

Tables

Table A: Summary of Relative Percentage Difference (RPD) for Duplicate Samples

Sample ID	A4	DUP 1	RPD%	D5	DUP 2	RPD%	I7	DUP 3	RPD%	E5	DUP 4	RPD%	I5	DUP 5	RPD%
Depth (m)	0.0-0.15	0.0-0.15	between	0.0-0.15	0.0-0.15	between	0.0-0.15	0.0-0.15	between	0.0-0.15	0.0-0.15	between	0.0-0.15	0.0-0.15	between I5 and DUP 5
Material	Soil	Soil	A4 and	Soil	Soil	D5 and	Soil	Soil	I7 and	Soil	Soil	E5 and	Soil	Soil	
Date of Sampling	26-Nov-07	26-Nov-07	DUP 1	26-Nov-07	26-Nov-07	DUP 2	26-Nov-07	26-Nov-07	DUP 3	26-Nov-07	26-Nov-07	DUP 4	26-Nov-07	26-Nov-07	
Arsenic	34	39	14	68	67	1	210	360	53	110	130	17	38	38	0
Lead	21	19	10	23	22	4	8.8	9.6	9	21	27	25	15	18	18

Sample ID	J2	DUP 6	RPD%	L9	DUP 7	RPD%	L10	DUP 8	RPD%	M7	DUP 9	RPD%	S5	DUP 10	RPD%
Depth (m)	0.0-0.15	0.0-0.15	between	0.0-0.15	0.0-0.15	between	0.0-0.15	0.0-0.15	between	0.0-0.15	0.0-0.15	between	0.0-0.15	0.0-0.15	between S5 and DUP 10
Material	Soil	Soil	J2 and	Soil	Soil	L9 and	Soil	Soil	L10 and	Soil	Soil	M7 and	Soil	Soil	
Date of Sampling	26-Nov-07	26-Nov-07	DUP 6	27-Nov-07	27-Nov-07	DUP 7	27-Nov-07	27-Nov-07	DUP 8	27-Nov-07	27-Nov-07	DUP 9	27-Nov-07	27-Nov-07	
Arsenic	14	21	40	7.4	8.1	9	76	54	34	46	25	59	19	25	27
Lead	11	16	37	11	12	9	11	8.9	21	19	15	24	6.5	12	59

Sample ID	Q1	DUP 11	RPD%	T9	DUP 12	RPD%	T7	DUP 13	RPD%	T2	DUP 14	RPD%	HOUSE 2	DUPHOUSE	RPD%
Depth (m)	0.0-0.15	0.0-0.15	between	0.0-0.15	0.0-0.15	between	0.0-0.15	0.0-0.15	between	0.0-0.15	0.0-0.15	between	0.0-0.15	0.0-0.15	between HOUSE 2 & DUPHOUSE
Material	Soil	Soil	Q1 and	Soil	Soil	T9 and	Soil	Soil	T7 and	Soil	Soil	T2 and	Soil	Soil	
Date of Sampling	27-Nov-07	27-Nov-07	DUP 11	30-Nov-07	30-Nov-07	DUP 12	30-Nov-07	30-Nov-07	DUP 13	30-Nov-07	30-Nov-07	DUP 14	05-Dec-07	05-Dec-07	
Arsenic	4.3	2.9	39	80	67	18	37	57	43	140	120	15	6	7.5	22
Lead	7.2	5.2	32	17	16	6	24	22	9	13	11	17	52	43	19
Cadmium	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	<0.5	NA
Chromium	-	-	-	-	-	-	-	-	-	-	-	-	11	11	0
Copper	-	-	-	-	-	-	-	-	-	-	-	-	15	12	22
Nickel	-	-	-	-	-	-	-	-	-	-	-	-	5.6	<5	NA
Zinc	-	-	-	-	-	-	-	-	-	-	-	-	1400	1200	15
Mercury	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	NA
Aldrin & Dieldrin	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	NA
DDD + DDE + DDT	-	-	-	-	-	-	-	-	-	-	-	-	<0.15	<0.15	NA
Chlordane	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	NA
Heptachlor	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	<0.05	NA
Total OCP	-	-	-	-	-	-	-	-	-	-	-	-	<1.15	<1.15	NA
Total OPP	-	-	-	-	-	-	-	-	-	-	-	-	<4.2	<4.2	NA

Notes:

Value RPD exceeds control limit of 50%

- Not Tested

NA RPD is impractical to calculate

Table B: Summary of Laboratory Results for Arsenic and Lead in Banana Area 1

Sample ID	Threshold Concentrations		A4	B4	B5	B6	B7	C4	C5	C6	C7	C8	D5	D6	D7	D8	D9	D10	E4	E5	E6	E7
Depth (m)	Provisional Phytotoxicity	Residential Use	0.0-0.15	0.0-0.15	0.0-0.15	0.0-0.15	0.0-0.15	0.0-0.15	0.0-0.15	0.0-0.15	0.0-0.15	0.0-0.15	0.0-0.15	0.0-0.15	0.0-0.15	0.0-0.15	0.0-0.15	0.0-0.15	0.0-0.15	0.0-0.15	0.0-0.15	0.0-0.15
Material			Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Date of Sampling			26-Nov-07	26-Nov-07	26-Nov-07	26-Nov-07	26-Nov-07	26-Nov-07	26-Nov-07	26-Nov-07	26-Nov-07	26-Nov-07	26-Nov-07	26-Nov-07	26-Nov-07	26-Nov-07	26-Nov-07	26-Nov-07	26-Nov-07	26-Nov-07	26-Nov-07	26-Nov-07
Metals																						
Arsenic	20 ¹	100 ²	34	38	47	56	140	8.7	54	64	61	8.9	68	97	54	82	150	110	4.3	110	230	46
Lead	600 ¹	300 ²	21	12	15	8.4	14	68	14	19	11	18	23	28	19	18	13	12	16	21	45	10

Sample ID	Threshold Concentrations		E8	E9	E10	E11	F3	F4	F5	F6	F7	F8	F9	F10	G3	G4	G5	G6	G7	G8	G9	H1
Depth (m)	Provisional Phytotoxicity	Residential Use	0.0-0.15	0.0-0.15	0.0-0.15	0.0-0.15	0.0-0.15	0.0-0.15	0.0-0.15	0.0-0.15	0.0-0.15	0.0-0.15	0.0-0.15	0.0-0.15	0.0-0.15	0.0-0.15	0.0-0.15	0.0-0.15	0.0-0.15	0.0-0.15	0.0-0.15	0.0-0.15
Material			Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Date of Sampling			26-Nov-07	26-Nov-07	27-Nov-07	26-Nov-07	26-Nov-07	26-Nov-07	26-Nov-07	26-Nov-07	27-Nov-07	27-Nov-07	27-Nov-07	27-Nov-07	27-Nov-07	26-Nov-07	27-Nov-07	26-Nov-07	27-Nov-07	26-Nov-07	26-Nov-07	26-Nov-07
Metals																						
Arsenic	20 ¹	100 ²	130	56	83	19	110	< 2	140	67	120	110	160	59	28	110	170	71	55	35	60	72
Lead	600 ¹	300 ²	12	12	11	13	15	18	21	22	25	29	14	11	16	36	31	26	24	35	17	8

Sample ID	Threshold Concentrations		H2	H3	H4	H5	H6	H7	H8	I1	I2	I3	I4	I5	I6	I7	J2	J3	J4	K4
Depth (m)	Provisional Phytotoxicity	Residential Use	0.0-0.15	0.0-0.15	0.0-0.15	0.0-0.15	0.0-0.15	0.0-0.15	0.0-0.15	0.0-0.15	0.0-0.15	0.0-0.15	0.0-0.15	0.0-0.15	0.0-0.15	0.0-0.15	0.0-0.15	0.0-0.15	0.0-0.15	0.0-0.15
Material			Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Date of Sampling			26-Nov-07	26-Nov-07	26-Nov-07	26-Nov-07	26-Nov-07	26-Nov-07	26-Nov-07	26-Nov-07	26-Nov-07	26-Nov-07	26-Nov-07	26-Nov-07	26-Nov-07	26-Nov-07	26-Nov-07	26-Nov-07	26-Nov-07	26-Nov-07
Metals																				
Arsenic	20 ¹	100 ²	100	90	56	89	47	40	140	43	43	52	44	38	56	210	14	85	44	18
Lead	600 ¹	300 ²	14	37	17	15	14	26	27	15	14	14	12	15	16	8.8	11	14	15	12

Notes

Value	Concentration exceeds the Provisional Phytotoxicity criteria
Value	Concentration exceeds the Residential Use criteria

¹ Based on NSW DEC (2006), Guidelines for the NSW Site Auditor Scheme (2nd ed) - Column 1 HIL Residential with accessible soil and NSW EPA (1997) Guidelines for Assessing Banana Plantation Sites - Table B Human Health Investigation Thresholds for the primary contaminants in bananalands

² Based on NSW DEC (2006), Guidelines for the NSW Site Auditor Scheme (2nd ed) - Column 5 Provisional Phytotoxicity based investigation levels

Table C: Summary of Laboratory Results for Arsenic and Lead in Banana Area 2

Sample ID	Threshold Concentrations		T1	T2	T3	T4	T5	T6	T7	T8	T9	U1	U2	U3	U4	U5
Depth (m)	Provisional Phytotoxicity	Residential Use	0.0-0.15	0.0-0.15	0.0-0.15	0.0-0.15	0.0-0.15	0.0-0.15	0.0-0.15	0.0-0.15	0.0-0.15	0.0-0.15	0.0-0.15	0.0-0.15	0.0-0.15	0.0-0.15
Material			Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Date of Sampling			30-Nov-07	30-Nov-07	30-Nov-07	30-Nov-07	30-Nov-07	30-Nov-07	30-Nov-07	30-Nov-07	30-Nov-07	30-Nov-07	30-Nov-07	30-Nov-07	30-Nov-07	30-Nov-07
Metals																
Arsenic	20 ¹	100 ²	240	140	60	100	260	170	37	83	80	110	120	51	110	240
Lead	600 ¹	300 ²	15	13	15	19	24	19	24	17	17	13	11	5.2	16	19

Sample ID	Threshold Concentrations		U6	U7	U8	U9	V1	V2	V3	V4	V5	V6	V7	V8	V9
Depth (m)	Provisional Phytotoxicity	Residential Use	0.0-0.15	0.0-0.15	0.0-0.15	0.0-0.15	0.0-0.15	0.0-0.15	0.0-0.15	0.0-0.15	0.0-0.15	0.0-0.15	0.0-0.15	0.0-0.15	0.0-0.15
Material			Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Date of Sampling			30-Nov-07	30-Nov-07	30-Nov-07	30-Nov-07	30-Nov-07	30-Nov-07	30-Nov-07	30-Nov-07	30-Nov-07	30-Nov-07	30-Nov-07	30-Nov-07	30-Nov-07
Metals															
Arsenic	20 ¹	100 ²	120	70	58	69	16	190	170	230	94	130	48	61	45
Lead	600 ¹	300 ²	20	23	17	15	9.4	10	8.1	13	12	21	15	19	13

Notes

Value	Concentration exceeds the Provisional Phytotoxicity criteria
Value	Concentration exceeds the Residential Use criteria

¹ Based on NSW DEC (2006), Guidelines for the NSW Site Auditor Scheme (2nd ed) - Column 1 HIL Residential with accessible soil and NSW EPA (1997) Guidelines for Assessing Banana Plantation Sites - Table B Human Health Investigation Thresholds for the primary contaminants in bananalands

² Based on NSW DEC (2006), Guidelines for the NSW Site Auditor Scheme (2nd ed) - Column 5 Provisional Phytotoxicity based investigation levels

Table D: Summary of Laboratory Results for Arsenic and Lead in Banana Area 3

Sample ID	Threshold Concentrations		L9	L10	L12	M6	M7	M8	M9	M10	M11	N3	N7	N8	N9	N10	N11	O2	O3	O4	O7	O8
Depth (m)	Provisional Phytotoxicity	Residential Use	0.0-0.15	0.0-0.15	0.0-0.15	0.0-0.15	0.0-0.15	0.0-0.15	0.0-0.15	0.0-0.15	0.0-0.15	0.0-0.15	0.0-0.15	0.0-0.15	0.0-0.15	0.0-0.15	0.0-0.15	0.0-0.15	0.0-0.15	0.0-0.15	0.0-0.15	0.0-0.15
Material			Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Date of Sampling			27-Nov-07	27-Nov-07	27-Nov-07	27-Nov-07	27-Nov-07	27-Nov-07	27-Nov-07	27-Nov-07	27-Nov-07	27-Nov-07	27-Nov-07	27-Nov-07	27-Nov-07	27-Nov-07	27-Nov-07	27-Nov-07	27-Nov-07	27-Nov-07	27-Nov-07	27-Nov-07
Metals																						
Arsenic	20 ¹	100 ²	7.4	76	17	2.3	46	140	91	78	100	3.9	84	140	78	78	110	3.3	53	34	83	98
Lead	600 ¹	300 ²	11	11	12	14	19	15	11	14	13	11	28	15	14	17	14	6.8	12	10	21	17

Sample ID	Threshold Concentrations		O9	O10	O11	P2	P3	P4	P5	P6	P7	P8	P9	P10	P11	P12	Q1	Q2	Q3	Q4	Q5	Q6
Depth (m)	Provisional Phytotoxicity	Residential Use	0.0-0.15	0.0-0.15	0.0-0.15	0.0-0.15	0.0-0.15	0.0-0.15	0.0-0.15	0.0-0.15	0.0-0.15	0.0-0.15	0.0-0.15	0.0-0.15	0.0-0.15	0.0-0.15	0.0-0.15	0.0-0.15	0.0-0.15	0.0-0.15	0.0-0.15	0.0-0.15
Material			Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Date of Sampling			27-Nov-07	27-Nov-07	27-Nov-07	27-Nov-07	27-Nov-07	27-Nov-07	27-Nov-07	27-Nov-07	27-Nov-07	27-Nov-07	27-Nov-07	27-Nov-07	27-Nov-07	27-Nov-07	27-Nov-07	27-Nov-07	27-Nov-07	27-Nov-07	27-Nov-07	27-Nov-07
Metals																						
Arsenic	20 ¹	100 ²	63	14	8.7	5.2	34	78	29	68	55	51	59	68	38	3.2	4.3	6.2	29	32	65	71
Lead	600 ¹	300 ²	14	9	10	6.4	5.4	12	14	20	20	13	10	110	7.8	6.9	7.2	< 5	7.9	11	10	23

Sample ID	Threshold Concentrations		Q7	Q8	Q9	Q10	R3	R4	R5	R6	R7	R8	R9	R10	S5	S6	S7	S8	S9	S10
Depth (m)	Provisional Phytotoxicity	Residential Use	0.0-0.15	0.0-0.15	0.0-0.15	0.0-0.15	0.0-0.15	0.0-0.15	0.0-0.15	0.0-0.15	0.0-0.15	0.0-0.15	0.0-0.15	0.0-0.15	0.0-0.15	0.0-0.15	0.0-0.15	0.0-0.15	0.0-0.15	0.0-0.15
Material			Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Date of Sampling			27-Nov-07	27-Nov-07	27-Nov-07	27-Nov-07	27-Nov-07	27-Nov-07	27-Nov-07	27-Nov-07	27-Nov-07	27-Nov-07	27-Nov-07	27-Nov-07	27-Nov-07	27-Nov-07	27-Nov-07	27-Nov-07	27-Nov-07	27-Nov-07
Metals																				
Arsenic	20 ¹	100 ²	63	89	110	51	11	38	12	20	13	60	100	33	19	55	33	18	100	77
Lead	600 ¹	300 ²	21	12	11	52	6.1	8	9.5	13	9.9	15	11	8.8	6.5	11	9.1	10	9.6	8.9

Notes

Value	Concentration exceeds the Provisional Phytotoxicity criteria
Value	Concentration exceeds the Residential Use criteria

¹ Based on NSW DEC (2006), Guidelines for the NSW Site Auditor Scheme (2nd ed) - Column 1 HIL Residential with accessible soil and NSW EPA (1997) Guidelines for Assessing Banana Plantation Sites - Table B Human Health Investigation Thresholds for the primary contaminants in bananalands

² Based on NSW DEC (2006), Guidelines for the NSW Site Auditor Scheme (2nd ed) - Column 5 Provisional Phytotoxicity based investigation levels

Table E: Summary of Laboratory Results for Organochlorine Pesticides in Composite Samples from Banana Areas 1, 2 and 3

Area 1																	
Sample ID	Threshold Concentrations		AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO
Depth (m)	Residential Use (modified for 4 samples)	Residential Use (modified for 3 samples)	0.0-0.075	0.0-0.075	0.0-0.075	0.0-0.075	0.0-0.075	0.0-0.075	0.0-0.075	0.0-0.075	0.0-0.075	0.0-0.075	0.0-0.075	0.0-0.075	0.0-0.075	0.0-0.075	0.0-0.075
Material			Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Date of Sampling			26-Nov-07	26-Nov-07	26-Nov-07	26-Nov-07	26-Nov-07	26-Nov-07	26-Nov-07	26-Nov-07	26-Nov-07	26-Nov-07	26-Nov-07	26-Nov-07	26-Nov-07	26-Nov-07	26-Nov-07
Organochlorine Pesticides																	
Aldrin + Dieldrin	2.5 ³	3.3 ⁴	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.55	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
DDD + DDE + DDT	50 ³	66.6 ⁴	0.11	<0.15	<0.15	<0.15	0.18	<0.15	<0.15	0.21	0.8	0.11	<0.15	<0.15	0.1	<0.15	<0.15
Chlordane	12.5 ³	16.6 ⁴	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Heptachlor	2.5 ³	3.3 ⁴	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Total OCP			<1.16	<1.15	<1.15	<1.15	<1.23	<1.15	<1.15	<1.76	<1.8	<1.16	<1.15	<1.15	<1.15	<1.15	<1.15

Area 2											
Sample ID	Threshold Concentrations		CA	CB	CC	CD	CE	CF	CG	CH	CI
Depth (m)	Residential Use (modified for 4 samples)	Residential Use (modified for 3 samples)	0.0-0.075	0.0-0.075	0.0-0.075	0.0-0.075	0.0-0.075	0.0-0.075	0.0-0.075	0.0-0.075	0.0-0.075
Material			Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Date of Sampling			27-Nov-07	27-Nov-07	27-Nov-07	27-Nov-07	27-Nov-07	27-Nov-07	27-Nov-07	27-Nov-07	27-Nov-07
Organochlorine Pesticides											
Aldrin + Dieldrin	2.5 ³	3.3 ⁴	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
DDD + DDE + DDT	50 ³	66.6 ⁴	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15
Chlordane	12.5 ³	16.6 ⁴	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	2.5 ³	3.3 ⁴	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Total OCP			<1.15	<1.15	<1.15	<1.15	<1.15	<1.15	<1.15	<1.15	<1.15

Area 3																	
Sample ID	Threshold Concentrations		BA	BB	BC	BD	BE	BF	BG	BH	BI	BJ	BK	BL	BM	BN	BO
Depth (m)	Residential Use (modified for 4 samples)	Residential Use (modified for 3 samples)	0.0-0.075	0.0-0.075	0.0-0.075	0.0-0.075	0.0-0.075	0.0-0.075	0.0-0.075	0.0-0.075	0.0-0.075	0.0-0.075	0.0-0.075	0.0-0.075	0.0-0.075	0.0-0.075	0.0-0.075
Material			Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Date of Sampling			27-Nov-07	27-Nov-07	27-Nov-07	27-Nov-07	27-Nov-07	27-Nov-07	27-Nov-07	27-Nov-07	27-Nov-07	27-Nov-07	27-Nov-07	27-Nov-07	27-Nov-07	27-Nov-07	27-Nov-07
Organochlorine Pesticides																	
Aldrin + Dieldrin	2.5 ³	3.3 ⁴	<0.1	<0.1	<0.1	<0.1	5.8	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.21	8.3	<0.1	<0.1
DDD + DDE + DDT	50 ³	66.6 ⁴	<0.15	<0.15	0.21	<0.15	<0.15	0.12	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15
Chlordane	12.5 ³	16.6 ⁴	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Heptachlor	2.5 ³	3.3 ⁴	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Total OCP			<1.15	<1.15	<1.28	<1.15	<6.9	<1.17	<1.15	<1.15	<1.15	<1.15	<1.15	<1.29	<9.4	<1.15	<1.15

Notes:

Value	Concentration exceeds the Residential Use criteria

³ Based on NSW DEC (2006), Guidelines for the NSW Site Auditor Scheme (2nd ed) - Column 1 HIL Residential with accessible soil and NSW EPA (1997) Guidelines for Assessing Banana Plantation Sites - Table B Human Health Investigation Thresholds for the primary contaminants in bananalands. Threshold modified for four samples making up composite sample.

⁴ Based on NSW DEC (2006), Guidelines for the NSW Site Auditor Scheme (2nd ed) - Column 1 HIL Residential with accessible soil and NSW EPA (1997) Guidelines for Assessing Banana Plantation Sites - Table B Human Health Investigation Thresholds for the primary contaminants in bananalands. Threshold modified for three samples making up composite sample.

Table F: Summary of Laboratory Results for Organochlorine Pesticides in Individual Samples from Banana Area 3

Composite Sample ID	Threshold Concentrations	Composite BE				Composite BM			
Sample ID		L9	M9	M8	M7	P4	Q3	Q4	R3
Depth (m)	Residential Use	0.0-0.075	0.0-0.075	0.0-0.075	0.0-0.075	0.0-0.075	0.0-0.075	0.0-0.075	0.0-0.075
Material		Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Date of Sampling		27-Nov-07	27-Nov-07	27-Nov-07	27-Nov-07	27-Nov-07	27-Nov-07	27-Nov-07	27-Nov-07
Organochlorine Pesticides									
Aldrin + Dieldrin	10 ⁵	<0.1	<0.1	<0.1	29	39	<0.1	<0.1	<0.1
DDD + DDE + DDT	200 ⁵	<0.15	0.19	0.26	0.18	<0.15	<0.15	<0.15	<0.15
Chlordane	50 ⁵	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	10 ⁵	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Total OCP		<1.15	<1.19	<1.26	30.13	40.1	<1.15	<1.15	<1.15

Notes:

Value	Concentration exceeds the Residential Use criteria
⁵	Based on NSW DEC (2006), Guidelines for the NSW Site Auditor Scheme (2nd ed) - Column 1 HIL Residential with accessible soil; and NSW EPA (1997) Guidelines for Assessing Banana Plantation Sites - Table B Human Health Investigation Thresholds for the primary contaminants in bananalands.

Table G: Summary of Laboratory Results for Samples Around House

Sample ID	Threshold Concentrations		HOUSE 1	HOUSE 2	HOUSE 3	HOUSE 4	HOUSE 5	HOUSE 6
Depth (m)	Provisional Phytotoxicity	Residential Use	0.0-0.15	0.0-0.15	0.0-0.15	0.0-0.15	0.0-0.15	0.0-0.15
Material			Soil	Soil	Soil	Soil	Soil	Soil
Date of Sampling			05-Dec-07	05-Dec-07	05-Dec-07	05-Dec-07	05-Dec-07	05-Dec-07
Metals								
Arsenic	20 ²	100 ¹	5.6	6	7.7	7.9	3.9	2.8
Cadmium	3 ²	20 ¹	0.7	< 0.5	< 0.5	1	< 0.5	< 0.5
Chromium	400 ²	120000 ¹	11	11	12	17	11	11
Copper	100 ²	1000 ¹	26	15	20	44	7.9	29
Lead	600 ²	300 ¹	160	52	140	140	67	47
Nickel	60 ²	600 ¹	< 5	5.6	< 5	8.7	< 5	7.4
Zinc	200 ²	7000 ¹	1000	1400	260	770	1300	280
Mercury	1 ²	15 ¹	0.4	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Organochlorine Pesticides								
Aldrin + Dieldrin		10 ¹	<0.15	<0.15	0.26	0.12	0.28	<0.15
DDD + DDE + DDT		200 ¹	<0.1	<0.1	0.33	<0.1	<0.1	<0.1
Chlordane		50 ¹	0.3	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Heptachlor		10 ¹	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Total OCP			<1.35	<1.15	<1.55	<1.17	<1.31	<1.15
Organophosphorous Pesticides								
Total OPP			<4.2	<4.2	<4.2	<4.2	<4.2	<4.2
Asbestos		ND ⁵	ND	ND	ND	ND	ND	ND

Notes

Value	Concentration exceeds the Provisional Phytotoxicity criteria
Value	Concentration exceeds the Residential Use criteria

ND Not Detected

¹ Based on NSW DEC (2006), Guidelines for the NSW Site Auditor Scheme (2nd ed) - Column 1 HIL Residential with accessible soil and NSW EPA (1997) Guidelines for Assessing Banana Plantation Sites - Table B Human Health Investigation Thresholds for the primary contaminants in bananalands

² Based on NSW DEC (2006), Guidelines for the NSW Site Auditor Scheme (2nd ed) - Column 5 Provisional Phytotoxicity based investigation levels

⁵ Based on advice from the NSW Department of Health and NSW Department of Environment and Conservation

Appendix A

Site History Information

ADVANCE LEGAL SEARCH PTY LIMITED

(ACN 077 067 068)

ABN 49 077 067 068

PO Box 149
Yagoona NSW 2199

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Facsimile: +612 9754 1364

Email: alsearch@optusnet.com.au

20 November 2007

COFFEY GEOTECHNICS Pty Ltd

PO Box 704

COFFS HARBOUR NSW 2450

Attention Emma Coleman

**RE: North Boambee Road,
Coffs Harbour
GEOTCOFH02233AA
Job No. COFH02233AA**

Note 1:	Lot 95 DP 1111430
Note 2:	Lot 2 DP 607602
Note 3:	Lot 101 DP 619946
Note 4:	Lot 1 DP 1089778
Note 5:	Lot 10 DP 1071628

Note 1:

Current Search

Folio Identifier 95/1111430 (title attached)

DP 1111430 (plan available)

Dated 13 November 2007

NOUBIA PTY LIMITED

Title Tree
Lot 95 DP 1111430

Folio Identifier 95/1111430

(a)	(b)
Folio Identifier 4/852521	Folio 660/1096558
Folio Identifier 1/362778	Folio 60/1070670
CTVol 10551 Folio 240	Folio 1/402432
CTVol 6010 Folio 2	CTVol 7445 Fol 192
CTVol 5099 Folio 163	CTVol 5371 Fol 48
CTVol 2654 Folio 186	CTVol 5207 Fol 39
****	CTVol 3304 Fol 197
	CTVol 2345 Fol 163

Summary of Proprietor(s)
Lot 95 DP 1111430

Year	Proprietor
	(Lot 95 DP 1111430)
2007 – todate	Noubia Pty Limited

See Notes (a) & (b)

Note (a)

	(Lot 4 DP 852521)
2003 – 2007	Noubia Pty Limited
1995 – 2003	W H Bailey & Sons (Boambee) Pty Limited
	(Lot 1 DP 362778)
1988 – 1995	W H Bailey & Sons (Boambee) Pty Limited
	(Lot 1 DP 362778 – CTVol 10551 Fol 240)
1971 – 1988	W H Bailey & Sons (Boambee) Pty Limited
1967 – 1971	Alexander Hilton Sanderson, farmer Anne Campbell Sanderson
1967 – 1967	William Arthur Lawrence, banana grower
	(Part Portion 149 Parish Bonville – Area 84 Acres 2 Roods 38 Perches – CTVol 6010 Fol 2)
1966 – 1967	Keith Wheeler, farmer Joyce Frances Wheeler
1961 – 1966	Henry Clarence Fuller, banana grower
(1947 – 1962)	<i>(lease to Stephen Nick Linton, banana grower of part)</i>
(1953 – 1956)	<i>(lease to William George Bailey and Lavina Beth Bailey, banana growers of part)</i>
1949 – 1961	Ronald Ian Hamilton Henderson, farmer Laurel Maud Henderson
	(Portion 149 Parish Bonville – Area 131 Acres 1 Roods 28 ½ Perches – CTVol 5099 Fol 163)
1947 – 1949	Richard George Burns, farmer
1940 – 1947	William Patrick Burke, farmer
1939 – 1940	Ebenezer Hall, freeholder
	(Portion 149 Parish Bonville – Area 300 Acres – CTVol 2654 Fol 186)
1917 – 1939	Ebenezer Hall, freeholder
1916 – 1917	Bank of New South Wales

