

Search Type	Customer	Reference	Document
Historical	**25700**	**cima**	**Title 10425/452**

Historical Search Statement supplied.

Incl GST:**$0.00** Fee: **$6.20**

HISTORICAL SEARCH STATEMENT

Produced 06/01/2010 12:19 PM

Volume 10425 Folio 452
Folio Creation: Created as paper folio continued as computer folio
Parent title Volume 10351 Folio 934

HISTORICAL SEARCH STATEMENT

RECORD OF ALTS DEALINGS

Date Lodged for Registration	Date Recorded on Register	Dealing	Imaged	Dealing Type and Details
16/02/2000	07/04/2000	W601596E	Y	TRANSFER NATIONAL TRANSMISSION COMPANY PTY LTD
16/02/2000	18/07/2000	W601596E	Y	TRANSFER NTL AUSTRALIA PTY LIMITED

RECORD OF VOTS DEALINGS

Date Lodged for Registration	Date Recorded on Register	Dealing	Imaged

STATEMENT END

Number: **10021379**

Product Report

Search Type	Customer	Reference	Document
Historical	**25700**	**cima**	**Title 10351/934**

Historical Search Statement supplied.

Incl GST:**$0.00** Fee: **$6.20**

HISTORICAL SEARCH STATEMENT

Produced 06/01/2010 12:19 PM

Volume 10351 Folio 934
Folio Creation: Created as a computer folio
Parent title Volume 10344 Folio 018