Note (b)

	(Lot 660 DP 1096558)
2006 – 2007	Noubia Pty Limited
	(Lot 60 DP 1070670)
2004 – 2006	Noubia Pty Limited
	(Lot 1 DP 402432)
2003 – 2004	Noubia Pty Limited
1988 – 2003	W H Bailey & Sons (Boambee) Pty Limited
	(Part Portions 9 and 85 Parish Bonville – Area 15 Acres 1 Rood 17 Perches – CTVol 7445 Fol 192)
1971 – 1988	W H Bailey & Sons (Boambee) Pty Limited
1958 – 1971	Ernest Davill Harton, banana grower
	(Part Portions 9 and 85 Parish Bonville – Area 50 Acres – CTVol 5371 Fol 48)
1952 – 1958	Nora Harden, wife of farmer
1947 – 1952	Francis Manuel Herbert Vigar, banana grower
1947 – 1947	Richard Salo, farmer
1943 – 1947	William John Bell, farmer
	(Part Portions 9 and 80 and Portion 85 Parish Bonville – Area 112 Acres 2 Roods 12 Perches – CTVol 5207 Fol 39)
1941 – 1943	William George McLeod, farmer
	(Portions 9, 80 and 85 Parish Bonville – Area 122 Acres 2 Roods 12 Perches – CTVol 3304 Fol 197)
1922 – 1941	William George McLeod, farmer
	(Portions 80 & 85 Parish Bonville – Area 100 Acres – CTVol 2345 Fol 163)
1916 – 1922	William George McLeod, farmer
1913 – 1916	Charles Percival Parbery, grantee

Note 2:

Current Search

Folio Identifier 2/607602 (title attached)
DP 607602 (plan available)
Dated 13 November 2007
DRAGEN PTY LIMITED

Title Tree
Lot 2 DP 607602

Folio Identifier 2/607602

(a)

(b)

CTVol 4664 Folio 185

CTVol 14136 Fol 56

CTVol 1846 Folio 109

See Notes (a) & (b)

	(Portion 23 Parish Bonville – Area 100 Acres – CTVol 4664 Fol 185)
1967 – 1980	David Nelson McGregor, milk vendor Rosalind Dorothy McGregor
1947 – 1967	Ernest Stanley Golding, farmer
1934 – 1947	Henry Edwin Wright, dairy farmer
	(Portion 23 Parish Bonville – Area 100 Acres – CTVol 1846 Fol 109)
1932 – 1934	Henry Edwin Wright, dairy farmer
1927 – 1932	Henry Thomas Barbour, dairy farmer
1920 – 1927	Henry Charles Goulding, farmer
1908 – 1920	David McGregor, farmer
1908 – 1908	Ebenezer Hall, grantee

Note (b)

Note 3:

Current Search

Folio Identifier 101/619946 (title attached)
DP 619946 (plan available)
Dated 13 November 2007
JILL LYNETTE GILL
MICHAEL GLENN WALKER

Title Tree
Lot 101 DP 619946

Folio Identifier 101/619946

Certificate of Title Volume 14598 Folio 148

Certificate of Title Volume 14238 Folio 56

Certificate of Title Volume 6010 Folio 4

Certificate of Title Volume 5099 Folio 163

Certificate of Title Volume 2654 Folio 186

Note 4:

Current Search

Folio Identifier 1/1089778 (title attached)
DP 1089778 (plan available)
Dated 13 November 2007
THE STATE OF NEW SOUTH WALES

**Title Tree
Lot 1 DP 1089778**

Folio Identifier 1/1089778

Crown Land

**Summary of Proprietor(s)
Lot 1 DP 1089778**

Year	Proprietor
	(Lot 1 DP 1089778)
2005 – todate	The State of New South Wales
	(Crown Road)
Prior – 2005	Crown Road

Note 5:

Current Search

Folio Identifier 10/1071628 (title attached)
DP 1071628 (plan available)
Dated 13 November 2007
MANDOLION PTY LIMITED

**Title Tree
Lot 10 DP 1071628**

Folio Identifier 10/1071628

(a)		(b)		(c)
Folio Identifier 7/813195		Folio Identifier 4/883939		Auto Consol 5032-243
(ai)	(aii)	(bi)	(bii)	CTVol 5032 Fol 243
F/I 1/607602	F/I 4/701891	F/I 3/711234	F/I 165/755536	CTVol 2654 Fol 186
CT 14220-77	CT 14220-79	CT 11776-209	CT 4594-4	*****
\	/	/ \	****	
(aia)	(aib)	(bia)	(bib)	
CT 4664-185	CT 14136-56	CT 6050-87	CT 6592-221	
CT 1846-109	****	\	CT 6050-88	
****		CTVol 1898 Fol 20		

**Summary of Proprietor(s)
Lot 10 DP 1071628**

Year Proprietor

	(Lot 10 DP 1071628)
2004 – todate	Mandolion Pty Limited
2004 – 2004	Albert Max Golding Mandolion Pty Limited

See (a), (b) & (c)

Note (a)

	(Lot 7 DP 813195)
2003 – 2004	Mandolion Pty Limited
2003 – 2003	Dragen Pty Limited Mandolion Pty Limited
2000 – 2003	Rosalind Dorothy McGregor
1991 – 2000	David Nelson McGregor, milk vendor Rosalind Dorothy McGregor

See (ai) & (aii)

Note (ai)

	(Lot 1 DP 607602)
1988 – 1991	David Nelson McGregor, milk vendor Rosalind Dorothy McGregor
	(Lot 1 DP 607602 – CTVol 14220 Fol 77)
1980 – 1988	David Nelson McGregor, milk vendor Rosalind Dorothy McGregor

See Notes (aia) & (aib)

Note (aia)

	(Portion 23 Parish Bonville – Area 100 Acres – CTVol 4664 Fol 185)
1967 – 1980	David Nelson McGregor, milk vendor Rosalind Dorothy McGregor
1947 – 1967	Ernest Stanley Golding, farmer
1934 – 1947	Henry Edwin Wright, dairy farmer
	(Portion 23 Parish Bonville – Area 100 Acres – CTVol 1846 Fol 109)
1932 – 1934	Henry Edwin Wright, dairy farmer
1927 – 1932	Henry Thomas Barbour, dairy farmer
1920 – 1927	Henry Charles Goulding, farmer
1908 – 1920	David McGregor, farmer
1908 – 1908	Ebenezer Hall, grantee

Note (aib)

	(Lots 2 to 7 DP 248318 - CTVol 14136 Fol 56)
1980 – 1980	David Nelson McGregor, milk vendor Rosalind Dorothy McGregor
Prior – 1980	Crown Road

Note (aii)

	(Lot 4 DP 701891)
1984 – 1991	David Nelson McGregor, milk vendor Rosalind Dorothy McGregor
	(Lot 3 DP 607602 – CTVol 14220 Fol 79)
1980 – 1984	David Nelson McGregor, milk vendor Rosalind Dorothy McGregor

See Notes (aia) & (aib)

Note (aia)

	(Portion 23 Parish Bonville – Area 100 Acres – CTVol 4664 Fol 185)
1967 – 1980	David Nelson McGregor, milk vendor Rosalind Dorothy McGregor
1947 – 1967	Ernest Stanley Golding, farmer
1934 – 1947	Henry Edwin Wright, dairy farmer
	(Portion 23 Parish Bonville – Area 100 Acres – CTVol 1846 Fol 109)
1932 – 1934	Henry Edwin Wright, dairy farmer
1927 – 1932	Henry Thomas Barbour, dairy farmer
1920 – 1927	Henry Charles Goulding, farmer
1908 – 1920	David McGregor, farmer
1908 – 1908	Ebenezer Hall, grantee

Note (aib)

	(Lots 2 to 7 DP 248318 - CTVol 14136 Fol 56)
1980 – 1980	David Nelson McGregor, milk vendor Rosalind Dorothy McGregor
Prior – 1980	Crown Road

Note (b)

	(Lot 4 DP 883939)
1999 – 2004	Albert Max Golding, banana grower

See (bi) & (bii)

Note (bi)

	(Lot 3 DP 711234)
1985 – 1999	Albert Max Golding, banana grower
	(Lot 7 DP 552979 – CTVol 11776 Fol 209)
1972 – 1985	Albert Max Golding, banana grower

See Notes (bia) & (bib)

Note (bia)

	(Part Portion 24 Parish Bonville – Area 106 Acres 0 Roods 13 ¾ Perches – CTVol 6050 Fol 87)
1968 – 1972	Albert Max Golding, banana grower
1959 – 1968	Amelia Irene Smith, widow
1949 – 1959	James Charles Henry Smith, farmer
	(Portion 24 Parish Bonville – Area 140 Acres – CTVol 1898 Fol 20)
1908 – 1949	William James Smith, farmer
1908 – 1908	The Bank of New South Wales, grantee

Note (bib)

	(Lot 5 DP 363622 – Area 24 Acres 2 Roods 3 Perches - CTVol 6592 Fol 221)
1968 – 1972	Albert Max Golding, banana grower
1959 – 1968	Amelia Irene Smith, widow
1952 – 1959	James Charles Henry Smith, farmer
	(Lot 4 & 5 DP 363622 – Area 27 Acres 0 Roods 12 ½ Perches – CTVol 6050 Fol 88)
1949 – 1952	William John Francis Smith, farmer
	(Portion 24 Parish Bonville – Area 140 Acres – CTVol 1898 Fol 20)
1908 – 1949	William James Smith, farmer
1908 – 1908	The Bank of New South Wales, grantee

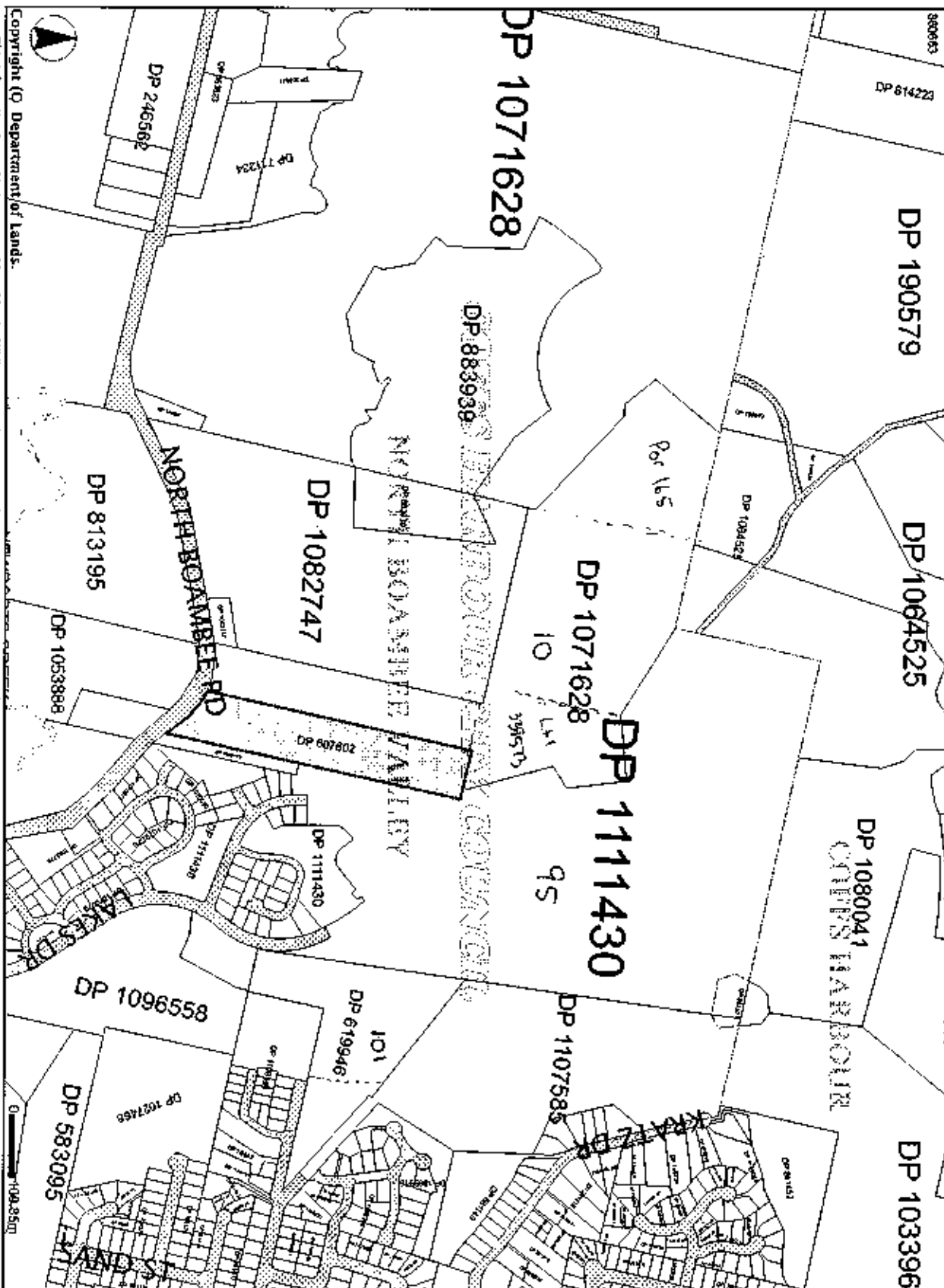
Note (bii)

	(Lot 165 DP 755536)
1988 – 1999	Albert Max Golding, banana grower
	(Portion 165 Parish Bonville – Area 53 Acres – CTVol 4594 Fol 4)
1968 – 1988	Albert Max Golding, banana grower
1959 – 1968	Amelia Irene Smith, widow
1947 – 1959	James Charles Henry Smith, farmer
1934 – 1947	William James Smith, farmer
1933 – 1934	The Australian Bank of Commerce Limited, grantee

Note (c)

	(Lot 1 DP 339573 & Lot 1 DP 188892 – A/C 5032 Fol 243)
1989 – 2004	Albert Max Golding, banana grower
	(Part Portion 149 Parish Bonville – Area 28 Acres 0 Roods 35 Perches – CTVol 5032 Fol 243)
1968 – 1989	Albert Max Golding, banana grower
1959 – 1968	Amelia Irene Smith, widow
1939 – 1959	William James Smith, farmer
	(Portion 149 Parish Bonville – Area 300 Acres – CTVol 2654 Fol 186)
1917 – 1939	Ebenezer Hall, freeholder
1916 – 1917	Bank of New South Wales

Cadastral Records Viewer Print



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Department of Lands

- Current Feature**
Lot 2 0P607902
Locality: NORTH BOAMBEE
VALLEY
LG: COFFS HARBOUR
Parish: BONVILLE
County: DARLING
LEGEND
rairies (petroleum
features)

Requested Parcel : Lot 2 DP 607602

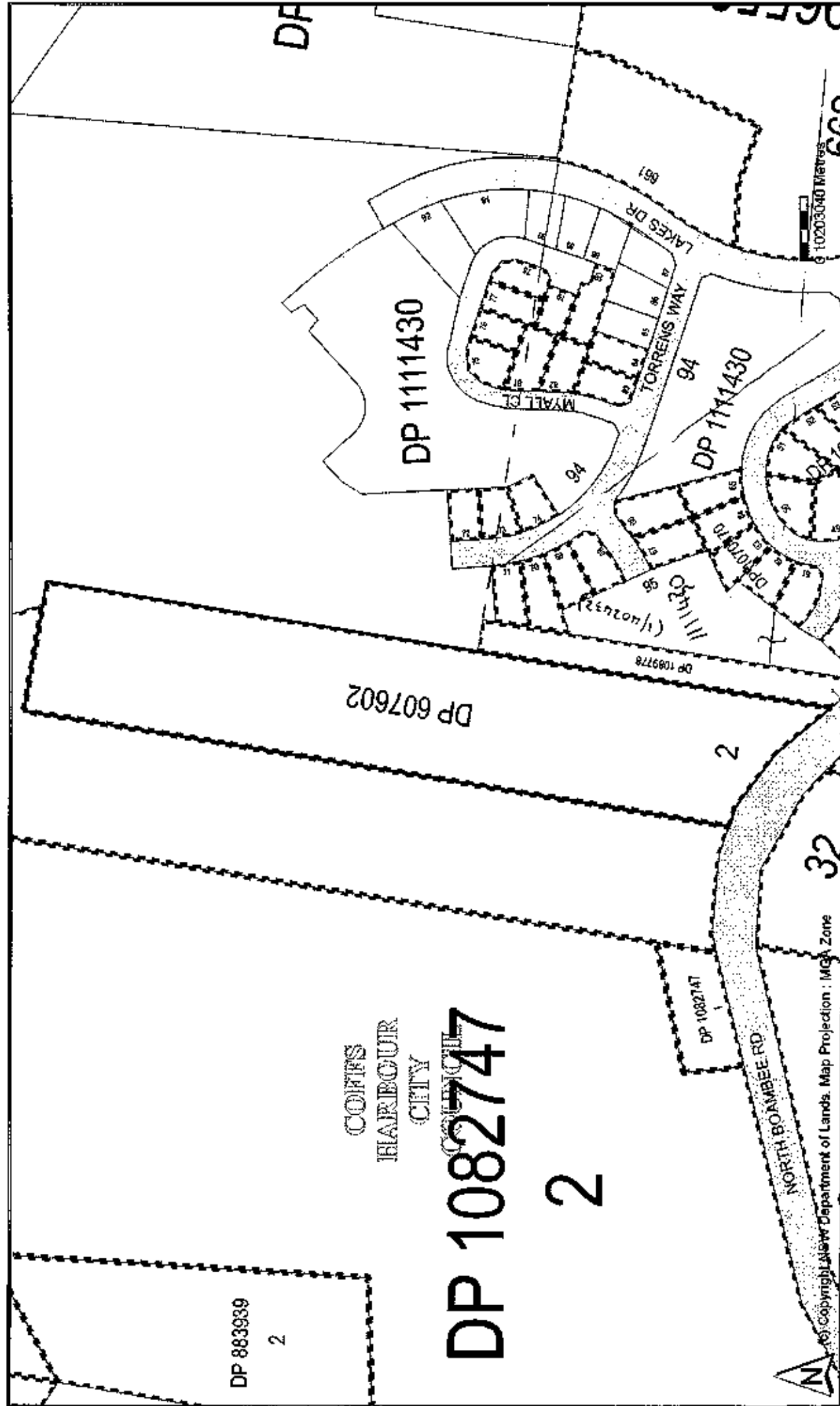
Identified Parcel : Lot 2 DP 607602

Locality : NORTH BOAMBEE VALLEY

LGA : COFFS HARBOUR

Parish : BONVILLE

County : RALEIGH



Information Provided Through
Advance Legal Search Pty Ltd
Ph. 0297541590 Fax. 0297541364

Title Search

EziSearch
An Approved LPI NSW
Information Broker

LAND AND PROPERTY INFORMATION NEW SOUTH WALES - TITLE SEARCH

FOLIO: 95/1111430

SEARCH DATE -----	TIME -----	EDITION NO -----	DATE -----
13/11/2007	9:17 PM	1	22/5/2007

LAND

LOT 95 IN DEPOSITED PLAN 1111430
AT COFFS HARBOUR
LOCAL GOVERNMENT AREA COFFS HARBOUR
PARISH OF BONVILLE COUNTY OF RALEIGH
TITLE DIAGRAM DP1111430

FIRST SCHEDULE

NOUBIA PTY LIMITED

SECOND SCHEDULE (10 NOTIFICATIONS)

-
- 1 LAND EXCLUDES MINERALS AND IS SUBJECT TO RESERVATIONS AND CONDITIONS IN FAVOUR OF THE CROWN - SEE CROWN GRANT(S)
 - 2 2594301 EASEMENT FOR WATER SUPPLY PIPELINE 5 METRE(S) WIDE AFFECTING THE PART(S) SHOWN SO BURDENED IN THE TITLE DIAGRAM
5260576 NOW VESTED IN COFFS HARBOUR CITY COUNCIL
 - 3 2594301 EASEMENT FOR WATER SUPPLY PIPELINE 5 METRE(S) WIDE AND VARIABLE AFFECTING THE PART(S) SHOWN SO BURDENED IN THE TITLE DIAGRAM
5260576 NOW VESTED IN COFFS HARBOUR CITY COUNCIL
 - 4 9951214 MORTGAGE TO COMMONWEALTH BANK OF AUSTRALIA
 - 5 DP1070670 EASEMENT TO DRAIN WATER 1.5 METRE(S) WIDE APPURTENANT TO THE PART(S) OF THE LAND SHOWN SO BENEFITED IN THE TITLE DIAGRAM
 - 6 DP1070670 RESTRICTION(S) ON THE USE OF LAND AFFECTING THE PART SHOWN SO BURDENED IN THE TITLE DIAGRAM
 - * 7 AA905054 CAVEAT BY BARRY LYLE BAILEY, GREGORY JOHN BAILEY, MURRAY MOSTYN BAILEY, ROSEMARY AMOS & MARGARET NEWBY
 - 8 AC978448 EASEMENT FOR OVERHEAD POWER LINE(S) 30 METRE(S) WIDE AFFECTING THE PART(S) SHOWN SO BURDENED IN THE TITLE DIAGRAM.
 - 9 DP1111430 RESTRICTION(S) ON THE USE OF LAND REFERRED TO AND NUMBERED (2) IN THE S.88B INSTRUMENT
 - 10 DP1111430 RESTRICTION(S) ON THE USE OF LAND REFERRED TO AND NUMBERED (3) IN THE S.88B INSTRUMENT

NOTATIONS

UNREGISTERED DEALINGS: NIL

*** END OF SEARCH ***

Coffey - Coffs Harbour ALSP

PRINTED ON 13/11/2007

* ANY ENTRIES PRECEDED BY AN ASTERISK DO NOT APPEAR ON THE CURRENT EDITION OF TITLE. WARNING: THE INFORMATION APPEARING UNDER NOTATIONS HAS NOT BEEN FORMALLY RECORDED IN THE REGISTER. ADVANCE LEGAL SEARCH PTY LTD CERTIFIES THAT THE INFORMATION CONTAINED IN THIS DOCUMENT HAS BEEN PROVIDED ELECTRONICALLY BY THE REGISTRAR-GENERAL IN ACCORDANCE WITH SECTION 95B(2) OF THE REAL PROPERTY ACT, 1900.

FOR SIGNATURES,
SEALS AND
CERTIFICATES
SEE SIGNATURES FORM

	SSM CONNECTION
SSM 123016 TO SSM 145300	22:07:01.17* - 03:07:51 S.M. 723.0123.36* - 03:57:52 MCA (P) 000000
SSM 123016 TO SSM 145300	22:07:02.36* - 05:00:51 S.M. 723.0123.36* - 04:17:52 MCA (P) 000000
SSM 123016 TO SSM 145300	102:03:26* - 04:02:51 S.M. 102:03:26* - 04:10:52 MCA (P) 000000
SSM 123016 TO SSM 123016	22:07:02.36* - 04:59:51 S.M. 723.0123.36* - 04:59:52 MCA (P) 000000

[illegible][illegible]

Revised: 18/5/2007
SEE CERTIFICATE
Title Spoken TORRENS
Person SUBMISSION
Vot Map: #B96A2E6C VOT 4 2-6
Last File DP 8752521, DP 1006578
PLAN OF SUBDIVISION OF LOT
660 DP 1036598 AND
LOT 4 DP 852551

Legals etc in notes - see later Docs p 4502

Resident: NORTH BOAMBEI VALLT
 Version: BONVILLE
 County: RALDGH
 The 3rd of my plan in 3 sheets
 (Check if applicable)

[illegible]

Phone used in production of www.foxnews.com

PROVIDE THE FOLLOWING FOR THE STATEMENTS OF THE APPLICANT TO THE LOCAL AUTHORITY: (a) A statement of the public reasons, benefits, reasons, advantages, community contributions on the use of land or proposed development.

1. PRESENTLY TO SECTION 889B OF THE COMMUNITY DEVELOPMENT ACT 1979, AS AMENDED, IT IS INTENDED TO CREATE:-

- 1.1 FARMHOLD TO GRAIN WATER WARE, MOTIN.
- 1.2 RESIDENCE ON THE USE OF LAND.
- 1.3 AN INJECTION ON THE USE OF LAND.
- 1.4 RESIDENCE ON THE USE OF LAND.

IT IS INTENDED TO REDUCATE:-

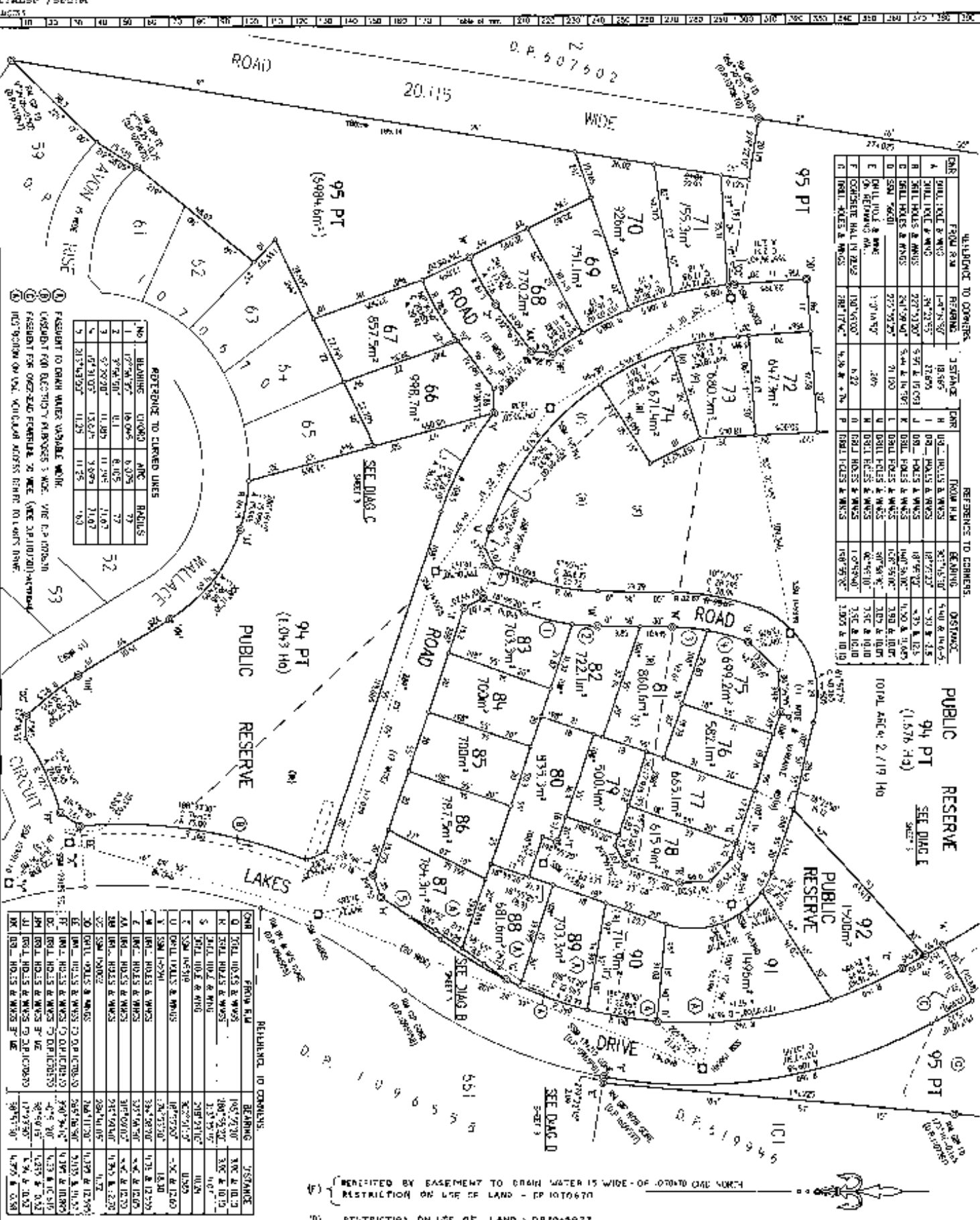
- 1.1 ROAD TO THE EXISTING PUBLIC ROAD SUBJECT TO EXPENSE FOR OTHERS TO FURNISH USE SO MUCH CREATED IN (D.P.113224), A.C. 78 X 4.8
- 1.2 LOT 85 AS ROAD WAREHISE.
- 1.3 INTENTED TO CREATE:-

LOT 85 AS PUBLIC RESERVE.

RELATIONSHIP TO CORNERS				REFERENCE TO CORNERS			
DATE	FROM R.M.	BEARING	DISTANCE	DATE	FROM R.M.	BEARING	DISTANCE
A	TOIL HOLES & WINGS	104° 25' 30"	18.95	H	TOIL HOLES & WINGS	301° 15' 30"	5.40 & 14.45
B	TOIL HOLES & WINGS	28° 23' 30"	27.00	I	TOIL HOLES & WINGS	187° 22' 30"	5.30 & 14.55
C	TOIL HOLES & WINGS	5° 51' & 10° 03'	5.91 & 10.03	J	TOIL HOLES & WINGS	10° 44' 30"	4.35 & 12.55
D	TOIL HOLES & WINGS	24° 19' 30"	5.44 & 14.00	K	TOIL HOLES & WINGS	144° 54' 30"	4.30 & 12.05
E	TOIL HOLES & WINGS	272° 55' 30"	9.10	L	TOIL HOLES & WINGS	148° 54' 30"	3.80 & 10.07
F	TOIL HOLES & WINGS	1° 01' 30"	2.09	M	TOIL HOLES & WINGS	307° 54' 30"	3.85 & 10.07
G	TOIL HOLES & WINGS	100° 45' 00"	4.22	N	TOIL HOLES & WINGS	00° 45' 00"	3.85 & 10.10
H	TOIL HOLES & WINGS	180° 17' 30"	4.38 & 14.45	P	TOIL HOLES & WINGS	180° 55' 30"	3.85 & 10.10

PUBLIC RESERVE
94 PT
 (1.576 Ha)
SEE DIAG C

TOTAL AREA 2.719 Ha



RELATIONSHIP TO CORNERS			
DATE	FROM R.M.	BEARING	DISTANCE
A	TOIL HOLES & WINGS	104° 25' 30"	18.95
B	TOIL HOLES & WINGS	28° 23' 30"	27.00
C	TOIL HOLES & WINGS	5° 51' & 10° 03'	5.91 & 10.03
D	TOIL HOLES & WINGS	24° 19' 30"	5.44 & 14.00
E	TOIL HOLES & WINGS	272° 55' 30"	9.10
F	TOIL HOLES & WINGS	1° 01' 30"	2.09
G	TOIL HOLES & WINGS	100° 45' 00"	4.22
H	TOIL HOLES & WINGS	180° 17' 30"	4.38 & 14.45
I	TOIL HOLES & WINGS	301° 15' 30"	5.40 & 14.45
J	TOIL HOLES & WINGS	187° 22' 30"	5.30 & 14.55
K	TOIL HOLES & WINGS	10° 44' 30"	4.35 & 12.55
L	TOIL HOLES & WINGS	144° 54' 30"	4.30 & 12.05
M	TOIL HOLES & WINGS	148° 54' 30"	3.80 & 10.07
N	TOIL HOLES & WINGS	307° 54' 30"	3.85 & 10.07
O	TOIL HOLES & WINGS	00° 45' 00"	3.85 & 10.10
P	TOIL HOLES & WINGS	180° 55' 30"	3.85 & 10.10

(F) RESTRICTED BY EASEMENT TO DRAIN WATER 15 METER WIDE OF 0.07060 ONE NORTH
 RESTRICTION ON USE OF LAND - DP106670
 (G) RESTRICTION ON USE OF LAND - DP106670

DP111430

Registered on 18.5.2007

Date of Plan 27.10.2007

Date of Plan 27.10.2007

Date of Plan 27.10.2007

Date of Plan 27.10.2007

Date of Plan 27.10.2007

Date of Plan 27.10.2007

Date of Plan 27.10.2007

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Date of Plan 27.10.2007

Date of Plan 27.10.2007

Date of Plan 27.10.2007

Date of Plan 27.10.2007



CERTIFICATES, SIGNATURES AND SEALS

Sheet 1 of 12 sheet(s)

* OFFICE USE ONLY

PLAN OF

SUBDIVISION OF LOT 660
DP 1096558 AND LOT 4 DP 852521

DP1111430

Registered:



18.15.2007

Surveying Regulation, 2006

I, ANTHONY VITTORIO SPAGNOLI
NEWNHAM KARL WEIR & PARTNERS
of 5 MURDOCK ST., COFFS HARBOUR
a surveyor registered under the Surveying Act, 2002, certify that the
survey represented in this plan is accurate, has been made in
accordance with the Surveying Regulation, 2006 and was completed
on 22nd FEBRUARY 2007
The survey relates to LOTS 68 TO 93 AND PARTS OF LOT 85

(specify the land actually surveyed or specify any land shown in the
plan that is not the subject of the survey)

Signature: *A. Spagnoli* Dated: 27/2/2007
Surveyor registered under the Surveying Act, 2002

Datum Used: X' - Y'
Type: Urban-Rural

Crown Lands NSW/Western Lands Office Approval

I, *[Signature]* in approving this plan certify
(Authorised Officer)
that all necessary approvals in regard to the allocation of the land
shown herein have been given

Signature: *[Signature]*
Date: *[Signature]*
File Number: *[Signature]*
Office: *[Signature]*

Subdivision Certificate

I certify that the provisions of s.109J of the Environmental Planning and
Assessment Act 1979 have been satisfied in relation to:

the proposed *Subdivisions* set out herein
(insert 'subdivision' or 'new road')

* Authorised Person/General Manager/Accredited Certifier

Consent Authority: *COFFS HARBOUR LGA COUNCIL*
Date of Endorsement: *29/3/07*
Accreditation no: *[Signature]*
Subdivision Certificate no: *83107*
File no: *575103*

* Delete whichever is inapplicable

SIGNATURES, SEALS and STATEMENTS of intention
to dedicate public roads or to create public reserves
and drainage reserves.

PURSUANT TO SECTION 88B OF THE
CONVEYANCING ACT 1919, AS AMENDED,
IT IS INTENDED TO CREATE:-

- 1.) EASEMENT TO DRAIN WATER VAR. WIDTH.
- 2.) RESTICTION ON THE USE OF LAND.
- 3.) RESTICTION ON THE USE OF LAND.
- 4.) RESTICTION ON THE USE OF LAND.

IT IS INTENDED TO DEDICATE:-

- 1.) ROADS TO THE PUBLIC AS PUBLIC ROAD
SUBJECT TO EASEMENT FOR OVERHEAD
POWER LINE 30 WIDE CREATED IN
D.P. 1107381.

- 2.) LOT 93 AS ROAD WIDENING.

IT IS INTENDED TO CREATE:-

- 1.) LOTS 92 & 94 AS PUBLIC RESERVE.

Signed at Sydney the 5th day of
April 2007 For Commonwealth
Bank of Australia A.C.N. 123 123 124 by its
duly appointed Attorney under Power of
Attorney Book 4449 No. 351

Witness

[Signature]
SIGNED IN MY PRESENCE BY

[Signature]
[Signature]

of the Commonwealth Bank of Australia,
the duly constituted Attorney of the said
bank who is personally known to me.

Use PLAN FORM 6A for additional
certificates, signatures and seals

SURVEYOR'S REFERENCE: 5389

CERTIFICATES, SIGNATURES AND SEALS Sheet 4 of 4 Sheet(s)

PLAN OF

SUBDIVISION OF LOT 660
DP 1096558 AND LOT 4
DP 852521

DP1111430

Registered:  18.5.2007

Subdivision Certificate No: 82/07.

Date of Endorsement 24 / 3 / 2027 .

Exercuted by Noubin Pty Ltd
(A.C.N. 103 624 504) in
accordance with the
Corporations Act 2001:

7. A. 26

DAVID ANTHONY THAWAHAN
DIRECTOR

P.S. ✓

BERNARD GREGORY THOMAS
DIRECTOR

*** OFFICE USE ONLY**

SURVEYOR'S REFERENCE:

Information Provided Through
Advance Legal Search Pty Ltd
Ph. 0297541590 Fax. 0297541364

Historical Search

EziSearch
An Approved LPI NSW
Information Broker

LAND AND PROPERTY INFORMATION NEW SOUTH WALES - HISTORICAL SEARCH

SEARCH DATE

13/11/2007 9:26PM

FOLIO: 95/1111430

First Title(s): VOL 1725 FOL 52 VOL 2345 FOL 163
VOL 2654 FOL 186
Prior Title(s): 4/852521 660/1096558

Recorded	Number	Type of Instrument	C.T. Issue
22/5/2007	DP1111430	DEPOSITED PLAN	FOLIO CREATED EDITION 1

*** END OF SEARCH ***

Coffey - Coffs Harbour ALSP

PRINTED ON 13/11/2007

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97-01TB



TRANSFER
including easement
Real Property Act 1900



2594301 0

B

Crown Land Office Stamp Duty

I. V. KNIGHT
Crown Solicitor
per

(A) **LAND TRANSFERRED**
Show no more than 20 References to Title.
If appropriate, specify the share transferred.

Part Folio Identifier 1/362778 being Lot 3 in
Deposited Plan B52521

(B) **TENEMENTS**

Servient (land burdened)
Lot 4 in DP B52521

Dominant (land benefited)
Easements in Gross pursuant
to section 88A of the
Conveyancing Act 1919

(C) **LODGED BY**

L.T.O. Box
813E

Name, Address or DX and Telephone
State Crown Solicitor's Office
Goodsell Building
8-12 Chifley Square, Sydney 2000
DX 19 SYDNEY Ph: 9228 8262
REFERENCE (max. 15 characters) PWD469.45.027

- (D) **TRANSFEROR** W H BAILEY & SONS (BOAMBEE) PTY LTD ACN 000 898 957
(E) acknowledges receipt of the consideration of \$44,000.00 and subject to the following
(F) **ENCUMBRANCES** 1. 2. 3. as regards the above land
(G) transfers to the transferee an estate in fee simple and the transferor — grants an easement in gross in Schedule One herein
(H) — reserves an easement as set out in Schedule Two herein

(I) **TRANSFeree**

T

MINISTER FOR LAND AND WATER CONSERVATION

TENANCY:

(K) We certify this dealing correct for the purposes of the Real Property Act 1900. DATED 31 OCTOBER 1996

Signed in my presence by the transferor who is personally known to me.
THE COMMON SEAL OF W H BAILEY & SONS
(BOAMBEE) PTY LTD ACN 000 898 957 WAS

HERETO AFFIXED BY AUTHORITY OF THE
Name of Witness (BLOCK LETTERS)
BOARD OF DIRECTORS IN THE PRESENCE OF:
Address of Witness



Signature of Transferor

Director

Signed in my presence for the TRANSFEREE by
I. V. KNIGHT Crown Solicitor
Signed in my presence by the transferee who is personally known to me.
CHARLES MURRAY DIMOND State Crown
Solicitor's Office who is personally known to me.

Name of Witness (BLOCK LETTERS)

SYDNEY
Address of Witness

I. V. KNIGHT
Crown Solicitor
per

Signature of Transferee

OUTSIDE

INSTRUCTIONS FOR FILLING OUT THIS FORM ARE GIVEN ON PAGE 4
ALLOW FOR LATEMONT & REFER TO REF 9.3.96 0583
6.4.96

CHECKED BY (officio use only)

(1)

SCHEDULE ONE
GRAM OF EASEMENTS

Complete the Transmittal form on the form

The transferor grants:

The transferor grants firstly an Easement in Gross for water supply pipeline over the site shown as "Proposed easement for water supply pipeline 5 wide" in Deposited Plan 852521 together with secondly an Easement in Gross for water supply pipeline over the site shown as "Proposed easement for water supply pipeline 5 wide & variable" in Deposited Plan 852521 on the terms and conditions as set out in the annexure hereto marked "A".

Summaya Subasingh *for J. Pandey*
M. S. de Fran

"A"

Easement for Water Supply Pipeline

FULL AND FREE right for the Minister and his successors and assigns (being a public or local authority) and every person authorised by any of them from time to time and at all times to pass and convey water in any quantities through the servient tenement TOGETHER WITH the right to use for the purpose of the easement any line of pipes (including works ancillary thereto) already laid within the servient tenement for the purposes of the passage and conveyance of such water or any pipe or pipes in replacement, substitution or duplication therefor and where no such line of pipes exists to lay place and maintain a line of pipes of sufficient diameter beneath the surface of the servient tenement and to lay place and maintain upon the surface of the servient tenement any works ancillary to the said line of pipes AND TOGETHER WITH the right for the Minister and his successors and assigns (being a public or local authority) and every person authorised by any of them with any tools, implements, or machinery, necessary for the purposes, to enter upon the servient tenement and to remain there for any reasonable time for the purposes of laying, inspecting, cleansing, repairing, maintaining, or renewing such pipeline or any part thereof (including works ancillary thereto) AND for any of the aforesaid purposes to open the soil of the servient tenement to such extent as may be necessary PROVIDED THAT the Minister his successors and assigns (being a public or local authority) and every person authorised by any of them will take all reasonable precautions to ensure as little disturbance as possible to the surface of the servient tenement and will restore that surface as nearly as practicable to its original condition.

John J. Bailey
Murray Bailey *E. J. Lee*

(00)

SCHEDULE TWO
reservation of easement

Complete the Townships parcel on the front

The transferor reserves

W. J. Bailey *W*
Wm. J. Bailey *E. J. L.*

Information Provided Through
Advance Legal Search Pty Ltd
Ph. 0297541590 Fax. 0297541364

Historical Search

EziSearch
An Approved LPI NSW
Information Broker

LAND AND PROPERTY INFORMATION NEW SOUTH WALES - HISTORICAL SEARCH

SEARCH DATE

13/11/2007 9:26PM

FOLIO: 4/852521

First Title(s): VOL 2654 FOL 186
Prior Title(s): 1/362778

Recorded	Number	Type of Instrument	C.T. Issue
5/10/1995	DP852521	DEPOSITED PLAN	LOT RECORDED FOLIO NOT CREATED
~~20/11/1996~~	~~2594301~~	TRANSFER <i>Easement</i> <i>Lot 3 DP 852521</i>	FOLIO CREATED EDITION 1
6/11/1998	5260576	RESUMPTION APPLICATION	
12/2/2003	9371507	CAVEAT	
7/10/2003	9951212	TRANSFER	
7/10/2003	9951214	MORTGAGE	EDITION 2
11/3/2004	9951214	DE-REGISTERED - MORTGAGE	
11/3/2004	AA302967	REQUEST	
30/3/2004	AA521326	WITHDRAWAL OF CAVEAT	
30/3/2004	9951214	MORTGAGE	EDITION 3
26/8/2004	AA905054	CAVEAT	
23/1/2007	DP1107381	DEPOSITED PLAN	EDITION 4
9/5/2007	AC978448	GRANT OF EASEMENT	
22/5/2007	DP1111430	DEPOSITED PLAN	FOLIO CANCELLED RESIDUE REMAINS

*** END OF SEARCH ***

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B97

/Req: B376268

/Doc: CT 10551-240

/Prt: 13-Nov-2007



10551240

NEW SOUTH WALES

Crown Grant Vol. 2654 Fol. 186

Prior Title Vol. 6010 Fol. 2

Vol. 10551 Fol. 240

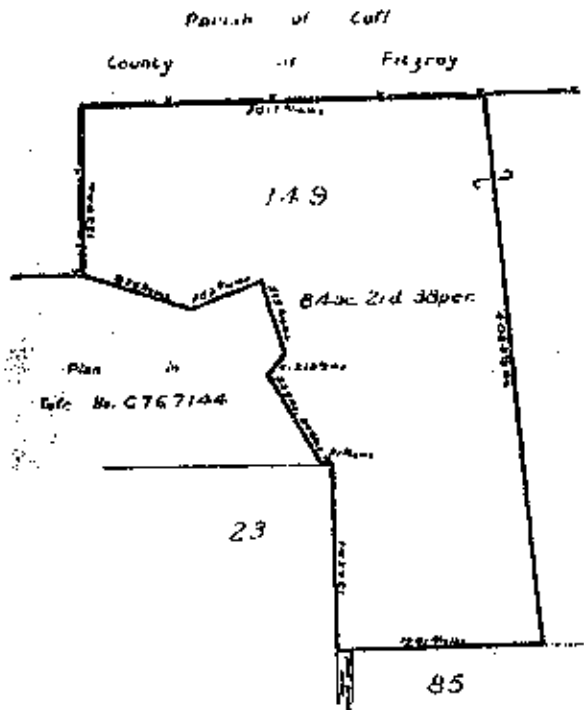
Edition issued 10-5-1967

AS X56834
CANCELLED

I certify that the person described in the First Schedule is the registered proprietor of the undermentioned estate in the land within described subject nevertheless to such exceptions encumbrances and interests as are shown in the Second Schedule.

Witness *W. S. Allen*

See AUTO FOLIO
Jaworski
Registrar General.

**PLAN SHOWING LOCATION OF LAND**

THE LAND WITHIN
DESCRIBED IS NOW
LOT 1 IN DP 362778

362778

1951

K. S. Allen

Scale: 10 Chains to one inch

ESTATE AND LAND REFERRED TO

GRM
Estate in Fee Simple in the land shown in plan lodged with Transfer No. D888983 (Filed as F.P. 362778) in the Shire of Coffs Harbour Parish of Bonville and County of Raleigh being the part of Portion 149 shown in the plan hereon. EXCEPTING THEREOUT the minerals reserved by the Crown Grant.

FIRST SCHEDULE (continued overleaf)

~~WILLIAM ARTHUR LAWRENCE~~ *Lawrence*, Banana Grower.

SECOND SCHEDULE (continued overleaf)

1. Reservations and conditions, if any, contained in the Crown Grant above referred to.

Jaworski
Registrar General

209971607 (140)

NOTE: ENTRIES RULED THROUGH AND AUTHENTICATED BY THE SEAL OF THE REGISTRAR GENERAL ARE CANCELLED

PERSONS ARE CAUTIONED AGAINST ALTERING OR ADDING TO THIS CERTIFICATE OR ANY NOTIFICATION HEREON

(Page 1) Vol. 10551 Fol. 240

FIRST SCHEDULE (continued)

REGISTERED PROMOTOR		INSTRUMENT NUMBER		DATE	ENTERED	SIGNATURE of Requestor-General
<i>Alexander Keller, son of J. M. Keller, formerly of St. Catharines, Ontario, now of Toronto, Ontario</i>		<i>10339774</i>		<i>10-6-1971</i>	<i>10-6-1971</i>	<i>J. M. Keller</i>
<i>B.H. Bailey & Sons (Brampton) Pty. Ltd.</i>		<i>10339774</i>		<i>10-6-1971</i>	<i>10-6-1971</i>	<i>J. M. Keller</i>

SECOND SCHEDULE (continued)

PARTICULARS		ENTERED	SIGNATURE of Requestor-General	CANCELLATION
<i>10339774 is not to be registered as a mortgage of the property of J. M. Keller, son of J. M. Keller, formerly of St. Catharines, Ontario, now of Toronto, Ontario</i>		<i>10-6-1971</i>	<i>J. M. Keller</i>	<i>10-6-1971</i>
<i>10339774 is not to be registered as a mortgage of the property of J. M. Keller, son of J. M. Keller, formerly of St. Catharines, Ontario, now of Toronto, Ontario</i>				

NOTE: ENTRIES MADE THROUGH AND AUTHENTICATED BY THE SEAL OF THE REGISTRAR-GENERAL ARE CANCELLED

K5683-5-54
10339774 - 24

Information Provided Through
Advance Legal Search Pty Ltd
Ph. 0297541590 Fax. 0297541364

Historical Search

EziSearch
An Approved LPI NSW
Information Broker

LAND AND PROPERTY INFORMATION NEW SOUTH WALES - HISTORICAL SEARCH

SEARCH DATE

13/11/2007 9:39PM

FOLIO: 660/1096558

First Title(s): VOL 1725 FOL 52 VOL 2345 FOL 163
Prior Title(s): 60/1070670

Recorded	Number	Type of Instrument	C.T. Issue
11/5/2006	DP1096558	DEPOSITED PLAN	FOLIO CREATED EDITION 1
22/5/2007	DP1111430	DEPOSITED PLAN	FOLIO CANCELLED RESIDUE REMAINS

*** END OF SEARCH ***

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PRINTED ON 13/11/2007

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Historical Search

EziSearch
An Approved LPI NSW
Information Broker

LAND AND PROPERTY INFORMATION NEW SOUTH WALES - HISTORICAL SEARCH

SEARCH DATE

13/11/2007 9:40PM

FOLIO: 60/1070670

First Title(s): VOL 1725 FOL 52 VOL 2345 FOL 163
Prior Title(s): 1/401212 1/402432
40/1063977

Recorded	Number	Type of Instrument	C.T. Issue
13/8/2004	DP1070670	DEPOSITED PLAN	FOLIO CREATED EDITION 1
26/8/2004	AA905054	CAVEAT	
11/5/2006	DP1096558	DEPOSITED PLAN	FOLIO CANCELLED RESIDUE REMAINS

*** END OF SEARCH ***

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Historical Search

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LAND AND PROPERTY INFORMATION NEW SOUTH WALES - HISTORICAL SEARCH

SEARCH DATE

13/11/2007 9:40PM

FOLIO: 1/402432

First Title(s): VOL 2345 FOL 163
Prior Title(s): VOL 7445 FOL 192

Recorded -----	Number -----	Type of Instrument -----	C.T. Issue -----
13/12/1988		CONVERTED TO COMPUTER FOLIO	FOLIO CREATED CT NOT ISSUED
12/2/2003	9371507	CAVEAT	
7/10/2003	9951213	TRANSFER	
7/10/2003	9951214	MORTGAGE	EDITION 1
11/3/2004	9951214	DE-REGISTERED - MORTGAGE	
11/3/2004	AA302967	REQUEST	
30/3/2004	AA521326	WITHDRAWAL OF CAVEAT	
30/3/2004	9951214	MORTGAGE	EDITION 2
13/8/2004	DE1070670	DEPOSITED PLAN	FOLIO CANCELLED RESIDUE REMAINS

*** END OF SEARCH ***

Coffey - Coffs Harbour ALSP

PRINTED ON 13/11/2007

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Information Provided Through
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Ph. 0297541590 Fax. 0297541364

Title Search

EziSearch
An Approved LPI NSW
Information Broker

LAND AND PROPERTY INFORMATION NEW SOUTH WALES - TITLE SEARCH

FOLIO: 2/607602

SEARCH DATE	TIME	EDITION NO	DATE
-----	----	-----	----
13/11/2007	9:18 PM	6	9/5/2007

LAND

LOT 2 IN DEPOSITED PLAN 607602
AT BOAMBEE
LOCAL GOVERNMENT AREA COFFS HARBOUR
PARISH OF BONVILLE COUNTY OF RALEIGH
TITLE DIAGRAM DP607602

FIRST SCHEDULE

DRAGEN PTY LIMITED (T AA257290)

SECOND SCHEDULE (2 NOTIFICATIONS)

- 1 LAND EXCLUDES MINERALS AND IS SUBJECT TO RESERVATIONS AND CONDITIONS IN FAVOUR OF THE CROWN - SEE CROWN GRANT(S)
- 2 AC978448 EASEMENT FOR OVERHEAD POWERLINES 30 WIDE AFFECTING THE SITE DESIGNATED (A) IN DP1107381

NOTATIONS

UNREGISTERED DEALINGS: NIL

*** END OF SEARCH ***

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PRINTED ON 13/11/2007

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Licence: MID/0740/97

NOTICE OF DEATH

New South Wales
Section 101 Real Property Act 1900

7040988Q



(A) LAND

Folio Identifiers 2/607602 and 7/813195 and 3/883939

(B) REGISTERED DEALING

If applicable:

(B) LODGED BY

LTO Box

754T

Name, Address or DX and Telephone

LEGATUS SERVICES PTY LIMITED

DX 1048

GPO BOX 1823

SYDNEY 2001

Reference (15 character max):

17352

(D) DECEASED JOINT
TENANT

DAVID NELSON MCGREGOR

(E) SURVIVING JOINT
TENANT

ND

ROSALIND DOROTHY MCGREGOR

(F) I, the surviving joint tenant, apply to be registered as proprietor of the interest of the deceased joint tenant in the referred to above.

(G) STATUTORY DECLARATION

I solemnly and sincerely declare that the Deceased Joint Tenant died on 27 June 2000 and is identical with the deceased named in the Death Certificate No. 21791/2000 accompanying this application.

I make this solemn declaration conscientiously believing the same to be true and by virtue of the Oaths Act 1900, and certify this application correct for the purposes of the Real Property Act 1900.

Made and subscribed at COFFS HARBOUR in the State of NEW SOUTH WALES
on 21ST AUGUST 2000 in the presence of:

Sandra Leanne Martin

Signature of Witness

Solicitor

SANDRA LEANNE MARTIN

Name of Witness (BLOCK LETTERS)

50 MIDDLE BOAMBEE ROAD

COFFS HARBOUR

Address of Witness

R.D. McGregor

Signature of Surviving Joint Tenant

B97

/Req: B376269

/Doc: CT 14220-078

/Prt: 13-Nov-2007

NEW SOUTH WALES

Crown Grants Vol. 1846

Vol. 14136

Prior Titles Vol. 4664 Fol. 185

Vol. 14136 Fol. 56



Vol. 14220 Fol. 78

EDITION ISSUED

3 9 1990

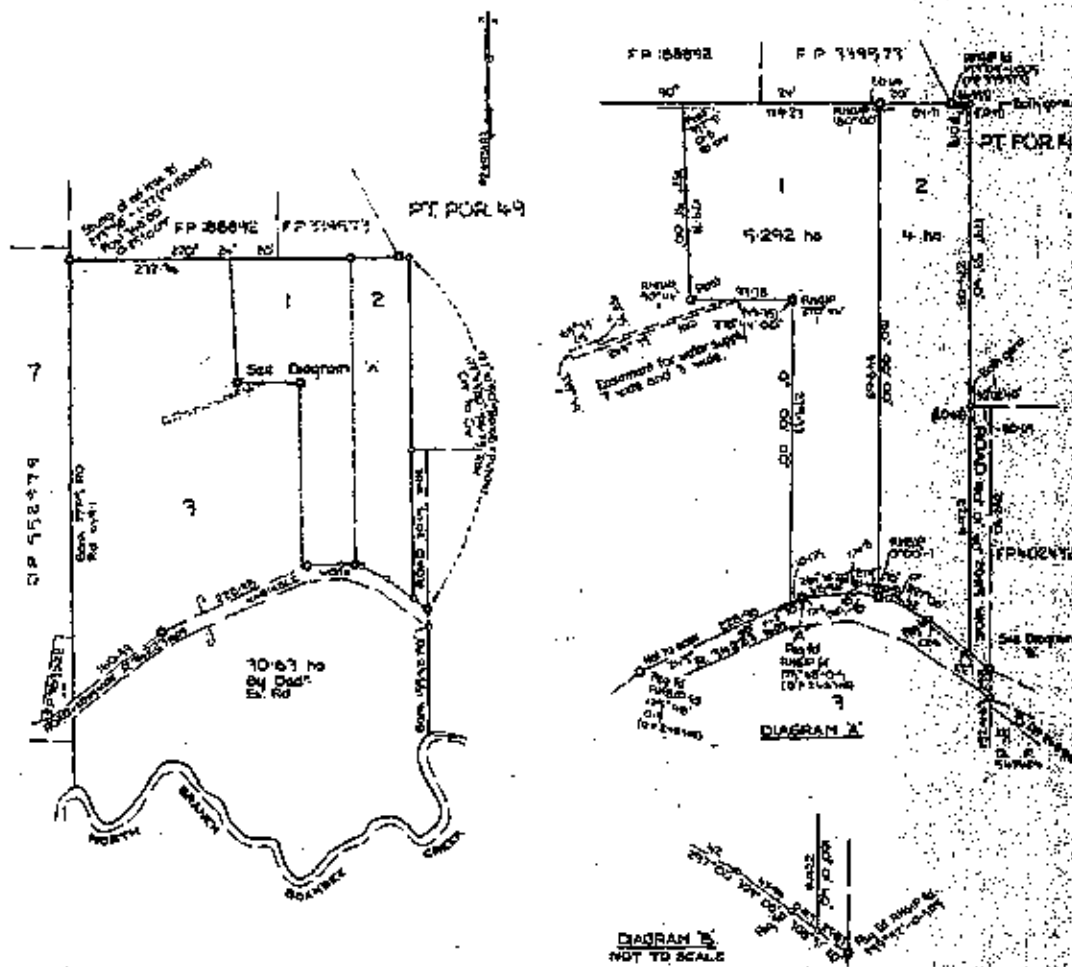
I certify that the person described in the First Schedule is the registered proprietor of the undermentioned estate in the land within described subject nevertheless to such exceptions encumbrances and interests as are shown in the Second Schedule.

CANCELLED

Registrar General

SEE AUTO FILE**PLAN SHOWING LOCATION OF LAND**

LENGTHS ARE IN METRES

**ESTATE AND LAND REFERRED TO**

Estate in Fee Simple in Lot 2 in Deposited Plan 607602 at Boambee in the Shire of Coffs Harbour Parish of Bonville and County of Raleigh. EXCEPTING THEREOUT the minerals reserved by the Crown Grant.

FIRST SCHEDULE

DAVID NELSON McGREGOR of Coffs Harbour, Milk Vendor and ROSALIND DOROTHY McGREGOR his wife as Joint Tenants.

SECOND SCHEDULE

1. Reservations and conditions, if any, contained in the Crown Grants above referred to.
2. ~~Mortgage to Bank of New South Wales affecting that part of the land above described formerly comprised in Certificate of Title 4664 Folio 185. Discharged 5989110~~

NOTE: ENTRIES RULED THROUGH AND AUTHENTICATED BY THE SEAL OF THE REGISTRAR GENERAL ARE CANCELLED

Dixon & Sons, Houston
 5959 1100 AM
 V7300220110
 X434120 HR

FIRST SCHEDULE (continued)

REGISTERED PROPRIETOR	INSTRUMENT		REGISTERED	SIGNATURE OF REGISTERED OWNER
	NATURE	NUMBER		
CANCELLED				
SEE AUTO FOLIO				

SECOND SCHEDULE (continued)

PARTICULARS	INSTRUMENT		REGISTERED	SIGNATURE OF REGISTERED OWNER	CANCELLATION
	NATURE	NUMBER			
Bank of Australia Limited. Registered 5-4-1982. X434125 Mortgage to Westpac Banking Corporation. Registered 23-3-1988.					

NOTE: INSTRUMENTS CANCELLED, TURNED IN AND AUTHENTICATED BY THE SEAL OF THE REGISTRAR GENERAL ARE CANCELLED



We, Elizabeth the Second, by the Grace of God Queen of Australia and Her other Realms and Territories, Head of the Commonwealth, do hereby grant to the person described in the First Schedule an Estate in Fee Simple in the land within described, subject nevertheless to such reservations, conditions and other provisions as are shown in the Second Schedule. In testimony whereof We have caused this Our Grant to be sealed with the seal of Our said State

Witness Our Governor of Our State of New South Wales and its Dependencies in the Commonwealth of Australia, at Sydney in Our said State, this twenty ninth day of May in the twenty ninth year of Our Reign and in the year of Our Lord one thousand nine hundred and eighty.

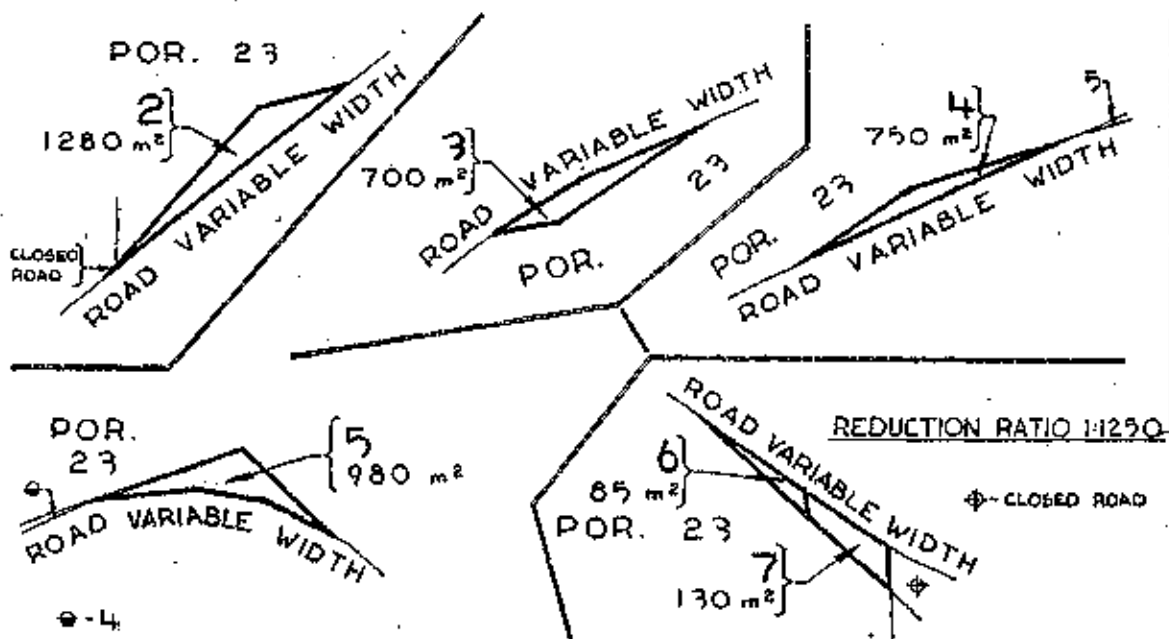
A. A. Butler



PLAN SHOWING LOCATION OF LAND

LENGTHS ARE IN METRES

Governor

TOTAL AREA: 3925 m²

REDUCTION RATIO 1:2500

LAND REFERRED TO

Lots 2, 3, 4, 5, 6 and 7 in Deposited Plan 248318 in the Shire of Coffs Harbour Parish of Bonville and County of Raleigh

FIRST SCHEDULE

DAVID NELSON McCREGOR of North Doombie Road Coffs Harbour and ROSALIND DOROTHY McCREGOR his wife as Joint Tenants.

SECOND SCHEDULE

1. The reservation and exception unto Us Our Heirs and Successors of:—
 - (a) all minerals which the said land contains with full power and authority for Us Our Heirs and Successors and each person or persons as shall from time to time be authorized by Us or Them to enter upon the said land and to search for mine dig and remove the said minerals;
 - (b) all such parts and so much of the said land as may hereafter be required for public ways in over and through the same to be set out by Our Governor for the time being of Our said State or some person by him authorized in that respect with full power for Us Our Heirs and Successors and for Our Governor as aforesaid by such person or persons as shall be by Us Them or him authorized in that behalf to make and conduct all such public ways; and
 - (c) the right of full and free ingress egress and regress into out of and upon the said land for the several purposes aforesaid or any of them.

WARNING: THIS DOCUMENT MUST NOT BE REMOVED FROM THE REGISTRAR GENERAL'S OFFICE

REGISTERED PROPRIETOR

[illegible]

STRUCTURE?

REGISTER NUMBER	PARTICULARS	REGISTERED	Signature of Registered General	CANCELLATION
	This deed is cancelled as to <u>both</u> New Certificates of Title have issued on <u>2-9-1930</u> for lots in <u>Deed</u> <u>Book No. 400 76 02</u> as follows:- <u>Lot 1 & 2</u> <u>Vol. 114-200</u> <u>Vol. 114-200</u> respectively.			
	  REGISTRAR GENERAL			

NOTE: ENTRIES RULED THROUGH AND AUTHENTICATED BY THE SEAL OF THE REGISTRAR GENERAL ARE CANCELLED

Information Provided Through
Advance Legal Search Pty Ltd
Ph. 0297541390 Fax. 0297541364

Historical Search

EziSearch
An Approved LPI NSW
Information Broker

LAND AND PROPERTY INFORMATION NEW SOUTH WALES - HISTORICAL SEARCH

SEARCH DATE

13/11/2007 9:37PM

FOLIO: 2/607602

First Title(s): SEE PRIOR TITLE(S)
Prior Title(s): VOL 14220 FOL 78

Recorded	Number	Type of Instrument	C.T. Issue
28/3/1988		TITLE AUTOMATION PROJECT	LOT RECORDED FOLIO NOT CREATED
7/9/1988		CONVERTED TO COMPUTER FOLIO	FOLIO CREATED CT NOT ISSUED
10/5/2000	6769139	DISCHARGE OF MORTGAGE	EDITION 1
23/8/2000	7040988	NOTICE OF DEATH X	EDITION 2
11/2/2003	9367005	CAVEAT	
15/12/2003	AA257288	WITHDRAWAL OF CAVEAT	
15/12/2003	AA257289	TRANSFER	
15/12/2003	AA257290	TRANSFER	EDITION 3
2/2/2005	AB254361	MORTGAGE	EDITION 4
21/12/2006	AC824884	DISCHARGE OF MORTGAGE	
23/1/2007	DP1107381	DEPOSITED PLAN	EDITION 5
9/5/2007	AC978448	GRANT OF EASEMENT	EDITION 6

*** END OF SEARCH ***

Coffey - Coffs Harbour ALSP

PRINTED ON 13/11/2007

* ANY ENTRIES PRECEDED BY AN ASTERISK DO NOT APPEAR ON THE CURRENT EDITION OF TITLE. WARNING: THE INFORMATION APPEARING UNDER NOTATIONS HAS NOT BEEN FORMALLY RECORDED IN THE REGISTER. ADVANCE LEGAL SEARCH PTY LTD CERTIFIES THAT THE INFORMATION CONTAINED IN THIS DOCUMENT HAS BEEN PROVIDED ELECTRONICALLY BY THE REGISTRAR-GENERAL IN ACCORDANCE WITH SECTION 96B(2) OF THE REAL PROPERTY ACT, 1900.

5. 2

WARNING: OPENING OR FILLING WILL LEAD TO REJECTION

RESEARCH REPORT

1. Roger Edmund Dwyer, 36111st of England for New South Wales, certificate that this nomination is a political party nomination for a permanent resident of a Commonwealth of Australia, 1980

Information Provided Through
Advance Legal Search Pty Ltd
Ph. 0297541590 Fax. 0297541364

Title Search

EziSearch
An Approved LPI NSW
Information Broker

LAND AND PROPERTY INFORMATION NEW SOUTH WALES - TITLE SEARCH

FOLIO: 10/1071628

SEARCH DATE	TIME	EDITION NO	DATE
13/11/2007	9:20 PM	5	9/5/2007

LAND

LOT 10 IN DEPOSITED PLAN 1071628
AT NORTH BOAMBEE
LOCAL GOVERNMENT AREA COFFS HARBOUR
PARISH OF BONVILLE COUNTY OF RALEIGH
TITLE DIAGRAM DP1071628

FIRST SCHEDULE

MANDOLION PTY LIMITED (T AB78095)

SECOND SCHEDULE (3 NOTIFICATIONS)

- 1 LAND EXCLUDES MINERALS AND IS SUBJECT TO RESERVATIONS AND CONDITIONS IN FAVOUR OF THE CROWN - SEE CROWN GRANT(S)
- 2 5077559 EASEMENT FOR WATER SUPPLY PIPELINE 5 METRES WIDE AND VARIABLE AFFECTING THE PART(S) SHOWN SO BURDENED IN DP266381
5077559 EASEMENT NOW VESTED IN COFFS HARBOUR CITY COUNCIL
- 3 AC978448 EASEMENT FOR OVERHEAD POWERLINES 30 WIDE AFFECTING THE SITE DESIGNATED (A) IN DP1107381

NOTATIONS

UNREGISTERED DEALINGS: NIL

*** END OF SEARCH ***

Coffey - Coffs Harbour ALSP

PRINTED ON 13/11/2007

* ANY ENTRIES PRECEDED BY AN ASTERISK DO NOT APPEAR ON THE CURRENT EDITION OF TITLE. WARNING: THE INFORMATION APPEARING UNDER NOTATIONS HAS NOT BEEN FORMALLY RECORDED IN THE REGISTER. ADVANCE LEGAL SEARCH PTY LTD CERTIFIES THAT THE INFORMATION CONTAINED IN THIS DOCUMENT HAS BEEN PROVIDED ELECTRONICALLY BY THE REGISTRAR-GENERAL IN ACCORDANCE WITH SECTION 96B(2) OF THE REAL PROPERTY ACT, 1900

Information Provided Through
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Historical Search

EziSearch
An Approved LPI NSW
Information Broker

LAND AND PROPERTY INFORMATION NEW SOUTH WALES - HISTORICAL SEARCH

SEARCH DATE

13/11/2007 9:45PM

FOLIO: 10/1071628

First Title(s): VOL 14136 FOL 56 VOL 1846 FOL 109
VOL 2654 FOL 186 VOL 4594 FOL 4
Prior Title(s): 7/813195 4/883939
VOL 5032 FOL 243

Recorded	Number	Type of Instrument	C.T. Issue
24/8/2004	DP1071628	DEPOSITED PLAN	FOLIO CREATED EDITION 1
9/11/2004	AB78094	WITHDRAWAL OF CAVEAT	
9/11/2004	AB78095	TRANSFER	EDITION 2
1/2/2005	AB254402	MORTGAGE	EDITION 3
21/12/2006	AC824883	DISCHARGE OF MORTGAGE	
23/1/2007	DP1107381	DEPOSITED PLAN	EDITION 4
9/5/2007	AC978448	GRANT OF EASEMENT	EDITION 5

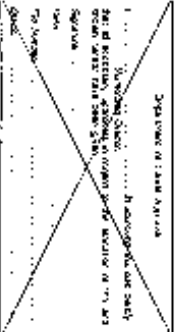
*** END OF SEARCH ***

Coffey - Coffs Harbour ALSP

PRINTED ON 13/11/2007

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OFFICE OF THE ATTORNEY GENERAL



1. This list is prepared in 1980 at the Commonwealth Party
and Federalist Act 1972 and does include members in the
provisional

```
SET DEFINE OFF;
P> SELECT * FROM EMPLOYEES ORDER BY SALARY DESC;
```

Year	Number of cases	Percentage of cases
1990	10	10.0
1991	15	15.0
1992	20	20.0
1993	25	25.0
1994	30	30.0
1995	35	35.0
1996	40	40.0
1997	45	45.0
1998	50	50.0
1999	55	55.0
2000	60	60.0
2001	65	65.0
2002	70	70.0
2003	75	75.0
2004	80	80.0
2005	85	85.0
2006	90	90.0
2007	95	95.0
2008	100	100.0
2009	105	105.0
2010	110	110.0
2011	115	115.0
2012	120	120.0
2013	125	125.0
2014	130	130.0
2015	135	135.0
2016	140	140.0
2017	145	145.0
2018	150	150.0
2019	155	155.0
2020	160	160.0
2021	165	165.0
2022	170	170.0
2023	175	175.0
2024	180	180.0
2025	185	185.0
2026	190	190.0
2027	195	195.0
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2030	210	210.0
2031	215	215.0
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2034	230	230.0
2035	235	235.0
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2098	550	550.0
2099	555	555.0
2100		

[illegible]

©2004 American Psychological Association

RELATIONSHIP: CLALIST 32(2)

06/12/2009 18:30:27

ET 63051MS EASEWTF 520 MW 173 SUFFY 1044.0: 5 MFE ASD NADON3.6 SUMAN CI 2926539: 90): 53275597

WARNING: CHEATING OR FIDDLING WILL LEAD TO REJECTION

PAUL FORUM, COURT OF STATEMENTS OF
-THEORY TO CREDIBLE STATEMENTS OF IN
-COURT STATEMENTS: THEORY, THEORY, STATEMENTS
-THEORY IS, STATEMENTS OF THE USE OF STATEMENTS
-IN COURT STATEMENTS

24-8-2004

[illegible]

2017-2018

2025年12月31日

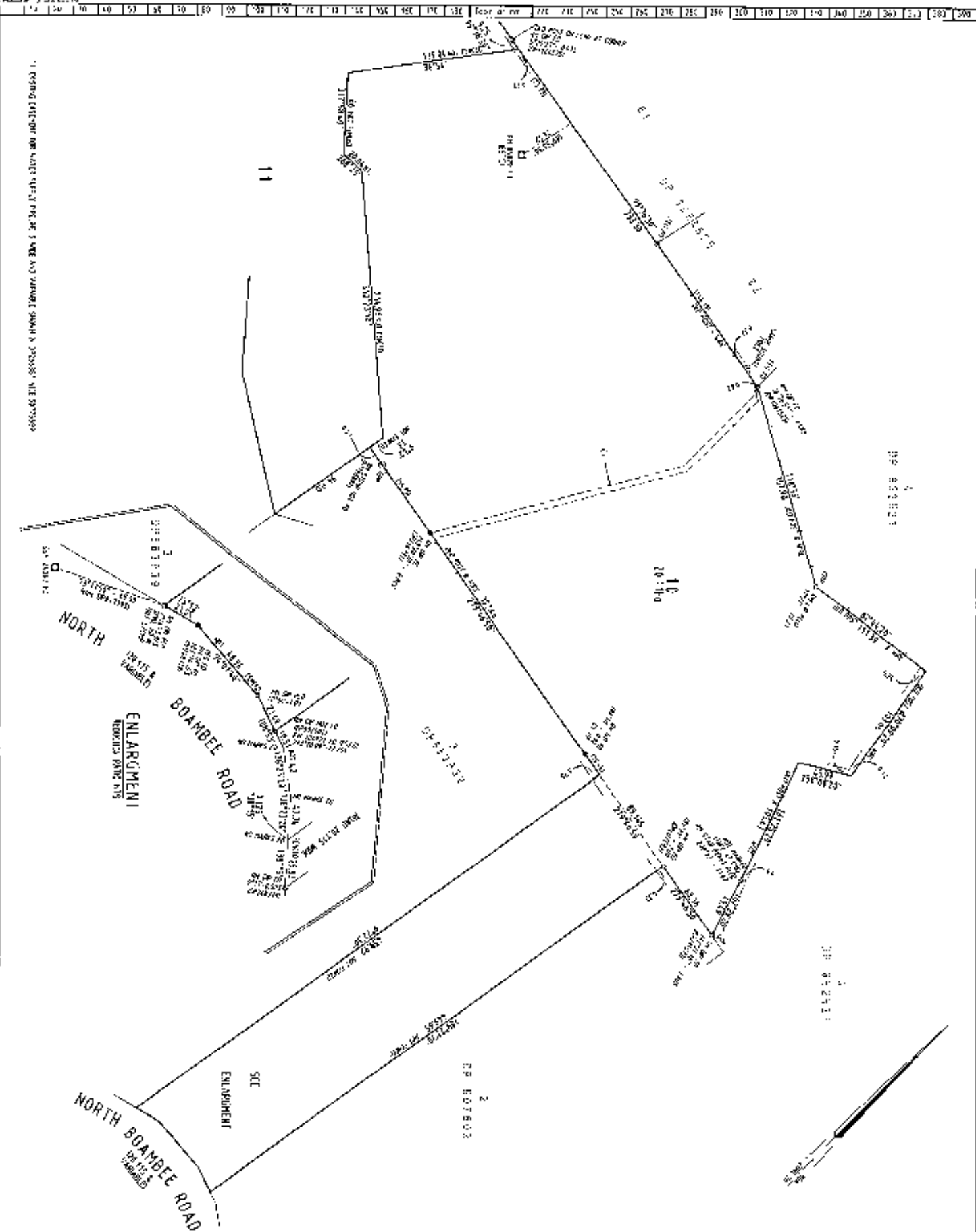
27. *Macropodus chinensis* (Peters)
28

201. 12.04N-100-16700

And the other - we've all heard about before, and we know it's true.

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97	100	100	100
98	100	100	100
99	100	10	

Publication No.: 15200



CERTIFICATES, SIGNATURES AND SEALS Sheet 1 of 1 sheet(s)

PLAN FORM 6A

PLAN OF SUBDIVISION LOT 4 IN DP 883939, LOT 1
IN DP 339573, LOT 1 IN DP 188892 & LOT 7 IN DP
813195

DP1071628

Registered: 24-8-2004

Surveying Regulation, 2001

1. DOUGLAS GOW
OF DOUGLAS GOW & ASSOCIATES
609 OLIVE STREET ALBURY ALBURY, NSW 2640
Ph (02) 6041 2456
a surveyor registered under the Surveying Act, 2002, certify that the
survey represented in this plan is accurate, has been made in
accordance with the Surveying Regulation, 2001 and was completed
on: 04/06/2004

(the survey relates to LOT 10 - 11 INCLUSIVE
(specify lot and actually surveyed or specify any land shown in the
plan that is not the subject of the survey))

Signature: [Signature] Dated: 30/06/2004
Surveyor registered under the Surveying Act, 2002

Datum Line: X
Type: Urban/Rural

Department of Lands Approval

I, [Signature], in approving this plan certify
(Authorised Officer)
that all necessary approvals in regard to the allocation of the land
shown herein have been given

Signature: [Signature]
Date: [Signature]
File Number: [Signature]
Office: [Signature]

Subdivision Certificate

I certify that the provisions of s.109J of the Environmental Planning and
Assessment Act 1979 have been satisfied in relation to:

the proposed SUBDIVISION set out herein
(insert 'subdivision' or 'new road')

* Authorised Person/General Manager/Authorised Officer

Consent Authority: [Signature]
Date of Endorsement: 12/11/04
Accreditation no: 9105
Subdivision Certificate no: [Signature]
File no: [Signature]

*Delete whichever is inappropriate

SIGNATURES, SEALS and STATEMENTS of intention
to dedicate public roads or to create public reserves
and drainage reserves.

[Signature]
Albert Max Golding

Executed by MANDOLION PTY LTD
(A.C.N. 105 342 078) in accordance
with the Corporations Act 2001:

[Signature]
DIRECTOR

[Signature]
DIRECTOR

Use PLAN FORM 6A for additional
certificates, signatures and seals

SURVEYOR'S REFERENCE: 55889370

NEW SOUTH WALES

109

CERTIFICATE OF TITLE

PROPERTY ACT, 1900

Crown Grants Vol. 1846 Fol. 1
Vol. 14136 Fol. 56Prior Titles Vol. 4664 Fol. 185
Vol. 14136 Fol. 56

Vol. 14220 Fol. 77



EDITION ISSUED

3 9 1988

I certify that the person described in the First Schedule is the registered proprietor of the undermentioned estate in the land within described subject nevertheless to such exceptions encumbrances and interests as are shown in the Second Schedule.

CANCELLED

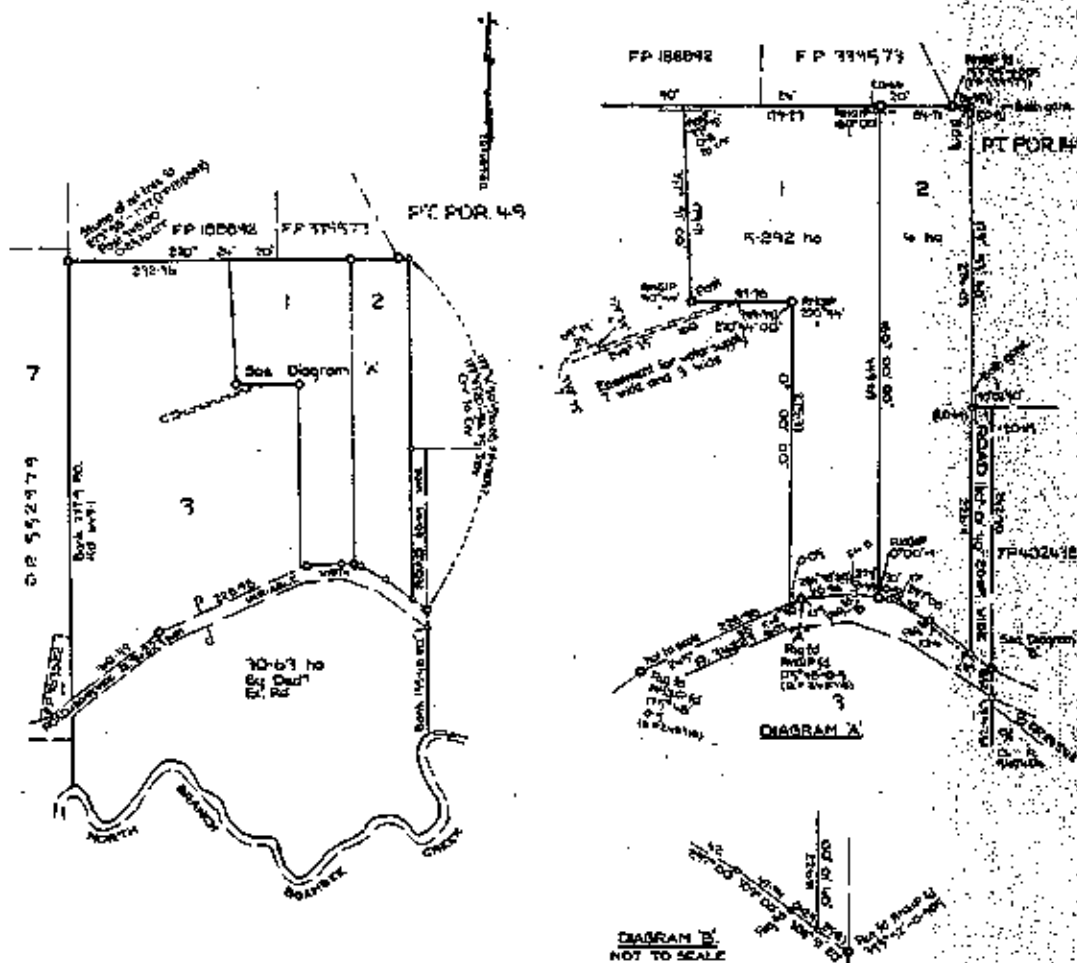
Registrar General

SEE AUTO FOLIO



PLAN SHOWING LOCATION OF LAND

LENGTHS ARE IN METRES



ESTATE AND LAND REFERRED TO

Estate in Fee Simple in Lot 1 in Deposited Plan 607602 at Bombee in the Shire of Coffs Harbour Parish of Bonville and County of Raleigh. EXCEPTING THEREOUT the minerals reserved by the Crown Grant

FIRST SCHEDULE

DAVID NELSON McGRIGOR of Coffs Harbour, Milk Vendor and ROSALIND DOROTHY McGRIGOR his wife as Joint Tenants.

SECOND SCHEDULE

1. Reservations and conditions, if any, contained in the Crown Grants above referred to.
2. ~~FP 599779~~ Mortgage to Bank of New South Wales affecting that part of the land above described formerly comprised in Certificate of Title Volume 4664 Folio 185 Discharged 5989 (10)
3. DP607602² Basement for Water Supply appurtenant to the land above described.

NOTE: ENTRIES RULED THROUGH AND AUTHENTICATED BY THE SEAL OF THE REGISTRAR GENERAL ARE CANCELLED

B97

/Reg: B376271

/Doc: CT 14220-077

/Prt: 13-Nov-2007

PERSONS ARE CAUTIONED AGAINST ALTERING OR ADDING TO THE

REGISTERED PROPRIETOR

[illegible]

~~SEE AUTO FILE~~

SECOND SCHEDULE (continued)

NOTE: ENTRIES RATED THROUGH AND COMMENCED BY THE YEAR OF BEGINNING AND THE YEAR OF



NEW SOUTH WALES

Crown Grants Vol. 1846 Fol. 1
Vol. 14136 Fol. 1Prior Titles Vol. 4664 Fol. 185
Vol. 14136 Fol. 56

Vol. 14220 Fol. 79

CANCELLED

EDITION ISSUED

3 9 1980



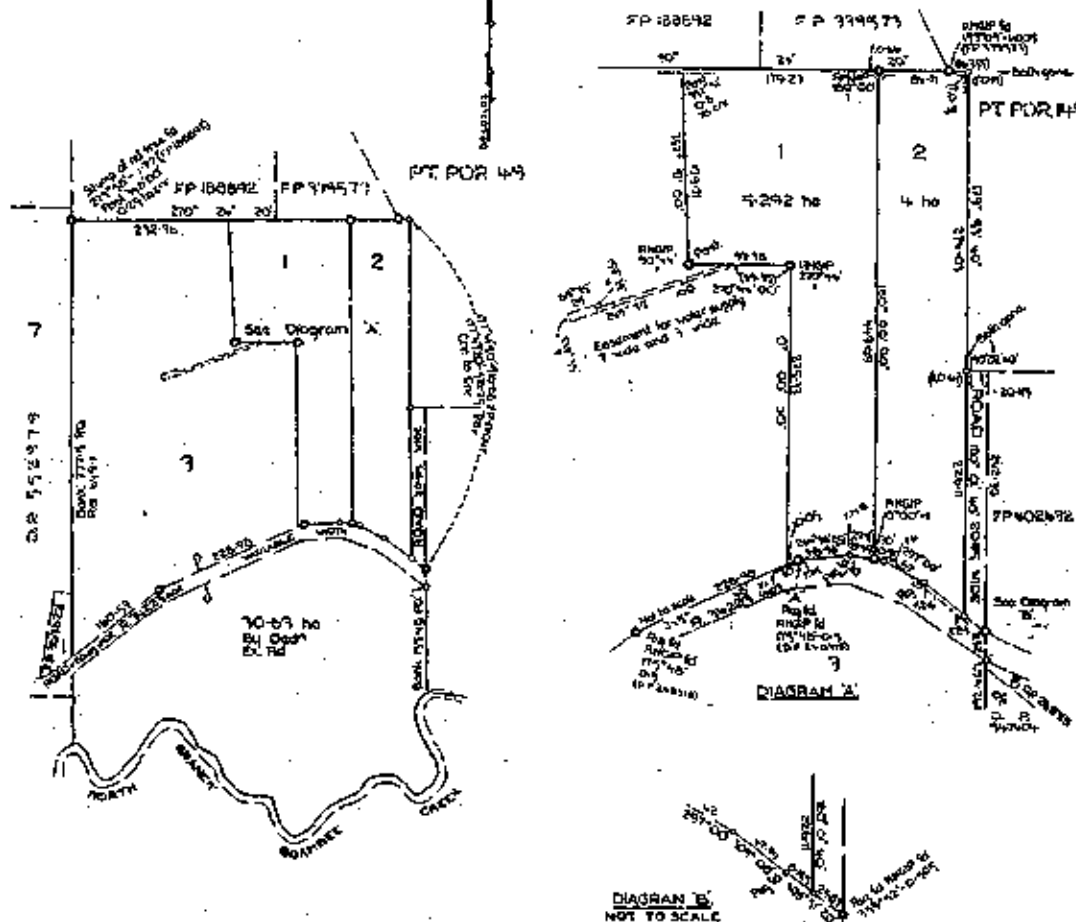
I certify that the person described in the First Schedule is the registered proprietor of the undermentioned estate in the land within described subject nevertheless to such exceptions, encumbrances and interests as are shown in the Second Schedule.

Registrar General.



PLAN SHOWING LOCATION OF LAND

LENGTHS ARE IN METRES



ESTATE AND LAND REFERRED TO

Estate in Fee Simple in Lot 3 in Deposited Plan 607602 at Roanbee in the Shire of Coffs Harbour Parish of Bonville and County of Raleigh. EXCEPTING THEREABOUT the road shown in the plan hereon and the minerals reserved by the Crown Grants.

FIRST SCHEDULE

DAVID NELSON MCGREGOR of Coffs Harbour, Milk Vendor and ROSALIND DOROTHY MCGREGOR his wife as Joint Tenants.

SECOND SCHEDULE

1. Reservations and conditions, if any, contained in the Crown Grants above referred to.
2. ~~ED69791 Mortgage to Bank of New South Wales affecting that part of the land above described, formerly comprised in Certificate of Title Volume 4664 Folio 185. Discharged 5999110~~
3. DP607602 Easement for Water Supply affecting the part of the land above described shown so burdened in Deposited Plan 607602.

B97

/Req: B376273
/Doc: CT 11776-209
/Prt: 13-Nov-2007

TITLE



NEW SOUTH WALES

Crown Grant Vol. 1898 Fol. 20

Prior Titles Vol. 6050 Fol. 87
Vol. 6592 Fol. 221

Vol. 11776 Fol. 209

Edition issued 17-2-1972

CANCELLED

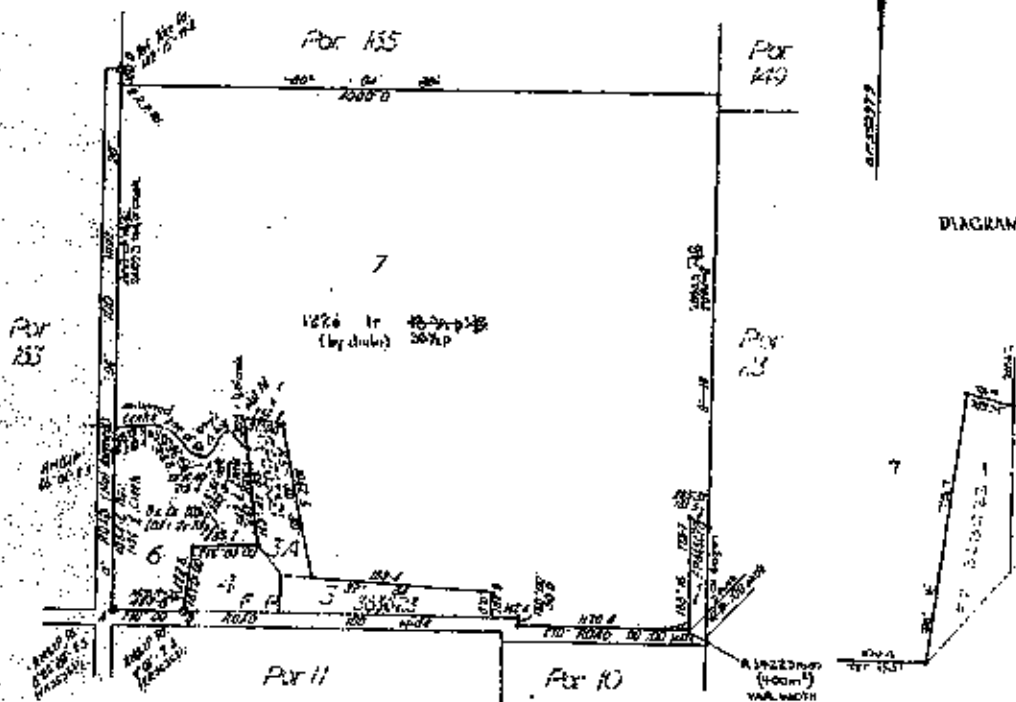


I certify that the person described in the First Schedule is the registered proprietor of the undermentioned estate in the land within described subject nevertheless to such exceptions encumbrances and interests as are shown in the Second Schedule.

Jawatson
Registrar General.



PLAN SHOWING LOCATION OF LAND



ESTATE AND LAND REFERRED TO

Estate in Fee Simple in Lot 7 in Deposited Plan 552979 at Eoambee West in the Shire of Coff's Harbour Parish of Bonville and County of Raleigh. EXCEPTING THEREOUT the minerals reserved by the Crown Grant.

FIRST SCHEDULE

ALBERT MAX GOLDING, of Coff's Harbour, Banana Grower.

SECOND SCHEDULE

1. Reservations and conditions, if any, contained in the Crown Grant above referred to.
2. Mortgage No. L186107 to The Commercial Bank of Australia Limited.
Entered 19-12-1968.

Jawatson
Registrar General.

NOTE: ENTRIES RULED THROUGH AND AUTHENTICATED BY THE SEAL OF THE REGISTRAR GENERAL ARE CANCELLED.

WARNING: THIS DOCUMENT MUST NOT BE REMOVED FROM THE LAND TITLES OFFICE

REGISTERED PROPRIETOR

[illegible]

~~This folio is cancelled as it wholely depend upon~~
~~of computer folios for lots 11, 2 & 3.~~
~~above mentioned plan.~~

SECOND SCHEDULE (continued)

[illegible]

NOTE: ENTRIES RULED THROUGH AND AUTHENTICATED BY THE SEAL OF THE REGISTRAR GENERAL ARE CANCELLED

749078
Road Nelsonville
R 36223-1692
F74952 W/Kid
S 892424
CT30-1-85
DP 71234 R
18-2-1985

Information Provided Through
Advance Legal Search Pty Ltd
Ph. 0297541590 Fax. 0297541364

Historical Search

EziSearch
An Approved LPI NSW
Information Broker

LAND AND PROPERTY INFORMATION NEW SOUTH WALES - HISTORICAL SEARCH

SEARCH DATE

15/11/2007 8:49AM

FOLIO: 7/813195

First Title(s): VOL 1846 FOL 109 VOL 14136 FOL 56
Prior Title(s): 1/607602 4/701891

Recorded -----	Number -----	Type of Instrument -----	C.T. Issue -----
14/11/1991	DP813195	DEPOSITED PLAN	FOLIO CREATED EDITION 1
23/8/2000	7040988	NOTICE OF DEATH	EDITION 2
11/2/2003	9367005	CAVEAT	
15/12/2003	AA257288	WITHDRAWAL OF CAVEAT	
15/12/2003	AA257289	TRANSFER	
15/12/2003	AA257291	TRANSFER	EDITION 3
24/8/2004	DP1071628	DEPOSITED PLAN	FOLIO CANCELLED

*** END OF SEARCH ***

Coffey - Coffs Harbour ALSP

PRINTED ON 15/11/2007

* ANY ENTRIES PRECEDED BY AN ASTERISK DO NOT APPEAR ON THE CURRENT EDITION OF TITLE WARNING THE INFORMATION APPEARING UNDER NOTATIONS HAS NOT BEEN FORMALLY RECORDED IN THE REGISTER. ADVANCE LEGAL SEARCH PTY LTD CERTIFES THAT THE INFORMATION CONTAINED IN THIS DOCUMENT HAS BEEN PROVIDED ELECTRONICALLY BY THE REGISTRAR-GENERAL IN ACCORDANCE WITH SECTION 96B(2) OF THE REAL PROPERTY ACT, 1900

Form: 01T
Release: 2
www.lpi.nsw.gov.au

TRANSFER

New South Wales
Real Property Act 1900



AA257289J

PRIVACY NOTE: this information is legally required and will become part of the public record

STAMP DUTY

Office of State Revenue use only

06-11-2003

0001693235-001

SECTION 18(2)

DUTY

\$ *****2.00

(A) TORRENS TITLE

CERTIFICATE OF TITLE FOLIO IDENTIFIERS 2/607602 & 7/813195

(B) LODGED BY

Delivery
Box

Name, Address or DX and Telephone

BOX 302G
Burkhart Legal

Tel: 9231 0122 Fax: 9262 1904

Reference: *S111x/1stona 257136-1009*

CODES

T

TW

(Sheriff)

(C) TRANSFEROR

ROSALIND DOROTHY MCGREGOR

(D) CONSIDERATION The transferor acknowledges receipt of the consideration of \$ 957,900.00

and as regards

(E) ESTATE the land specified above transfers to the transferee an estate in fee simple

(F) SHARE
TRANSFERRED

(G) Encumbrances (if applicable):

(H) TRANSFEE

DRAGON PTY LIMITED A.C.N. 105 733 980
MANDOLION PTY LIMITED A.C.N. 105 342 078

(I) TENANCY: *Tenants in Common in equal share*

(J) DATE

I certify that the person(s) signing opposite, with whom
I am personally acquainted or as to whose identity I am
otherwise satisfied, signed this instrument in my presence.

Signature of witness:

Paula Munaught

Name of witness:

PAULA MUNAUGHT

Address of witness:

134 WEST HIGH STREET
COFFS HARBOUR

Certified correct for the purposes of the Real
Property Act 1900 by the transferor.

Signature of transferor:

R D McGregor

Certified for the purposes of the Real Property Act
1900 by the person whose signature appears below.

Signature:

Peter James Caldwell

Signatory's name:

PETER JAMES CALDWELL

Signatory's capacity:

transferee's solicitor

Information Provided Through
Advance Legal Search Pty Ltd
Ph. 0297541590 Fax. 0297541364

Historical Search

EziSearch
An Approved LPI NSW
Information Broker

LAND AND PROPERTY INFORMATION NEW SOUTH WALES - HISTORICAL SEARCH

SEARCH DATE

15/11/2007 8:57AM

FOLIO: 4/701891

First Title(s): VOL 1846 FOL 109 VOL 14136 FOL 56
Prior Title(s): VOL 14220 FOL 79

Recorded	Number	Type of Instrument	C.T. Issue
8/3/1984	DP701891	DEPOSITED PLAN	FOLIO CREATED EDITION 1
20/5/1985	V730024	DISCHARGE OF MORTGAGE	EDITION 2
8/11/1991	E28126	REQUEST	EDITION 3
14/11/1991	DP813195	DEPOSITED PLAN	FOLIO CANCELLED

*** END OF SEARCH ***

Coffey - Coffs Harbour ALSP

PRINTED ON 15/11/2007

* ANY ENTRIES PRECEDED BY AN ASTERISK DO NOT APPEAR ON THE CURRENT EDITION OF TITLE. WARNING: THE INFORMATION APPEARING UNDER NOTATIONS HAS NOT BEEN FORMALLY RECORDED IN THE REGISTER. ADVANCE LEGAL SEARCH PTY LTD CERTIFIES THAT THE INFORMATION CONTAINED IN THIS DOCUMENT HAS BEEN PROVIDED ELECTRONICALLY BY THE REGISTRAR-GENERAL IN ACCORDANCE WITH SECTION 96B(2) OF THE REAL PROPERTY ACT, 1900

Information Provided Through
Advance Legal Search Pty Ltd
Ph. 0297541590 Fax. 0297541364

Title Search

EziSearch
An Approved LPI NSW
Information Broker

LAND AND PROPERTY INFORMATION NEW SOUTH WALES - TITLE SEARCH

FOLIO: 101/619946

SEARCH DATE	TIME	EDITION NO	DATE
13/11/2007	9:19 PM	2	18/3/2005

LAND

LOT 101 IN DEPOSITED PLAN 619946
AT COFFS HARBOUR
LOCAL GOVERNMENT AREA COFFS HARBOUR
PARISH OF BONVILLE COUNTY OF RALEIGH
TITLE DIAGRAM DP619946

FIRST SCHEDULE

JILL LYNETTE GILL
MICHAEL GLENN WALKER
AS TENANTS IN COMMON IN EQUAL SHARES (TA AB358021)

SECOND SCHEDULE (2 NOTIFICATIONS)

- 1 LAND EXCLUDES MINERALS AND IS SUBJECT TO RESERVATIONS AND CONDITIONS IN FAVOUR OF THE CROWN - SEE CROWN GRANT(S)
- 2 DP619946 RIGHT OF CARRIAGEWAY APPURTENANT TO THE LAND ABOVE DESCRIBED

NOTATIONS

UNREGISTERED DEALINGS: NIL

*** END OF SEARCH ***

Coffey - Coffs Harbour ALSP

PRINTED ON 13/11/2007

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Information Provided Through
Advance Legal Search Pty Ltd
Ph. 0297541590 Fax. 0297541364

Historical Search

EziSearch
An Approved LPI/ALSP
Information Broker

LAND AND PROPERTY INFORMATION NEW SOUTH WALES - HISTORICAL SEARCH

SEARCH DATE

13/11/2007 9:43PM

FOLIO: 101/619946

First Title(s): SEE PRIOR TITLE(S)
Prior Title(s): VOL 14598 FOL 148

Recorded	Number	Type of Instrument	C.T. Issue
28/3/1988		TITLE AUTOMATION PROJECT	LOT RECORDED FOLIO NOT CREATED
13/9/1988		CONVERTED TO COMPUTER FOLIO	FOLIO CREATED CT NOT ISSUED
31/8/2004	AA921034	NOTICE OF DEATH ✓	EDITION 1
18/3/2005	AB358021	TRANSMISSION APPLICATION	EDITION 2

*** END OF SEARCH ***

Coffey - Coffs Harbour ALSP

PRINTED ON 13/11/2007

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Form: 02ND
Licence: 01-05-050
Licensee: CRANE & BUTCHER
LAWYERS

NOTICE OF DEATH

New South Wales
Section 101 Real Property Act 1900



AA921034T

PRIVACY NOTE: this information is legally required and will become part of the public record

(A) LAND

Torrens Title
Folio Identifier 101/619946

(B) REGISTERED
DEALING

Number Torrens Title

(C) LODGED BY

Delivery
Box

Name, Address or DX and Telephone

LEGAL LIAISON SERVICE

FOR: *Crane & Butcher*

Reference (optional): *L CRANE 4868*

CODE

ND

(D) DECEASED
JOINT TENANT

CECIL LEOPOLD WALKER

(E) SURVIVING
JOINT TENANT

OLIVE MARY WALKER

(F) I, the surviving joint tenant, apply to be registered as proprietor of the interest of the deceased joint tenant in the above land.

(G) STATUTORY DECLARATION

I, **OLIVE MARY WALKER**, solemnly and sincerely declare that the deceased joint tenant —

- died on 4 August 2004; and
- is identical with the deceased named in the certified copy of death certificate No. 28434/2004 accompanying this application.

I make this solemn declaration conscientiously believing the same to be true and by virtue of the provisions of the Oaths Act 1900.
and I certify this application correct for the purposes of the Real Property Act 1900.

Made and subscribed at Coffs Harbour
on 24 August 2004

in the State of New South Wales
in the presence of-

Signature of witness:

Name of witness: *PAUL KENNETH CRANE*

Address of witness: *8 ORCHARD ST COFFS HARBOUR*

Qualification of witness: *SOLICITOR*

Signature of declarant:

O.M. Walker

Crown Grant Vol. 2654 Fol. 186

Prior Title Vol. 6010 Fol. 4



EDITION ISSUED

18 9 1980

I certify that the person described in the First Schedule is the registered proprietor of the undermentioned estate in the land within described subject nevertheless to such exceptions, encumbrances and interests as are shown in the Second Schedule.

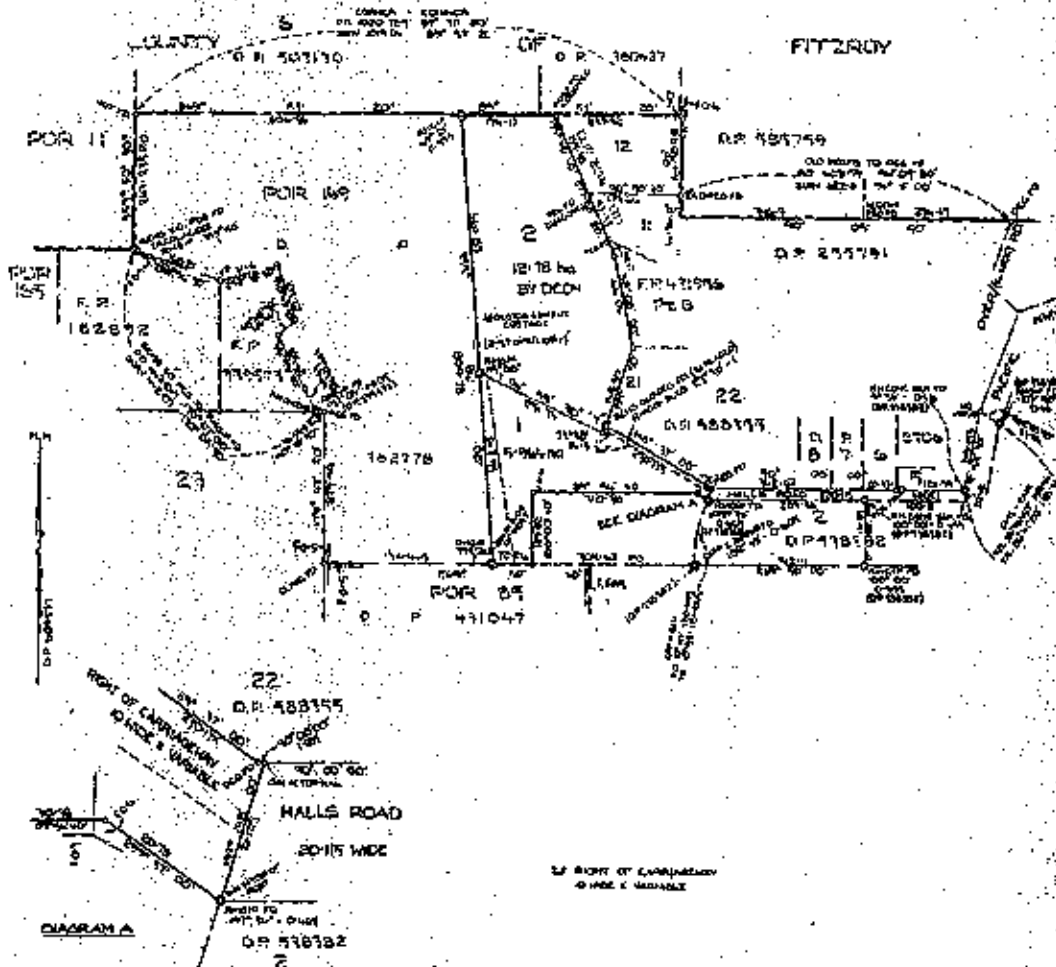
Registrar General.



PLAN SHOWING LOCATION OF LAND

LENGTHS ARE IN METRES

CANCELLED



ESTATE AND LAND REFERRED TO

Estate in Fee Simple in Lot 1 in Deposited Plan 609537 at Coffe Harbour in the Shire of Coffe Harbour Parish of Bonville and County of Raleigh. EXCEPTING THEREOUT the minerals reserved by the Crown Grant.

FIRST SCHEDULE

CECIL LEOPOLD WALKER of Coffe Harbour, Banana Grower and OLIVE MARY WALKER, his wife as joint tenants.

SECOND SCHEDULE

1. Reservations and conditions, if any, contained in the Crown Grant above referred to.
2. DP609537 Right of carriageway affecting land shown as burdened in Deposited Plan 609537.

[illegible]

NEW SOUTH WALES

Crown Grant Vol. 2654 Fol. 186

Prior Title Vol. 14238 Fol. 56

CIFICATE OF TITLE

AL PROPERTY ACT, 1900

Vol. 14598 Fol. 148

EDITION ISSUED

16 11 1981



CANCELLED

I certify that the person described in the First Schedule is the registered proprietor of the land in the Schedule above (hereinafter called the land) within described subject nevertheless to such exceptions encumbrances and interests as are shown in the Second Schedule.

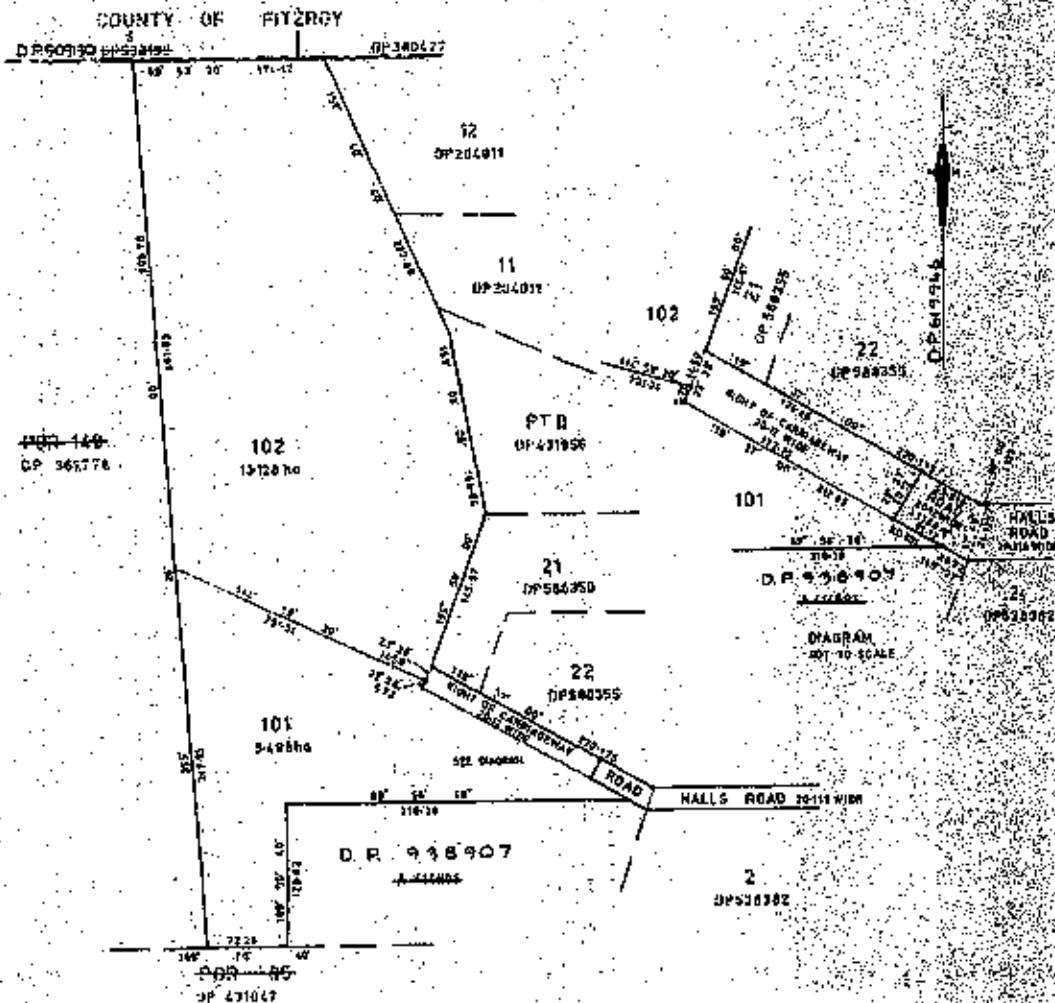
SEE AUTO FOLIO

Registrar General



PLAN SHOWING LOCATION OF LAND

LENGTHS ARE IN METRES



ESTATE AND LAND REFERRED TO

Estate in Fee Simple in Lot 101 in Deposited Plan 619946 at Coffe Harbour in the Shire of Coffe Harbour Parish of Bonville and County of Raleigh. EXCEPTING THEREOUT the minerals reserved by the Crown Grant.

FIRST SCHEDULE

CECIL LEOPOLD WALKER and OLIVE MARY WALKER, as Joint Tenants.

SECOND SCHEDULE

1. Reservations and conditions, if any, contained in the Crown Grant above referred to.
2. DP619946 right of carriageway appurtenant to the land above described.

NOTE: ENTRIES RULED THROUGH AND AUTHENTICATED BY THE SEAL OF THE REGISTRAR GENERAL ARE CANCELLED

B97

/Req: B376270

/Doc: CT 14598-148

/Prt: 13-Nov-2007

PERSONS ARE CAUTIONED AGAINST ALTERING OR ADDING TO

THIS DOCUMENT IS NOT TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS WITHOUT THE WRITTEN PERMISSION OF THE REGISTRAR GENERAL

FIRST SCHEDULE (continued)

REGISTERED PROPRIETOR

Register General

CANCELLED**SEE AUTO FOLIO**

SECOND SCHEDULE (continued)

PARTICULARS

Register General

CANCELLATION

NOTATIONS AND UNREGISTERED DEALINGS

Information Provided Through
Advance Legal Search Pty Ltd
Ph. 0297541590 Fax. 0297541364

Title Search

EziSearch
An Approved LPI NSW
Information Broker

LAND AND PROPERTY INFORMATION NEW SOUTH WALES - TITLE SEARCH

FOLIO: 1/1089778

SEARCH DATE	TIME	EDITION NO	DATE
-----	----	-----	----
13/11/2007	9:19 PM	1	7/12/2005

LAND

LOT 1 IN DEPOSITED PLAN 1089778
AT NORTH BOAMBEE VALLEY
LOCAL GOVERNMENT AREA COFFS HARBOUR
PARISH OF BONVILLE COUNTY OF RALEIGH
TITLE DIAGRAM DP1089778

FIRST SCHEDULE

THE STATE OF NEW SOUTH WALES

SECOND SCHEDULE (1 NOTIFICATION)

1 LAND EXCLUDES MINERALS - SEE SECTION 171 CROWN LANDS ACT 1989

NOTATIONS

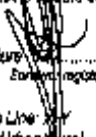
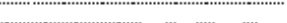
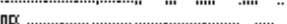
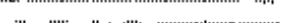
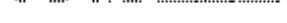
AB976573 NOTE: CLOSED ROAD GAZ.25.11.2005.FOL.9759
UNREGISTERED DEALINGS: NIL

*** END OF SEARCH ***

Coffey - Coffs Harbour ALSP

PRINTED ON 13/11/2007

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CERTIFICATES, SIGNATURES AND SEALS		Sheet 1 of 1 sheet(s)
PLAN OF ROAD FOR FIRST TITLE CREATION AND ROAD CLOSING UNDER THE ROADS ACT 1993		DP1089778
		Registered:  15.11.2005
Surveying Regulation, 2001 I, DOUGLAS GOW OF DOUGLAS GOW & ASSOCIATES 609 OLIVE STREET ALBURY ALBURY, NSW 2640 Pb (02) 6041 2456 a surveyor registered under the Surveying Act, 2002, certify that the survey represented in this plan is accurate, has been made in accordance with the Surveying Regulation, 2001 and was completed on: 04/06/2004 The survey relates to: LOT 1 (specify the land actually surveyed or specify any land shown in the plan that is the subject of the survey) Signature:  Dated: 09/08/2004 Entered: registered under the Surveying Act 2002 Datum Line:  Type: 	SIGNATURES, SEALS and STATEMENTS of intention to dedicate public roads or to create public reserves and drainage reserves.	
Department of Lands Approval  In approving this plan certify (Authorised Officer) that all necessary approvals in regard to the allocation of the land shown herein, have been given Signature:  Date: 31 AUGUST 2005 File Number: 67034/04 Office: GRAFTON		
Subdivision Certificate I certify that the provisions of s.106J of the Environmental Planning and Assessment Act 1979 have been satisfied in relation to: the proposed SUBDIVISION set out herein (Insert 'subdivision' or 'new road') * Authorised Person/General Manager/Accredited Certifier Consent Authority:  Date of Endorsement:  Accreditation no:  Subdivision Certificate no:  File no:  * Delete whichever is inapplicable.		Use PLAN FORM 6A for additional certificates, signatures and seals

* OFFICE USE ONLY



Print



Close page

Search results

Your search for: LGA: Coffs Harbour City Council

Matched 9 notices relating to 4 sites.

Suburb	Address	Site Name	Notices related to this site
Coffs Harbour	136 Pacific Highway	BP Service Station	1 current
Coffs Harbour	near General Aviation Drive	Mobil Fuel Depot (Airport)	1 former
Coffs Harbour	316 High Street	Mobil Service Station	2 current and 2 former
Coramba	5 Martin Street	5 Martin Street, Coramba	3 current

Page 1 of 1

23 November 2007



Our Ref: D07/121122
Your Ref: Emma Coleman

14 December 2007

Attention: Emma Coleman
Coffey Geotechnics
PO Box 704
COFFS HARBOUR NSW 2450

Dear Emma,

RE SITE: North Boambee Rd, Coffs Harbour

I refer to your search request of 10th December 2007 requesting information on licences to Keep Dangerous Goods for the above site.

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

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


Naomi James
A/Senior Licensing Officer
Dangerous Goods

WorkCover. **Watching out for you.**

WorkCover NSW ABN 77 682 742 966 92-100 Donnison Street Gosford NSW 2250 Locked Bag 2906 Lisarow NSW 2252
Telephone 02 4321 5000 Facsimile 02 4325 4145 WorkCover Assistance Service 13 10 50
DX 731 Sydney Website www.workcover.nsw.gov.au

WC1218UH

Local Government and Fisheries 2

ATT. No. 35/2022

Cellulose 48%
Cellulose 48%

En.

Contractor shall provide and maintain access to the site at all times for the use of the public and for the use of the City of Los Angeles. The Contractor shall be responsible for the maintenance of the site and for the removal of all debris and materials from the site at the time of completion.

Estimated by us

CLASS OF SUBJECT Psychology
 (This entry includes area code and dwelling combined access address, district, and city.)

TYPE OF CONSTITUTION — Common Law Continental

ESTIMATED COST OF BUILDING: 10,000 AREA OF BUILDING: 1400

SPECIALTY Cable's H&R

FULL NAME OF OWNER - HERSCHEL LEONARD JAMES DAVIS SR

ENTOURNEMENT ADDRESS 3 Luster Street ADDRESS

_____ 12/15/52 _____

----- TRFL OF FOOT ----- $\frac{1}{2}$ (No. Cables / Trgs)

1. Underline is correct with the drawings at the Roof Garments Ltd 1949 and December 1948, 20, 21, 22, 44, and 45 of the drawings.

Signature of Director: C. J. [illegible]

4. What other appliances is owner, lessee or mortgagor using _____ See 12/23/64 _____ See 12/23/64 _____

OFFICE USE ONLY

[illegible]

	1	2	April 30,	Total
BILLINGS FOR _____	\$6.	00	1949	811.47
CORRECT amount charged last month is given full and correct, etc.				
TOTAL				

Indefinite Bond
 Bill Jones appeared and this is a 100% bond
 for \$5000.00. He is 50 years old. He is a
 freedom bond member for the 1st
 time.
 J. J. Jones
 1/14/62

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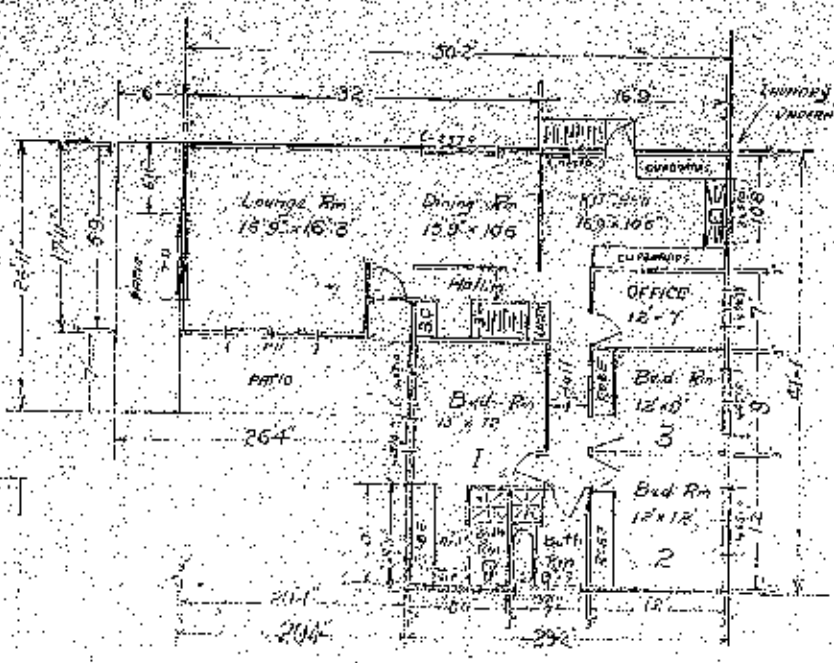
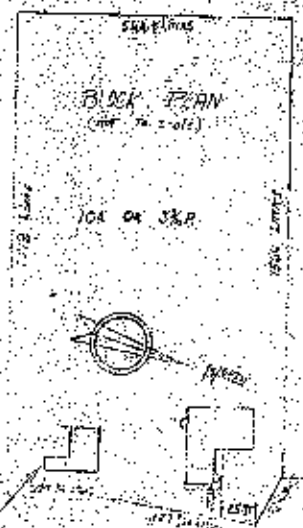
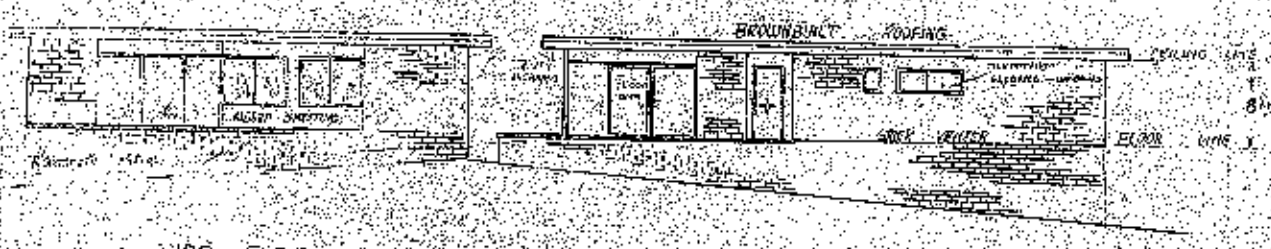
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346/67

PROPOSED DWELLING FOR ALLIANCE
HALLS ROAD
COFFS HARBOUR
Scale 1/8"



Existing Dwelling
To Be Converted
To Workshop

FLOOR PLAN

[illegible][illegible]

REC'D - SAN FRANCISCO
JUN 10 1963
U.S. DEPT. OF JUSTICE
FEDERAL BUREAU OF INVESTIGATION
WASHINGTON, D.C. 20535
17 JUN 1963

[illegible]

346/67

PROPOSED DWELLING FOR

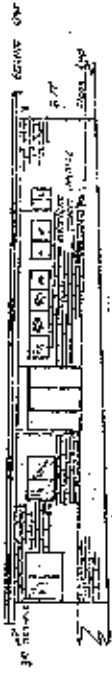
H.L. KENT

HALLS RD

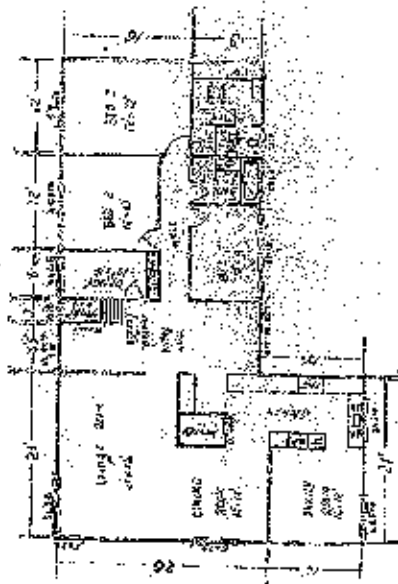
CITY OF HARTFORD

STATE OF CONNECTICUT

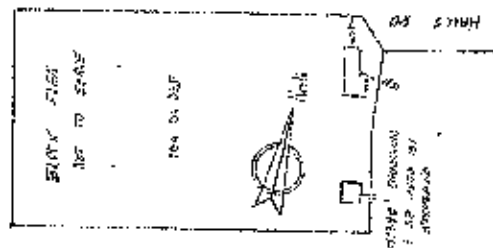
1



FRONT ELEVATION



FLOOR PLAN



END ELEVATION

FOR THE DIRECTOR
 The following information was obtained from the files of the Department of the Interior, Bureau of Land Management, on the subject of the proposed acquisition of the land described in the accompanying map, and is being furnished to you for your information and guidance.

The proposed acquisition of the land described in the accompanying map is being considered by the Bureau of Land Management, Department of the Interior, for acquisition by the United States for the purpose of establishing a national monument.

The land described in the accompanying map is located in the State of California, and is owned by the State of California.

The land described in the accompanying map is being offered for sale to the United States for the purpose of establishing a national monument. The land is being offered for sale at a price of \$100,000.00.

The land described in the accompanying map is being offered for sale to the United States for the purpose of establishing a national monument. The land is being offered for sale at a price of \$100,000.00.

SALES PRICE & PAYMENT
 The land described in the accompanying map is being offered for sale to the United States for the purpose of establishing a national monument. The land is being offered for sale at a price of \$100,000.00.

PROPOSED EXTENSION TO DWELLING

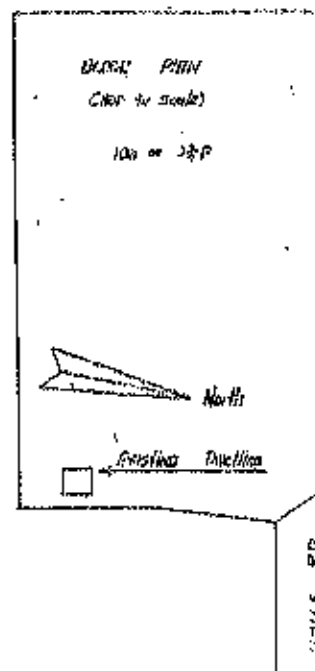
for H.L.J. KANE
HALLS RD COFFS HARBOUR.

SCALE 1:100

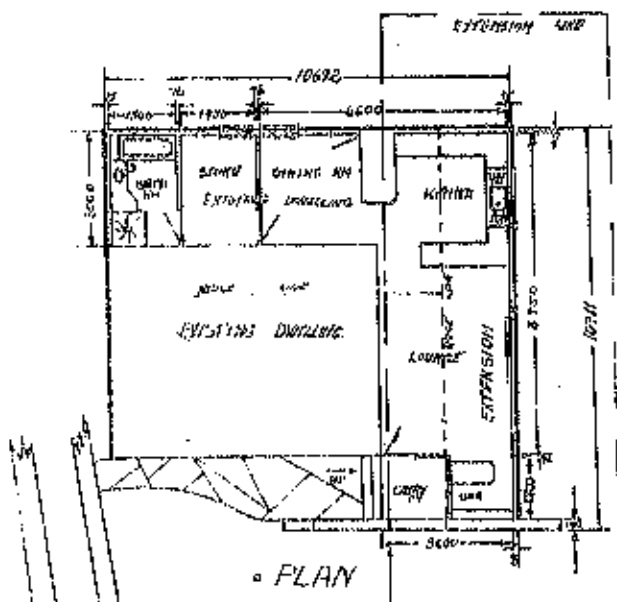
343/74



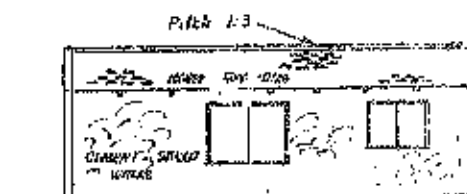
• FRONT ELEVATION.



HALLS RD



• PLAN



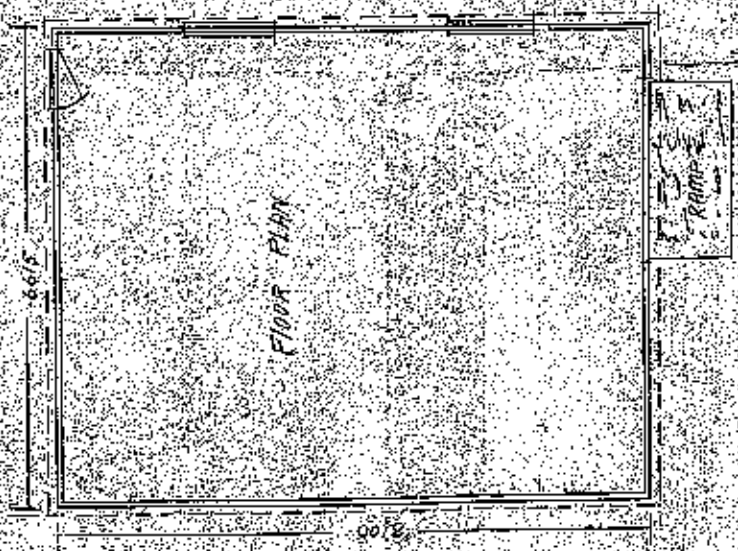
• WEST ELEVATION



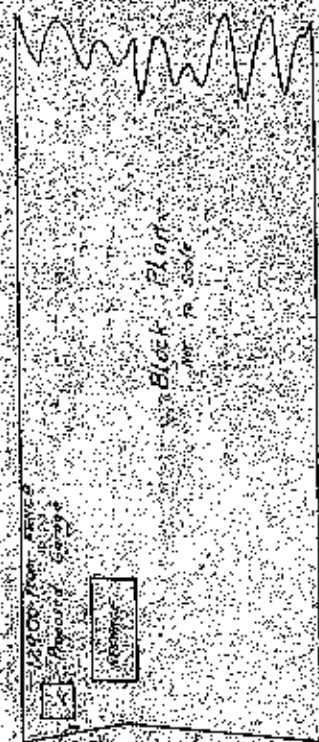
93/76



FRONT ELEVATION



FLOOR PLAN



SIDE ELEVATION

PROPOSED PLAN OF GARAGE
and TRACTOR SHED
FOR HILLMAN
HILLMAN TRACTOR SHED
HILLMAN TRACTOR SHED
HILLMAN TRACTOR SHED
HILLMAN TRACTOR SHED

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NAME OF CARRIER
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Gulf Harbour Ship Canal BUILDING APPLICATION Gulf Harbour Ship Canal

This application is for the construction of a building on the site of the old wharf at the Gulf Harbour Ship Canal. The building is to be used as a warehouse for the storage of goods and materials. The site is situated on the eastern side of the canal, adjacent to the wharf. The building is to be constructed of brick and concrete. The site is bounded by the canal to the north and east, and by the wharf to the south. The building is to be situated on the site of the old wharf, which was previously used for the storage of goods and materials. The building is to be constructed of brick and concrete. The site is bounded by the canal to the north and east, and by the wharf to the south. The building is to be situated on the site of the old wharf, which was previously used for the storage of goods and materials.

The building is to be constructed of brick and concrete. The site is bounded by the canal to the north and east, and by the wharf to the south. The building is to be situated on the site of the old wharf, which was previously used for the storage of goods and materials. The building is to be constructed of brick and concrete. The site is bounded by the canal to the north and east, and by the wharf to the south. The building is to be situated on the site of the old wharf, which was previously used for the storage of goods and materials.

OFFICE USE ONLY

NOTED BY	DATE	TIME
31-10-00	9:15 AM	14/12/00
31-10-00	9:15 AM	14/12/00

Rec. Approval subject to:
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ENGINEERING REPORT
 Approved: *[Signature]*
 Date: *[Date]*

ENGINEERING REPORT
 Approved: *[Signature]*
 Date: *[Date]*

1596/81

HALES
ROAD

310.325

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130.081



SITE PLAN
NOT TO SCALE

305.575

A1 A2 A3 A4 A5 A6 A7 A8 A9 A10 A11 A12 A13 A14 A15 A16 A17 A18 A19 A20 A21 A22 A23 A24 A25 A26 A27 A28 A29 A30 A31 A32 A33 A34 A35 A36 A37 A38 A39 A40 A41 A42 A43 A44 A45 A46 A47 A48 A49 A50 A51 A52 A53 A54 A55 A56 A57 A58 A59 A60 A61 A62 A63 A64 A65 A66 A67 A68 A69 A70 A71 A72 A73 A74 A75 A76 A77 A78 A79 A80 A81 A82 A83 A84 A85 A86 A87 A88 A89 A90 A91 A92 A93 A94 A95 A96 A97 A98 A99 A100

CHINESE

- အမတ်ကြီး ဦးစိုးမိုးကလည်း

- Cable to Quirk
 Dated 10/12/51 Part 8

Where approval is granted subject to conditions, such conditions are imposed to ensure compliance with the Local Government Act, 1972, and Ordinances thereunder. The applicant has the right of appeal against Council's decision to the Land and Environment Court of New South Wales.

PLANS AND SPECIFICATIONS

1. Building Principles of Construction

The use of building principles and standards for the design of building materials is not to be used unless approved by the Building Department. Such approval will only be given if the conditions of construction and the materials used are in accordance with the Building Department's standards and specifications.

The use of materials and building standards is subject to the approval of the Building Department.

2. Building Standards

In accordance with the Building Department's standards, all buildings and structures shall be constructed in accordance with the standards and specifications of the Building Department.

The Building Department's standards and specifications shall be used in the design and construction of all buildings and structures.

The Building Department's standards and specifications shall be used in the design and construction of all buildings and structures.

3. Building Standards

Buildings shall be constructed in accordance with the standards and specifications of the Building Department. The Building Department's standards and specifications shall be used in the design and construction of all buildings and structures.

4. Building Standards

Buildings shall be constructed in accordance with the standards and specifications of the Building Department. The Building Department's standards and specifications shall be used in the design and construction of all buildings and structures.

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Buildings shall be constructed in accordance with the standards and specifications of the Building Department. The Building Department's standards and specifications shall be used in the design and construction of all buildings and structures.

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Buildings shall be constructed in accordance with the standards and specifications of the Building Department. The Building Department's standards and specifications shall be used in the design and construction of all buildings and structures.

H. S. FISH
Mayor

1. Instructions to judges available at the court.
2. Witnesses used available in the courtroom with the presence of the judge.
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Телефон: 0112 222 222

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2. The Warren Commission Report, Report of the President's Commission on the Assassination of President John F. Kennedy, 1964.
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5. The Warren Commission Report, Report of the President's Commission on the Assassination of President John F. Kennedy, 1964.

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Singer Club.

15/12/81

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Support and Guidance

Guided state = min of Doctrines and Regulations

The use of public facilities and materials for the storage of building materials is not permitted without the written approval of the City Engineer. Such approval will only be granted upon conditions agreed to in advance with public officials and it shall not be adversely

• **Prevalence** = the proportion of a population that has a disease at a particular point in time

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بزرگ

1. Uniting States on Prosperity and Security

1. Qualifying standards on corporate and industry:

The use of public resources and taxpayers for the storage of weapons is not justifiable unless there is a proven necessity in first instance. Such weapons will only be stored where conditions warrant and an area where public transportation will not be adversely affected.

The compensation of senior firm builders is among the standards
as their transition will be appreciated.

Buslagung 2-400m = 5min. Kalk

in accordance with the Building Licensing Act, 1971, buildings and other structures are shown as to display a sign at all times on each side of the building with its name exposed on.

The high shaft indicates the neck of the bulker; the 1500000 is
the 1000000 and the 1000000 of the 1000000.

The Software Licensing Board may take action against any person not complying with these requirements.

11/10/2011

How easy to be deceived into the most expensive pool
and to the confusion of your mind, or where this is not
clear to be found or made. There is also a building by some of
the most famous.

A. Uppnámnið sýnir þekkt, frábært stjórnun.

Where the walls of any building was not at least the required distance from any foundation at the beginning of 2008, including above ground walls, encroaching on such land, back by map then and permitted by Schedule 2 of the Land Use Development Act, 1999, then a Certificate of Compliance under Section 217A of such Act ONLY NOT RE-REQUIRED

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Dr. [redacted] 1912
The [redacted] of the [redacted] [redacted]

6. Classification

1948-1951. Consultation with the Northern Rivers County Council (Parramatta City Council) regarding the location of underground electricity cables is essential before any work is commenced.

3. Classification of "Parliament"

The rest of a document is to be destroyed or used for any purpose not specified in the Certificate of Disclassification.

Q. J. Fickner
Shirley C. Fickner

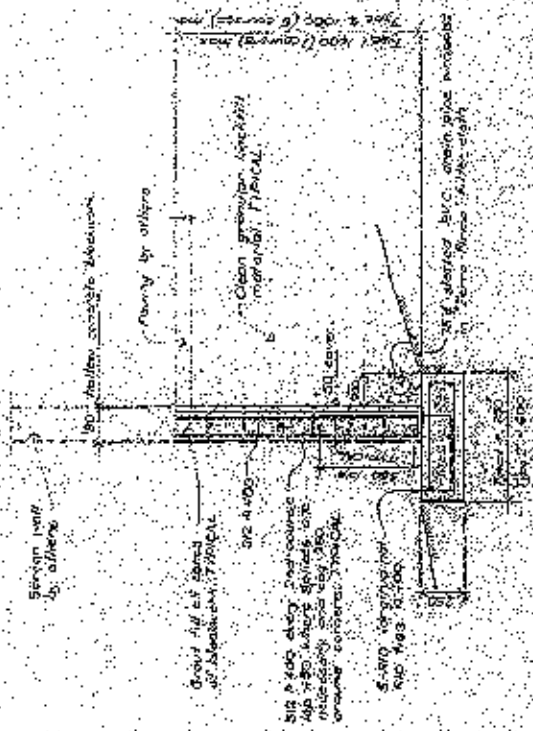
1594/81

EXISTING RESIDENCE

POOL BY OTHERS

RETAINING WALL TYPE 3

PLAN



RETAINING WALL TYPE 1 & 2

NOTES

- The retaining wall is shown in cross-section. The wall is shown in cross-section with various layers and dimensions. The wall is shown in cross-section with various layers and dimensions. The wall is shown in cross-section with various layers and dimensions.
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RESIDENCE FOR L. KANE AT PART FOR
149 HALLS RD. CORPS HARBOUR

RETAINING WALL DETAILS			
MULHEARN & SLATTERY Pty. Ltd.			
CONSULTING ENGINEERS			
10 Park Avenue, Corps Harbour	1800-120	81373	81373
1/85	8/85	DEC 1985	81373
1/85	8/85	DEC 1985	81373

BA 1143/93

Cancelled

COPIES HANDOUT/FORM/COPIES BUILDING APPLICATION

These copies are to be distributed to:

NOTE: FOR INSTRUCTIONS & LOCALITY SKETCH, SEE OVER

PROPERTY DESCRIPTION

LOCATION: _____
 STREET: _____
 CITY: _____
 COUNTY: _____
 STATE: _____
 ZIP: _____
 DISTRICT: _____
 PARCEL: _____
 OWNER: _____
 ADDRESS: _____
 CITY: _____
 COUNTY: _____
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OWNER

NAME: _____
 ADDRESS: _____
 CITY: _____
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 STATE: _____
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BUILDER

NAME: _____
 ADDRESS: _____
 CITY: _____
 COUNTY: _____
 STATE: _____
 ZIP: _____

PARTICULARS OF BUILDING

1. TYPE OF BUILDING: _____
 2. AREA: _____
 3. HEIGHT: _____
 4. NUMBER OF FLOORS: _____
 5. NUMBER OF UNITS: _____
 6. NUMBER OF PARKING SPACES: _____
 7. NUMBER OF DRIVEWAYS: _____
 8. NUMBER OF ENTRANCES: _____
 9. NUMBER OF EXITS: _____
 10. NUMBER OF STAIRS: _____
 11. NUMBER OF ELEVATORS: _____
 12. NUMBER OF ROOFS: _____
 13. NUMBER OF GARDENS: _____
 14. NUMBER OF POOLS: _____
 15. NUMBER OF CLUBHOUSES: _____
 16. NUMBER OF THEATERS: _____
 17. NUMBER OF RESTAURANTS: _____
 18. NUMBER OF BARS: _____
 19. NUMBER OF GAMING AREAS: _____
 20. NUMBER OF OTHER FEATURES: _____

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CONTRACTOR

NAME: _____
 ADDRESS: _____
 CITY: _____
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Table A1: Summary of Groundwater Bore Information

Bore Number	Authorised Use	Total Depth of Bore (m)	Distance*, Direction & Gradient* from Site	Standing Water Level (m)	Water Bearing Zones (m)
GW071911	Domestic Recreation	70.0	120m, S, DG	12.0	30-35 60-70
GW050939	Domestic Stock	27.0	480m, SE, DG	-	20-23
GW063638	Domestic	19.0	880m, SE, DG	-	8-9 14-15
GW052382	Domestic Stock	19.5	480m, SE, DG	-	12-12.2
GW049234	Domestic	22.6	440m, SE, DG	10.5	11.6 15 19.2
GW057225	Domestic	35.0	560m, ESE, DG	-	29-31
GW062887	Domestic	24.0	520m, ESE, DG	-	12-14 18-20
GW055122	Domestic Stock	19.8	480m, ESE, DG	-	10.7-12.2
GW063655	Domestic Stock	25.0	520m, E, DG	-	27-29
GW061184	Domestic Stock	25.0	480m, E, UG	-	21-23
GW300468	Domestic	54.0	920m, SW, DG	6.0	49-54
GW073297	Industrial	30.5	800m, SW, DG	7.0	26-30.5
GW071175	Industrial	37.5	760,, SW, DG	6.0	23-27 32.5-37.5
GW073082	Industrial	37.0	600m, SW, DG	10.0	35-33.5

Table A1: Summary of Groundwater Bore Information (Cont'd)

Bore Number	Authorised Use	Total Depth of Bore (m)	Distance*, Direction & Gradient* from Site	Standing Water Level (m)	Water Bearing Zones (m)
GW054334	Domestic	30.0	960m, SE, DG	-	-
GW301374	Domestic	54.0	280m, WNW, UG	18.0	32-37 48-53
GW055372	Domestic	38.1	400m, W, UG	-	12-12.4 17-17.7 33-33.8
GW065791	Domestic	75.0	680m, NW, UG	3.0	8-9 24-25
GW071406	Domestic	47.24	760m, NW, UG	13.7	26.5-27.4 32-36.5
GW304953	Domestic	16.0	640m, W, UG	3.0	9.5-10.5
GW300129	Domestic	24.0	760m, W, UG	6.0	19-24
GW066308	Domestic Stock	-	760m, W, UG	3.4	34-36
GW300016	Industrial	25.9	720m, W, UG	3.0	16.76-21.3
GW071354	Industrial	29.56	760m, W, UG	4.0	7-7.6 22.8-27.4
GW071291	Industrial	18.0	800m, W, UG	5.0	14-18
GW300833	Industrial	20.0	640m, W, UG	3.0	12-20
GW300315	Domestic	21.0	560m, W, UG	2.0	16-21
GW071408	Domestic	25.0	400m, W, UG	16.0	18.2-22.8
GW303014	Domestic Stock	3.0	320m, W, UG	-	-

Table A1: Summary of Groundwater Bore Information (Cont'd)

Bore Number	Authorised Use	Total Depth of Bore (m)	Distance*, Direction & Gradient* from Site	Standing Water Level (m)	Water Bearing Zones (m)
GW070984	Domestic	24.0	760m, WSW, UG	8.0	19.5-24.0
GW300018	Industrial	45.0	760m, WSW, UG	12.0	15-16 24-30
GW300593	Domestic	36.0	840m, WSW, UG	8.0	31-36
GW301011	Domestic Stock	37.0	480m, SW, DG	6.0	32-37
GW304939	Domestic	24.5	240m, SW, DG	5.0	19-19.5
GWGW300360	Domestic	52.0	200m, SWS, DG	50.0	0-52
GW061642	Domestic	53.0	100m, S, DG	-	16-28 45-50

Notes: distances are approximate and gradients are inferred; S = south, N = north, E = east, W = west, DG = down-gradient, UG = up-gradient.

Groundwater Works Summary

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Work Requested -- GW071911

Works Details [\(top\)](#)

GROUNDWATER NUMBER GW071911
LIC-NUM 30BL153224
AUTHORISED-PURPOSES DOMESTIC RECREATION (GROUNDWATER)
INTENDED-PURPOSES RECREATION (GROUNDWATER)
WORK-TYPE Bore
WORK-STATUS (Unknown)
CONSTRUCTION-METHOD Rotary Air
OWNER-TYPE Private
COMMENCE-DATE
COMPLETION-DATE 1993-10-01
FINAL-DEPTH (metres) 70.00
DRILLED-DEPTH (metres) 70.00
CONTRACTOR-NAME
DRILLER-NAME
PROPERTY BISHOP DRUITT COLLEGE
GWMA - CENTRAL WEST FRACTURED ROCKS
GW-ZONE - MOONEY MOONEY AND MULLET CREEKS GROUNDWATER SOURCE
STANDING-WATER-LEVEL 12.00
SALINITY
YIELD 16.79

Site Details [\(top\)](#)

REGION 30 - NORTH COAST
RIVER-BASIN 204 - CLARENCE RIVER
AREA-DISTRICT
CMA-MAP 9537-3N
GRID-ZONE 56/2
SCALE 1:25,000
ELEVATION
ELEVATION-SOURCE Est. Contour 8-15M.
NORTHING 6647036.00
EASTING 508223.00
LATITUDE 30 18' 30"
LONGITUDE 153 5' 8"
GS-MAP 0092A2

AMG-ZONE 56
 COORD-SOURCE GD.,ACC.MAP
 REMARK

Form-A (top)

COUNTY RALEIGH
 PARISH BONVILLE
 PORTION-LOT-DP LOT 9 DP813195

Licensed (top)

COUNTY RALEIGH
 PARISH BONVILLE
 PORTION-LOT-DP 9 813195

Construction (top)

Negative depths indicate Above Ground Level;H-Hole;P-Pipe;OD-Outside Diameter;
 ID-Inside Diameter;C-Cemented;SL-Slot Length;A-Aperture;GS-Grain Size;Q-Quantity

HOLE- NO	PIPE- NO	COMPONENT- CODE	COMPONENT- TYPE	DEPTH- FROM (metres)	DEPTH- TO (metres)	OD (mm)	ID (mm)	INTERVAL	DETAIL
1		Hole	Hole	0.00	12.00	140			Rotary
1		Hole	Hole	12.00	70.00	140			Percussion
1	1	Casing	PVC Class 9	-0.30	70.00	125			Glued; Seated on Bottom; Cap
1	1	Opening	Slots - Vertical	30.00	35.00	125		1	PVC Class 9; Sawn; SL: 0mm; A: 2.6mm
1	1	Opening	Slots - Vertical	60.00	70.00	125		2	PVC Class 9; Sawn; SL: 0mm; A: 2.6mm

Water Bearing Zones (top)

FROM- DEPTH (metres)	TO- DEPTH (metres)	THICKNESS (metres)	ROCK- CAT- DESC	S-W- L	D- D- L	YIELD	TEST- HOLE- DEPTH (metres)	DURATION	SALINITY
30.00	35.00	5.00	Fractured	12.00		0.38			
60.00	70.00	10.00	Fractured	12.00		16.42	70.00	1.00	Good

Drillers Log (top)

FROM	TO	THICKNESS	DESC	GEO-MATERIAL	COMMENT
0.00	0.20	0.20	Black topsoil		
0.20	1.00	0.80	Red clay		

1.00	3.00	2.00	Brown clay
3.00	12.00	9.00	Soft brown shale
12.00	15.00	3.00	Brown shale
15.00	30.00	15.00	Grey basalt
30.00	35.00	5.00	Cracky black basalt
35.00	66.00	31.00	Black basalt
66.00	70.00	4.00	Fractured grey basalt

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Work Requested – GW050939

Works Details [\(top\)](#)

GROUNDWATER NUMBER GW050939
LIC-NUM 30BL115133
AUTHORISED-PURPOSES DOMESTIC STOCK
INTENDED-PURPOSES DOMESTIC STOCK
WORK-TYPE Bore
WORK-STATUS (Unknown)
CONSTRUCTION-METHOD Rotary Air
OWNER-TYPE Private
COMMENCE-DATE
COMPLETION-DATE 1980-04-01
FINAL-DEPTH (metres) 27.00
DRILLED-DEPTH (metres) 27.00
CONTRACTOR-NAME
DRILLER-NAME
PROPERTY N/A
GWMA - CENTRAL WEST FRACTURED ROCKS
GW-ZONE - MOONEY MOONEY AND MULLET CREEKS GROUNDWATER SOURCE
STANDING-WATER-LEVEL
SALINITY
YIELD

Site Details [\(top\)](#)

REGION 30 - NORTH COAST
RIVER-BASIN 205 - BELLINGER RIVER
AREA-DISTRICT
CMA-MAP
GRID-ZONE
SCALE
ELEVATION
ELEVATION-SOURCE (Unknown)
NORTHING 6646575.00
EASTING 507876.00
LATITUDE 30 18' 45"
LONGITUDE 153 4' 55"
GS-MAP 0092A2

AMG-ZONE 56
 COORD-SOURCE
 REMARK

Form-A (top)

COUNTY RALEIGH
 PARISH BONVILLE
 PORTION-LOT-DP 10

Licensed (top)

COUNTY RALEIGH
 PARISH BONVILLE
 PORTION-LOT-DP 67

Construction (top)

Negative depths indicate Above Ground Level;H-Hole;P-Pipe;OD-Outside Diameter;
 ID-Inside Diameter;C-Cemented;SL-Slot Length;A-Aperture;GS-Grain Size;Q-Quantity

HOLE- NO	PIPE- NO	COMPONENT- CODE	COMPONENT- TYPE	DEPTH- FROM (metres)	DEPTH- TO (metres)	OD (mm)	ID (mm)	INTERVAL	DETAIL
1	1	Casing	(Unknown)	0.00	27.00	115			Driven into Hole
1	1	Opening	Slots	24.00	27.00	115		1	Mechanically Slotted; SL: 0mm; A: 0mm

Water Bearing Zones (top)

FROM- DEPTH (metres)	TO- DEPTH (metres)	THICKNESS (metres)	ROCK- CAT- DESC	S- W- L	D- D- L	YIELD	TEST- HOLE- DEPTH (metres)	DURATION	SALINITY
20.00	23.00	3.00	Fractured			0.65			(Unknown)

Drillers Log (top)

FROM	TO	THICKNESS	DESC	GEO-MATERIAL	COMMENT
0.00	9.00	9.00	Clay		
9.00	27.00	18.00	Shale	Water Supply	

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Work Requested -- GW063638

Works Details [\(top\)](#)

GROUNDWATER NUMBER GW063638
LIC-NUM 30BL135201
AUTHORISED-PURPOSES DOMESTIC
INTENDED-PURPOSES DOMESTIC
WORK-TYPE Bore
WORK-STATUS (Unknown)
CONSTRUCTION-METHOD Rotary Air
OWNER-TYPE Private
COMMENCE-DATE
COMPLETION-DATE 1986-11-01
FINAL-DEPTH (metres) 19.00
DRILLED-DEPTH (metres) 19.00
CONTRACTOR-NAME
DRILLER-NAME
PROPERTY N/A
GWMA - CENTRAL WEST FRACTURED ROCKS
GW-ZONE - MOONEY MOONEY AND MULLET CREEKS GROUNDWATER SOURCE
STANDING-WATER-LEVEL
SALINITY
YIELD

Site Details [\(top\)](#)

REGION 30 - NORTH COAST
RIVER-BASIN 205 - BELLINGER RIVER
AREA-DISTRICT
CMA-MAP 9537-3N
GRID-ZONE 56/2
SCALE 1:25,000
ELEVATION
ELEVATION-SOURCE (Unknown)
NORTHING 6646791.00
EASTING 507101.00
LATITUDE 30 18' 38"
LONGITUDE 153 4' 26"
GS-MAP 0092A2

AMG-ZONE 56
 COORD-SOURCE GD,ACC.MAP
 REMARK

Form-A (top)

COUNTY RALEIGH
 PARISH BONVILLE
 PORTION-LOT-DP L221 DP247724 (20)

Licensed (top)

COUNTY RALEIGH
 PARISH BONVILLE
 PORTION-LOT-DP 221 247724

Construction (top)

Negative depths indicate Above Ground Level;H-Hole;P-Pipe;OD-Outside Diameter;
 ID-Inside Diameter;C-Cemented;SL-Slot Length;A-Aperture;GS-Grain Size;Q-Quantity

HOLE- NO	PIPE- NO	COMPONENT- CODE	COMPONENT- TYPE	DEPTH- FROM (metres)	DEPTH- TO (metres)	OD (mm)	ID (mm)	INTERVAL	DETAIL
1	1	Casing	P.V.C.	0.00	19.00	125			Sealed on Bottom
1	1	Opening	Slots - Vertical	8.00	19.00	125		1	SL: 0mm; A: 3mm

Water Bearing Zones (top)

FROM- DEPTH (metres)	TO- DEPTH (metres)	THICKNESS (metres)	ROCK- CAT- DESC	S- W- L	D- D- L	YIELD	TEST- HOLE- DEPTH (metres)	DURATION	SALINITY
8.00	9.00	1.00	Fractured			0.13			(Unknown)
14.00	15.00	1.00	Fractured			0.26			(Unknown)

Drillers Log (top)

FROM	TO	THICKNESS	DESC	GEO-MATERIAL	COMMENT
0.00	6.00	6.00	Clay Hard		
6.00	12.00	6.00	Shale Water Supply		
12.00	15.00	3.00	Shale Hard Water Supply		
15.00	19.00	4.00	Basalt		

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Work Requested -- GW052382

Works Details [\(top\)](#)

GROUNDWATER NUMBER GW052382
LIC-NUM 30BL117034
AUTHORISED-PURPOSES DOMESTIC STOCK
INTENDED-PURPOSES GENERAL USE
WORK-TYPE Bore
WORK-STATUS (Unknown)
CONSTRUCTION-METHOD Rotary Air
OWNER-TYPE Private
COMMENCE-DATE
COMPLETION-DATE 1980-11-01
FINAL-DEPTH (metres) 19.50
DRILLED-DEPTH (metres) 19.50
CONTRACTOR-NAME
DRILLER-NAME
PROPERTY N/A
GWMA - CENTRAL WEST FRACTURED ROCKS
GW-ZONE - MOONEY MOONEY AND MULLET CREEKS GROUNDWATER SOURCE
STANDING-WATER-LEVEL
SALINITY
YIELD

Site Details [\(top\)](#)

REGION 30 - NORTH COAST
RIVER-BASIN 205 - BELLINGER RIVER
AREA-DISTRICT
CMA-MAP 9537-3N
GRID-ZONE 56/2
SCALE 1:25,000
ELEVATION
ELEVATION-SOURCE (Unknown)
NORTHING 6646945.00
EASTING 507635.00
LATITUDE 30 18' 33"
LONGITUDE 153 4' 46"
GS-MAP 0092A2

AMG-ZONE 56
 COORD-SOURCE GD.,ACC.MAP
 REMARK

Form-A (top)

COUNTY RALEIGH
 PARISH BONVILLE
 PORTION-LOT-DP L21 (10)

Licensed (top)

COUNTY RALEIGH
 PARISH BONVILLE
 PORTION-LOT-DP L21

Construction (top)

Negative depths indicate Above Ground Level;H-Hole;P-Pipe;OD-Outside Diameter;
 ID-Inside Diameter;C-Cemented;SL-Slot Length;A-Aperture;GS-Grain Size;Q-Quantity

HOLE- NO	PIPE- NO	COMPONENT- CODE	COMPONENT- TYPE	DEPTH- FROM (metres)	DEPTH- TO (metres)	OD (mm)	ID (mm)	INTERVAL	DETAIL
1	1	Casing	(Unknown)	0.00	18.30	115			Driven into Hole
1	1	Opening	Slots	6.10	18.30	115		1	Mechanically Slotted; SL: 0mm; A: 0mm

Water Bearing Zones (top)

FROM- DEPTH (metres)	TO- DEPTH (metres)	THICKNESS (metres)	ROCK-CAT- DESC	S- W- L	D- D- L	YIELD	TEST- HOLE- DEPTH (metres)	DURATION	SALINITY
12.00	12.20	0.20	Unconsolidated			0.75			Good

Drillers Log (top)

FROM	TO	THICKNESS	DESC	GEO-MATERIAL	COMMENT
0.00	1.20	1.20	Soil		
1.20	12.20	11.00	Clay	Water Supply	
12.20	13.70	1.50	Gravel		
13.70	19.50	5.80	Shale		

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Work Requested -- GW049234

Works Details [\(top\)](#)

GROUNDWATER NUMBER GW049234
LIC-NUM 30BL109047
AUTHORISED-PURPOSES DOMESTIC
INTENDED-PURPOSES DOMESTIC
WORK-TYPE Bore open thru rock
WORK-STATUS (Unknown)
CONSTRUCTION-METHOD Rotary Air
OWNER-TYPE Private
COMMENCE-DATE
COMPLETION-DATE 1978-12-01
FINAL-DEPTH (metres) 22.60
DRILLED-DEPTH (metres) 22.50
CONTRACTOR-NAME
DRILLER-NAME
PROPERTY N/A
GWMA - CENTRAL WEST FRACTURED ROCKS
GW-ZONE - MOONEY MOONEY AND MULLET CREEKS GROUNDWATER SOURCE
STANDING-WATER-LEVEL
SALINITY
YIELD

Site Details [\(top\)](#)

REGION 30 - NORTH COAST
RIVER-BASIN 205 - BELLINGER RIVER
AREA-DISTRICT
CMA-MAP
GRID-ZONE
SCALE
ELEVATION
ELEVATION-SOURCE (Unknown)
NORTHING 6647068.00
EASTING 507689.00
LATITUDE 30 18' 29"
LONGITUDE 153 4' 48"
GS-MAP 0092A2

AMG-ZONE 56
 COORD-SOURCE
 REMARK

Form-A [\(top\)](#)

COUNTY RALEIGH
 PARISH BONVILLE
 PORTION-LOT-DP L2 DP246562 (11)

Licensed [\(top\)](#)

COUNTY RALEIGH
 PARISH BONVILLE
 PORTION-LOT-DP 2 246562

Construction [\(top\)](#)

Negative depths indicate Above Ground Level;H-Hole;P-Pipe;OD-Outside Diameter;
 ID-Inside Diameter;C-Cemented;SL-Slot Length;A-Aperture;GS-Grain Size;Q-Quantity

HOLE- NO	PIPE- NO	COMPONENT- CODE	COMPONENT- TYPE	DEPTH- FROM (metres)	DEPTH- TO (metres)	OD (mm)	ID (mm)	INTERVAL	DETAIL
1	1	Casing	P.V.C.	0.00	6.00	104			Driven into Hole

Water Bearing Zones [\(top\)](#)

FROM- DEPTH (metres)	TO- DEPTH (metres)	THICKNESS (metres)	ROCK- CAT- DESC	S-W- L	D- D- L	YIELD	TEST- HOLE- DEPTH (metres)	DURATION	SALINITY
11.60	11.60	0.00	Fractured						(Unknown)
15.00	15.00	0.00	Fractured						(Unknown)
19.20	19.20	0.00	Fractured	10.50	0.50				(Unknown)

Drillers Log [\(top\)](#)

FROM	TO	THICKNESS	DESC	GEO-MATERIAL	COMMENT
0.00	5.45	5.45	Clay		
5.45	11.60	6.15	Clay Shale		
11.60	22.50	10.90	Basalt	Water Supply	

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Work Requested -- GW057225

Works Details [\(top\)](#)

GROUNDWATER NUMBER GW057225
LIC-NUM 30BL122198
AUTHORISED-PURPOSES DOMESTIC
INTENDED-PURPOSES DOMESTIC
WORK-TYPE Bore
WORK-STATUS (Unknown)
CONSTRUCTION-METHOD Rotary Air
OWNER-TYPE Private
COMMENCE-DATE
COMPLETION-DATE 1981-11-01
FINAL-DEPTH (metres) 35.00
DRILLED-DEPTH (metres) 35.00
CONTRACTOR-NAME
DRILLER-NAME
PROPERTY N/A
GWMA - CENTRAL WEST FRACTURED ROCKS
GW-ZONE - MOONEY MOONEY AND MULLET CREEKS GROUNDWATER SOURCE
STANDING-WATER-LEVEL
SALINITY
YIELD

Site Details [\(top\)](#)

REGION 30 - NORTH COAST
RIVER-BASIN 205 - BELLINGER RIVER
AREA-DISTRICT
CMA-MAP 9537-3N
GRID-ZONE 56/2
SCALE 1:25,000
ELEVATION
ELEVATION-SOURCE (Unknown)
NORTHING 6647068.00
EASTING 507529.00
LATITUDE 30 18' 29"
LONGITUDE 153 4' 42"
GS-MAP 0092A2

AMG-ZONE 56
 COORD-SOURCE GD.,ACC.MAP
 REMARK

Form-A [\(top\)](#)

COUNTY RALEIGH
 PARISH BONVILLE
 PORTION-LOT-DP L3 DP246562 (11)

Licensed [\(top\)](#)

COUNTY RALEIGH
 PARISH BONVILLE
 PORTION-LOT-DP 3 246562

Construction [\(top\)](#)

Negative depths indicate Above Ground Level;H-Hole;P-Pipe;OD-Outside Diameter;
 ID-Inside Diameter;C-Cemented;SL-Slot Length;A-Aperture;GS-Grain Size;Q-Quantity

HOLE- NO	PIPE- NO	COMPONENT- CODE	COMPONENT- TYPE	DEPTH- FROM (metres)	DEPTH- TO (metres)	OD (mm)	ID (mm)	INTERVAL	DETAIL
1	1	Casing	P.V.C.	0.00	36.00	127			(Unknown)
1	1	Opening	Slots	18.00	36.00	127		1	SL: 0mm; A: 0mm

Water Bearing Zones [\(top\)](#)

FROM- DEPTH (metres)	TO- DEPTH (metres)	THICKNESS (metres)	ROCK- CAT- DESC	S- W- L	D- D- L	YIELD	TEST- HOLE- DEPTH (metres)	DURATION	SALINITY
29.00	31.00	2.00	Fractured			0.39			(Unknown)

Drillers Log [\(top\)](#)

FROM	TO	THICKNESS	DESC	GEO-MATERIAL	COMMENT
0.00	3.00	3.00	Soil		
3.00	14.00	11.00	Shale Gravel		
14.00	24.00	10.00	Shale		
24.00	35.00	11.00	Basalt Water Supply		

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Work Requested -- GW062887

Works Details ([top](#))

GROUNDWATER NUMBER GW062887
LIC-NUM 30BL134946
AUTHORISED-PURPOSES DOMESTIC
INTENDED-PURPOSES DOMESTIC
WORK-TYPE Bore
WORK-STATUS (Unknown)
CONSTRUCTION-METHOD Rotary Air
OWNER-TYPE Private
COMMENCE-DATE
COMPLETION-DATE 1986-07-01
FINAL-DEPTH (metres) 24.00
DRILLED-DEPTH (metres) 24.00
CONTRACTOR-NAME
DRILLER-NAME
PROPERTY N/A
GWMA - CENTRAL WEST FRACTURED ROCKS
GW-ZONE - MOONEY MOONEY AND MULLET CREEKS GROUNDWATER SOURCE
STANDING-WATER-LEVEL
SALINITY
YIELD

Site Details ([top](#))

REGION 30 - NORTH COAST
RIVER-BASIN 205 - BELLINGER RIVER
AREA-DISTRICT
CMA-MAP 9537-3N
GRID-ZONE 56/2
SCALE 1:25,000
ELEVATION
ELEVATION-SOURCE (Unknown)
NORTHING 6647191.00
EASTING 507555.00
LATITUDE 30 18' 25"
LONGITUDE 153 4' 43"
GS-MAP 0092A2

AMG-ZONE 56
 COORD-SOURCE GD..ACC.MAP
 REMARK

Form-A [\(top\)](#)

COUNTY RALEIGH
 PARISH BONVILLE
 PORTION-LOT-DP L4 (24)

Licensed [\(top\)](#)

COUNTY RALEIGH
 PARISH BONVILLE
 PORTION-LOT-DP LT4 PT24

Construction [\(top\)](#)

Negative depths indicate Above Ground Level;H-Hole;P-Pipe;OD-Outside Diameter;
 ID-Inside Diameter;C-Cemented;SL-Slot Length;A-Aperture;GS-Grain Size;Q-Quantity

HOLE- NO	PIPE- NO	COMPONENT- CODE	COMPONENT- TYPE	DEPTH- FROM (metres)	DEPTH- TO (metres)	OD (mm)	ID (mm)	INTERVAL	DETAIL
1	1	Casing	P.V.C.	0.00	24.00	125			Seated on Bottom
1	1	Opening	Slots - Vertical	12.00	24.00	125		1	SL: 0mm; A: 3mm

Water Bearing Zones [\(top\)](#)

FROM- DEPTH (metres)	TO- DEPTH (metres)	THICKNESS (metres)	ROCK- CAT- DESC	S- W- L	D- D- L	YIELD	TEST- HOLE- DEPTH (metres)	DURATION	SALINITY
12.00	14.00	2.00	Fractured			0.39			(Unknown)
18.00	20.00	2.00	Fractured			0.52			(Unknown)

Drillers Log [\(top\)](#)

FROM	TO	THICKNESS	DESC	GEO-MATERIAL COMMENT
0.00	8.00	8.00	Clay	
8.00	14.00	6.00	Shale	
14.00	24.00	10.00	Basalt Shale	Water Supply

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Work Requested -- GW055122

Works Details ([top](#))

GROUNDWATER NUMBER GW055122
LIC-NUM 30BL119303
AUTHORISED-PURPOSES DOMESTIC STOCK
INTENDED-PURPOSES DOMESTIC STOCK
WORK-TYPE Bore
WORK-STATUS (Unknown)
CONSTRUCTION-METHOD Rotary Air
OWNER-TYPE Private
COMMENCE-DATE
COMPLETION-DATE 1981-03-01
FINAL-DEPTH (metres) 19.80
DRILLED-DEPTH (metres) 19.80
CONTRACTOR-NAME
DRILLER-NAME
PROPERTY N/A
GWMA - CENTRAL WEST FRACTURED ROCKS
GW-ZONE - MOONEY MOONEY AND MULLET CREEKS GROUNDWATER SOURCE
STANDING-WATER-LEVEL
SALINITY
YIELD

Site Details ([top](#))

REGION 30 - NORTH COAST
RIVER-BASIN 205 - BELLINGER RIVER
AREA-DISTRICT
CMA-MAP 9537-3N
GRID-ZONE 56/2
SCALE 1:25,000
ELEVATION
ELEVATION-SOURCE (Unknown)
NORTHING 6647191.00
EASTING 507609.00
LATITUDE 30 18' 25"
LONGITUDE 153 4' 45"
GS-MAP 0092A2

AMG-ZONE 56
 COORD-SOURCE GD.,ACC.MAP
 REMARK

Form-A (top)

COUNTY RALEIGH
 PARISH BONVILLE
 PORTION-LOT-DP 24

Licensed (top)

COUNTY RALEIGH
 PARISH BONVILLE
 PORTION-LOT-DP 24

Construction (top)

Negative depths indicate Above Ground Level;H-Hole;P-Pipe;OD-Outside Diameter;
 ID-Inside Diameter;C-Cemented;SL-Slot Length;A-Aperture;GS-Grain Size;Q-Quantity

HOLE- NO	PIPE- NO	COMPONENT- CODE	COMPONENT- TYPE	DEPTH- FROM (metres)	DEPTH- TO (metres)	OD (mm)	ID (mm)	INTERVAL	DETAIL
1	1	Casing	(Unknown)	0.20	20.20	115			Seated on Bottom
1	1	Opening	Slots	8.00	20.00	115		1	Mechanically Slotted; SL: 0mm; A: 0mm

Water Bearing Zones (top)

FROM- DEPTH (metres)	TO- DEPTH (metres)	THICKNESS (metres)	ROCK- CAT-DESC	S- W- L	D- D- L	YIELD	TEST- HOLE- DEPTH (metres)	DURATION	SALINITY
10.70	12.20	1.50	(Unknown)			0.52			(Unknown)

Drillers Log (top)

FROM	TO	THICKNESS	DESC	GEO-MATERIAL COMMENT
0.00	3.00	3.00	Soil	
3.00	16.80	13.80	Clay Some Gravel Water Supply	
16.80	19.80	3.00	Shale	

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Groundwater Works Summary

For information on the meaning of fields please see [Glossary](#).
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Work Requested – GW063655

Works Details [\(top\)](#)

GROUNDWATER NUMBER GW063655
LIC-NUM 30BL135206
AUTHORISED-PURPOSES DOMESTIC STOCK
INTENDED-PURPOSES DOMESTIC STOCK
WORK-TYPE Bore
WORK-STATUS (Unknown)
CONSTRUCTION-METHOD Rotary Air
OWNER-TYPE Private
COMMENCE-DATE
COMPLETION-DATE 1986-09-01
FINAL-DEPTH (metres) 25.00
DRILLED-DEPTH (metres) 29.00
CONTRACTOR-NAME
DRILLER-NAME
PROPERTY N/A
GWMA - CENTRAL WEST FRACTURED ROCKS
GW-ZONE - MOONEY MOONEY AND MULLET CREEKS GROUNDWATER SOURCE
STANDING-WATER-LEVEL
SALINITY
YIELD

Site Details [\(top\)](#)

REGION 30 - NORTH COAST
RIVER-BASIN 205 - BELLINGER RIVER
AREA-DISTRICT
CMA-MAP 9537-3N
GRID-ZONE 56/2
SCALE 1:25,000
ELEVATION
ELEVATION-SOURCE (Unknown)
NORTHING 6647314.00
EASTING 507556.00
LATITUDE 30 18' 21"
LONGITUDE 153 4' 43"
GS-MAP 0092A2

AMG-ZONE 56
 COORD-SOURCE GD,ACC.MAP
 REMARK

Form-A (top)

COUNTY RALEIGH
 PARISH BONVILLE
 PORTION-LOT-DP L2 DP711234 (24)

Licensed (top)

COUNTY RALEIGH
 PARISH BONVILLE
 PORTION-LOT-DP 2 711234

Construction (top)

Negative depths indicate Above Ground Level;H-Hole;P-Pipe;OD-Outside Diameter;
 ID-Inside Diameter;C-Cemented;SL-Slot Length;A-Aperture;GS-Grain Size;Q-Quantity

HOLE- NO	PIPE- NO	COMPONENT- CODE	COMPONENT- TYPE	DEPTH- FROM (metres)	DEPTH- TO (metres)	OD (mm)	ID (mm)	INTERVAL	DETAIL
1		Backfill	Backfill	25.00	29.00	0			
1	1	Casing	P.V.C.	0.00	25.00	125			Seated on Bottom
1	1	Opening	Slots - Vertical	13.00	25.00	125		1	Plastic; SL: 0mm; A: 3mm

Water Bearing Zones (top)

FROM- DEPTH (metres)	TO- DEPTH (metres)	THICKNESS (metres)	ROCK- CAT- DESC	S- W- L	D- D- L	YIELD	TEST- HOLE- DEPTH (metres)	DURATION	SALINITY
27.00	29.00	2.00	Fractured			0.65			(Unknown)

Drillers Log (top)

FROM	TO	THICKNESS	DESC	GEO-MATERIAL	COMMENT
0.00	8.00	8.00	Clay		
8.00	20.00	12.00	Shale		
20.00	26.00	6.00	Basalt		
26.00	28.00	2.00	Rock Broken	Water Supply	
28.00	29.00	1.00	Basalt	Water Supply	

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Groundwater Works Summary

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Work Requested -- GW061184

Works Details [\(top\)](#)

GROUNDWATER NUMBER GW061184
LIC-NUM 30BL133224
AUTHORISED-PURPOSES DOMESTIC STOCK
INTENDED-PURPOSES DOMESTIC STOCK
WORK-TYPE Bore
WORK-STATUS (Unknown)
CONSTRUCTION-METHOD Rotary Air
OWNER-TYPE Private
COMMENCE-DATE
COMPLETION-DATE 1985-08-01
FINAL-DEPTH (metres) 25.00
DRILLED-DEPTH (metres) 25.00
CONTRACTOR-NAME
DRILLER-NAME
PROPERTY N/A
GWMA - CENTRAL WEST FRACTURED ROCKS
GW-ZONE - MOONEY MOONEY AND MULLET CREEKS GROUNDWATER SOURCE
STANDING-WATER-LEVEL
SALINITY
YIELD

Site Details [\(top\)](#)

REGION 30 - NORTH COAST
RIVER-BASIN 205 - BELLINGER RIVER
AREA-DISTRICT
CMA-MAP 9537-3N
GRID-ZONE 56/2
SCALE 1:25,000
ELEVATION
ELEVATION-SOURCE (Unknown)
NORTHING 6647714.00
EASTING 507683.00
LATITUDE 30 18' 8"
LONGITUDE 153 4' 47"
GS-MAP 0092A2

AMG-ZONE 56
 COORD-SOURCE GD.,ACC.MAP
 REMARK

Form-A (top)

COUNTY RALEIGH
 PARISH BONVILLE
 PORTION-LOT-DP 24

Licensed (top)

COUNTY RALEIGH
 PARISH BONVILLE
 PORTION-LOT-DP PT24

Construction (top)

Negative depths indicate Above Ground Level; H-Hole; P-Pipe; OD-Outside Diameter;
 ID-Inside Diameter; C-Cemented; SL-Slot Length; A-Aperture; GS-Grain Size; Q-Quantity.

HOLE- NO	PIPE- NO	COMPONENT- CODE	COMPONENT- TYPE	DEPTH- FROM (metres)	DEPTH- TO (metres)	OD (mm)	ID (mm)	INTERVAL	DETAIL
1	1	Casing	P.V.C.	0.00	25.00	125			Seated on Bottom
1	1	Opening	Slots - Vertical	19.00	25.00	125		1	Mechanically Slotted; SL: 0mm; A: 1.5mm

Water Bearing Zones (top)

FROM- DEPTH (metres)	TO- DEPTH (metres)	THICKNESS (metres)	ROCK- CAT- DESC	S- W- L	D- D- L	YIELD	TEST- HOLE- DEPTH (metres)	DURATION	SALINITY
21.00	23.00	2.00	Fractured			1.30			(Unknown)

Drillers Log (top)

FROM	TO	THICKNESS	DESC	GEO-MATERIAL COMMENT
0.00	3.00	3.00	Soil	
3.00	7.00	4.00	Clay	
7.00	21.00	14.00	Basalt	
21.00	23.00	2.00	Quartz Fractured Basalt	Water Supply
23.00	25.00	2.00	Basalt	

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Groundwater Works Summary

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Work Requested -- GW300468

Works Details [\(top\)](#)

GROUNDWATER NUMBER GW300468
LIC-NUM 30BL176053
AUTHORISED-PURPOSES DOMESTIC
INTENDED-PURPOSES DOMESTIC
WORK-TYPE Bore
WORK-STATUS (Unknown)
CONSTRUCTION-METHOD Rotary Air
OWNER-TYPE Private
COMMENCE-DATE
COMPLETION-DATE 1994-09-20
FINAL-DEPTH (metres) 54.00
DRILLED-DEPTH (metres) 54.00
CONTRACTOR-NAME
DRILLER-NAME
PROPERTY GALVANISING SERVICES
GWMA - CENTRAL WEST FRACTURED ROCKS
GW-ZONE - MOONEY MOONEY AND MULLET CREEKS GROUNDWATER SOURCE
STANDING-WATER-LEVEL 6.00
SALINITY
YIELD 1.26

Site Details [\(top\)](#)

REGION 30 - NORTH COAST
RIVER-BASIN 205 - BELLINGER RIVER
AREA-DISTRICT
CMA-MAP
GRID-ZONE
SCALE
ELEVATION
ELEVATION-SOURCE
NORTHING 6646305.00
EASTING 509585.00
LATITUDE 30 18' 54"
LONGITUDE 153 5' 59"
GS-MAP

AMG-ZONE 56
 COORD-SOURCE Map Interpretation
 REMARK

Form-A (top)

COUNTY RALEIGH
 PARISH BONVILLE
 PORTION-LOT-DP LOT 1 DP875488

Licensed (top)

COUNTY RALEIGH
 PARISH BONVILLE
 PORTION-LOT-DP 1 875488

Construction (top)

Negative depths indicate Above Ground Level; H-Hole; P-Pipe; OD-Outside Diameter;
 ID-Inside Diameter; C-Cemented; SL-Slot Length; A-Aperture; GS-Grain Size; Q-Quantity

HOLE- NO	PIPE- NO	COMPONENT- CODE	COMPONENT- TYPE	DEPTH- FROM (metres)	DEPTH- TO (metres)	OD (mm)	ID (mm)	INTERVAL	DETAIL
1		Hole	Hole	0.00	15.00	140			Rotary Air
1		Hole	Hole	15.00	45.00	140			Down Hole Hammer
1	1	Casing	PVC Class 9	-0.30	54.00	125	-75		C: 600- 600m; Glued; Sealed on Bottom; (Unknown); Packer
1	1	Opening	Slots - Vertical	49.00	54.00	125		1	PVC Class 9; Sawn; SL: 100mm; A: 2.6mm

Water Bearing Zones (top)

FROM- DEPTH (metres)	TO-DEPTH (metres)	THICKNESS (metres)	ROCK- CAT- DESC	S- W-L	D- D- L	YIELD	TEST-HOLE- DEPTH (metres)	DURATION	SALINITY
49.00	54.00	5.00		4.00		1.26	54.00	1.50	Good

Drillers Log (top)

FROM	TO	THICKNESS	DESC	GEO-MATERIAL	COMMENT
0.00	3.00	3.00	Shale fill		
3.00	5.00	2.00	Black shale		
5.00	9.00	4.00	Grey clay		

9.00	15.00	6.00	Brown silt clay
15.00	17.00	2.00	Brown shale
17.00	49.00	32.00	Basalt
49.00	54.00	5.00	Cracky basalt

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Groundwater Works Summary

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Work Requested – GW073297

Works Details ([top](#))

GROUNDWATER NUMBER GW073297
LIC-NUM 30BL176440
AUTHORISED-PURPOSES INDUSTRIAL
INTENDED-PURPOSES DOMESTIC
WORK-TYPE Bore
WORK-STATUS (Unknown)
CONSTRUCTION-METHOD Rotary Air
OWNER-TYPE Private
COMMENCE-DATE
COMPLETION-DATE 1994-09-15
FINAL-DEPTH (metres) 30.50
DRILLED-DEPTH (metres) 30.50
CONTRACTOR-NAME
DRILLER-NAME
PROPERTY G K DENNEY TYRES
GWMA - CENTRAL WEST FRACTURED ROCKS
GW-ZONE - MOONEY MOONEY AND MULLET CREEKS GROUNDWATER SOURCE
STANDING-WATER-LEVEL 7.00
SALINITY
YIELD 0.38

Site Details ([top](#))

REGION 30 - NORTH COAST
RIVER-BASIN 205 - BELLINGER RIVER
AREA-DISTRICT
CMA-MAP 9537-3N
GRID-ZONE 56/2
SCALE 1:25,000
ELEVATION
ELEVATION-SOURCE
NORTHING 6646422.00
EASTING 509497.00
LATITUDE 30 18' 50"
LONGITUDE 153 5' 56"
GS-MAP

AMG-ZONE 56
 COORD-SOURCE GD.,ACC.GIS
 REMARK

Form-A (top)

COUNTY RALEIGH
 PARISH BONVILLE
 PORTION-LOT-DP LOT 1 DP626839

Licensed (top)

COUNTY RALEIGH
 PARISH BONVILLE
 PORTION-LOT-DP 1 626839

Construction (top)

Negative depths indicate Above Ground Level;H-Hole;P-Pipe;OD-Outside Diameter;
 ID-Inside Diameter;C-Cemented;SL-Slot Length;A-Aperture;GS-Grain Size;Q-Quantity

HOLE- NO	PIPE- NO	COMPONENT- CODE	COMPONENT- TYPE	DEPTH- FROM (metres)	DEPTH- TO (metres)	OD (mm)	ID (mm)	INTERVAL	DETAIL
1		Hole	Hole	0.00	14.00	140			Rotary
1		Hole	Hole	14.00	30.50	140			Percussion
1	1	Casing	PVC Class 9	-0.30	30.50	125			Glued; Seated on Bottom
1	1	Opening	Slots - Vertical	26.00	30.50	125		1	PVC Class 9; Sawn; SL: 100mm; A: 2.6mm

Water Bearing Zones (top)

FROM- DEPTH (metres)	TO- DEPTH (metres)	THICKNESS (metres)	ROCK- CAT- DESC	S- W-L	D- O- L	YIELD	TEST- HOLE- DEPTH (metres)	DURATION	SALINITY
26.00	30.50	4.50	Fractured	7.00	0.38	30.50	1.00		Good

Drillers Log (top)

FROM	TO	THICKNESS	DESC	GEO-MATERIAL	COMMENT
0.00	3.00	3.00	Shale Fill		
3.00	5.00	2.00	Black Clay		
5.00	8.00	3.00	Grey Clay		
8.00	14.00	6.00	Brown Shale		
14.00	26.00	12.00	Basalt		
26.00	30.50	4.50	Cracky Basalt		

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Groundwater Works Summary

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Work Requested -- GW071175

Works Details [\(top\)](#)

GROUNDWATER NUMBER GW071175
LIC-NUM 30BL153220
AUTHORISED-PURPOSES INDUSTRIAL
INTENDED-PURPOSES COMMERCIAL INDUSTRIAL
WORK-TYPE
WORK-STATUS (Unknown)
CONSTRUCTION-METHOD Rotary Air
OWNER-TYPE
COMMENCE-DATE
COMPLETION-DATE 1993-10-18
FINAL-DEPTH (metres) 37.50
DRILLED-DEPTH (metres) 37.50
CONTRACTOR-NAME
DRILLER-NAME
PROPERTY N/A
GWMA - CENTRAL WEST FRACTURED ROCKS
GW-ZONE - MOONEY MOONEY AND MULLET CREEKS GROUNDWATER SOURCE
STANDING-WATER-LEVEL 6.00
SALINITY
YIELD 1.52

Site Details [\(top\)](#)

REGION 30 - NORTH COAST
RIVER-BASIN 204 - CLARENCE RIVER
AREA-DISTRICT
CMA-MAP 9537-3N
GRID-ZONE 56/2
SCALE 1:25,000
ELEVATION
ELEVATION-SOURCE Est. Contour 8-15M.
NORTHING 6646358.00
EASTING 509237.00
LATITUDE 30 18' 52"
LONGITUDE 153 5' 46"
GS-MAP 0092A2

AMG-ZONE 56
 COORD-SOURCE GD.,ACC.MAP
 REMARK

Form-A (top)

COUNTY FITZROY
 PARISH COFF
 PORTION-LOT-DP LT57 DP261089

Licensed (top)

COUNTY FITZROY
 PARISH COFF
 PORTION-LOT-DP LT57 DP261089

Construction (top)

Negative depths indicate Above Ground Level;H-Hole;P-Pipe;OD-Outside Diameter;
 ID-Inside Diameter;C-Cemented;SL-Slot Length;A-Aperture;GS-Grain Size;Q-Quantity

HOLE- NO	PIPE- NO	COMPONENT- CODE	COMPONENT- TYPE	DEPTH- FROM (metres)	DEPTH- TO (metres)	OD (mm)	ID (mm)	INTERVAL	DETAIL
1		Hole	Hole	0.00	18.00	170			Rotary
1		Hole	Hole	18.00	37.50	140			Down Hole Hammer
1	1	Casing	PVC Class 9	-0.30	18.00	152			Glued; Driven Into Hole; Cap
1	1	Casing	PVC Class 9	0.00	37.50	125			Glued; Seated on Bottom
1	1	Opening	Slots - Vertical	25.00	27.00	125		1	PVC Class 9; Sawn; SL: 100mm; A: 2.6mm
1	1	Opening	Slots - Vertical	32.50	37.50	125		2	PVC Class 9; Sawn; SL: 100mm; A: 2.6mm

Water Bearing Zones (top)

FROM- DEPTH (metres)	TO- DEPTH (metres)	THICKNESS (metres)	ROCK- CAT- DESC	S- W-L	D- D- L	YIELD	TEST- HOLE- DEPTH (metres)	DURATION	SALINITY
23.00	27.00	4.00	Fractured	6.00		0.51			
32.50	37.50	5.00	Fractured	6.00		1.01	37.50	1.50	Good

Drillers Log (top)

FROM	TO	THICKNESS	DESC	GEO-MATERIAL COMMENT
0.00	6.00	6.00	Clay - red mottled	
6.00	11.00	5.00	Clay - grey	
11.00	14.00	3.00	Clay - silt soft brown	
14.00	18.00	4.00	Shale- brown	
18.00	21.00	3.00	Shale - brown	
21.00	23.00	2.00	Basalt	
23.00	27.00	4.00	Basalt - cracky	
27.00	32.50	5.50	Basalt	
32.50	37.50	5.00	Basalt- cracky	

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Work Requested -- GW073082

Works Details [\(top\)](#)

GROUNDWATER NUMBER GW073082
LIC-NUM 30BL176076
AUTHORISED-PURPOSES INDUSTRIAL
INTENDED-PURPOSES INDUSTRIAL
WORK-TYPE Bore
WORK-STATUS (Unknown)
CONSTRUCTION-METHOD Rotary Air
OWNER-TYPE Private
COMMENCE-DATE
COMPLETION-DATE 1994-10-02
FINAL-DEPTH (metres) 37.00
DRILLED-DEPTH (metres) 37.00
CONTRACTOR-NAME
DRILLER-NAME
PROPERTY PASCOE'S CARAVANS
GWMA - CENTRAL WEST FRACTURED ROCKS
GW-ZONE - MOONEY MOONEY AND MULLET CREEKS GROUNDWATER SOURCE
STANDING-WATER-LEVEL
SALINITY
YIELD

Site Details [\(top\)](#)

REGION 30 - NORTH COAST
RIVER-BASIN 205 - BELLINGER RIVER
AREA-DISTRICT
CMA-MAP
GRID-ZONE
SCALE
ELEVATION
ELEVATION-SOURCE
NORTHING 6646431.00
EASTING 508976.00
LATITUDE 30 18' 50"
LONGITUDE 153 5' 36"
GS-MAP

AMG-ZONE 56
 COORD-SOURCE PR.,ACC.GIS
 REMARK

Form-A (top)

COUNTY RALEIGH
 PARISH BONVILLE
 PORTION-LOT-DP LOT7 DP602227

Licensed (top)

COUNTY RALEIGH
 PARISH BONVILLE
 PORTION-LOT-DP 5 602227

Construction (top)

Negative depths indicate Above Ground Level;H-Hole;P-Pipe;OD-Outside Diameter;
 ID-Inside Diameter;C-Cemented;SL-Slot Length;A-Aperture;GS-Grain Size;Q-Quantity

HOLE- NO	PIPE- NO	COMPONENT- CODE	COMPONENT- TYPE	DEPTH- FROM (metres)	DEPTH- TO (metres)	OD (mm)	ID (mm)	INTERVAL	DETAIL
1	1	Casing	P.V.C.	-0.20	37.00	125			Seated on Bottom
1	1	Opening	Slots	25.00	37.00	125		1	Sawn; SL: 0mm; A: 2mm

Water Bearing Zones (top)

FROM- DEPTH (metres)	TO- DEPTH (metres)	THICKNESS (metres)	ROCK- CAT- DESC	S-W- L	D- D- L	YIELD	TEST- HOLE- DEPTH (metres)	DURATION	SALINITY
25.00	33.50	8.50	Fractured	10.00	0.40				Very Good

Drillers Log (top)

FROM	TO	THICKNESS	DESC	GEO-MATERIAL	COMMENT
0.00	0.60	0.60			
0.60	13.50	12.90	Multi Coloured Clay		
13.50	18.80	5.30	Metasediment And Quartz		
18.80	25.00	6.20	Shale (grey)		
25.00	33.50	8.50	Shale And Smokey Quartz		
33.50	37.00	3.50	Shale (grey)		

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Groundwater Works Summary

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Work Requested -- GW054334

Works Details [\(top\)](#)

GROUNDWATER NUMBER GW054334
LIC-NUM 30BL115471
AUTHORISED-PURPOSES DOMESTIC
INTENDED-PURPOSES DOMESTIC
WORK-TYPE Bore
WORK-STATUS (Unknown)
CONSTRUCTION-METHOD Rotary Air
OWNER-TYPE Private
COMMENCE-DATE
COMPLETION-DATE 1980-04-01
FINAL-DEPTH (metres) 30.00
DRILLED-DEPTH (metres) 0.00
CONTRACTOR-NAME
DRILLER-NAME
PROPERTY N/A
GWMA - CENTRAL WEST FRACTURED ROCKS
GW-ZONE - MOONEY MOONEY AND MULLET CREEKS GROUNDWATER SOURCE
STANDING-WATER-LEVEL
SALINITY
YIELD

Site Details [\(top\)](#)

REGION 30 - NORTH COAST
RIVER-BASIN 205 - BELLINGER RIVER
AREA-DISTRICT
CMA-MAP 9537-3N
GRID-ZONE 56/2
SCALE 1:25,000
ELEVATION
ELEVATION-SOURCE (Unknown)
NORTHING 6646298.00
EASTING 507288.00
LATITUDE 30 18' 54"
LONGITUDE 153 4' 33"
GS-MAP 0092A2

AMG-ZONE 56
COORD-SOURCE GD,ACC,MAP
REMARK

Form-A [\(top\)](#)

COUNTY RALEIGH
PARISH BONVILLE
PORTION-LOT-DP 67

Licensed [\(top\)](#)

COUNTY RALEIGH
PARISH BONVILLE
PORTION-LOT-DP P+ Port 67

Water Bearing Zones [\(top\)](#)

no details

Drillers Log [\(top\)](#)

no details

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Groundwater Works Summary

For information on the meaning of fields please see [Glossary](#)
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Work Requested -- GW301374

Works Details [\(top\)](#)

GROUNDWATER NUMBER GW301374
LIC-NUM 30BL177094
AUTHORISED-PURPOSES DOMESTIC
INTENDED-PURPOSES DOMESTIC
WORK-TYPE Bore
WORK-STATUS (Unknown)
CONSTRUCTION-METHOD Rotary
OWNER-TYPE
COMMENCE-DATE
COMPLETION-DATE 1995-11-04
FINAL-DEPTH (metres) 54.00
DRILLED-DEPTH (metres) 54.00
CONTRACTOR-NAME
DRILLER-NAME
PROPERTY KUTZ'
GWMA - CENTRAL WEST FRACTURED ROCKS
GW-ZONE - MOONEY MOONEY AND MULLET CREEKS GROUNDWATER SOURCE
STANDING-WATER-LEVEL 36.00
SALINITY
YIELD 0.38

Site Details [\(top\)](#)

REGION 30 - NORTH COAST
RIVER-BASIN
AREA-DISTRICT
CMA-MAP
GRID-ZONE
SCALE
ELEVATION
ELEVATION-SOURCE
NORTHING 6647946.00
EASTING 509188.00
LATITUDE 30 18' 1"
LONGITUDE 153 5' 44"
GS-MAP

AMG-ZONE 56
 COORD-SOURCE Map Interpretation
 REMARK

Form-A (top)

COUNTY FITZROY
 PARISH COFF
 PORTION-LOT-DP LOT31 DP261218

Licensed (top)

COUNTY FITZROY
 PARISH COFF
 PORTION-LOT-DP 31 261218

Construction (top)

Negative depths indicate Above Ground Level;H-Hole;P-Pipe;OD-Outside Diameter;
 ID-Inside Diameter;C-Cemented;SL-Slot Length;A-Aperture;GS-Grain Size;Q-Quantity

HOLE- NO	PIPE- NO	COMPONENT- CODE	COMPONENT- TYPE	DEPTH- FROM (metres)	DEPTH- TO (metres)	OD (mm)	ID (mm)	INTERVAL	DETAIL
1		Hole	Hole	0.00	54.00	140			Rotary
1	1	Casing	PVC Class 9	-0.30	54.00	125			Glued; Seated on Bottom; Cap
1	1	Opening	Slots - Vertical	32.00	37.00	125			PVC Class 9; Sawn; SL: 100mm; A: 2.6mm
1	1	Opening	Slots - Vertical	48.00	54.00				Sawn; SL: 100mm; A: 2.6mm

Water Bearing Zones (top)

FROM- DEPTH (metres)	TO- DEPTH (metres)	THICKNESS (metres)	ROCK- CAT- DESC	S-W- L	D- D- L	YIELD	TEST- HOLE- DEPTH (metres)	DURATION	SALINITY
32.00	37.00	5.00		18.00	0.19				
48.00	53.00	5.00		18.00	0.19	54.00	1.50		Good

Drillers Log (top)

FROM	TO	THICKNESS	DESC	GEO-MATERIAL	COMMENT
0.00	28.00	28.00	BROWN SHALE		
28.00	32.00	4.00	BASALT		

32.00	37.00	5.00	CRACKY BASALT
37.00	48.00	11.00	BASALT
48.00	53.00	5.00	CRACKY BASALT
53.00	54.00	1.00	BASALT

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Groundwater Works Summary

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Work Requested -- GW055372

Works Details [\(top\)](#)

GROUNDWATER NUMBER GW055372
LIC-NUM 30BL120170
AUTHORISED-PURPOSES DOMESTIC
INTENDED-PURPOSES GENERAL USE
WORK-TYPE Bore
WORK-STATUS (Unknown)
CONSTRUCTION-METHOD Rotary Air
OWNER-TYPE Private
COMMENCE-DATE
COMPLETION-DATE 1981-06-01
FINAL-DEPTH (metres) 38.10
DRILLED-DEPTH (metres) 38.10
CONTRACTOR-NAME
DRILLER-NAME
PROPERTY N/A
GWMA - CENTRAL WEST FRACTURED ROCKS
GW-ZONE - MOONEY MOONEY AND MULLET CREEKS GROUNDWATER SOURCE
STANDING-WATER-LEVEL
SALINITY
YIELD

Site Details [\(top\)](#)

REGION 30 - NORTH COAST
RIVER-BASIN 205 - BELLINGER RIVER
AREA-DISTRICT
CMA-MAP 9537-3N
GRID-ZONE 56/2
SCALE 1:25,000
ELEVATION
ELEVATION-SOURCE (Unknown)
NORTHING 6647805.00
EASTING 509372.00
LATITUDE 30 18' 5"
LONGITUDE 153 5' 51"
GS-MAP 0092A2

AMG-ZONE 56
 COORD-SOURCE GD,,ACC.MAP
 REMARK

Form-A ([top](#))

COUNTY RALEIGH
 PARISH BONVILLE
 PORTION-LOT-DP L19 DP261218 (149)

Licensed ([top](#))

COUNTY RALEIGH
 PARISH BONVILLE
 PORTION-LOT-DP 19 261218

Construction ([top](#))

Negative depths indicate Above Ground Level;H-Hole;P-Pipe;OD-Outside Diameter;
 ID-Inside Diameter;C-Cemented;SL-Slot Length;A-Aperture;GS-Grain Size;Q-Quantity

HOLE- NO	PIPE- NO	COMPONENT- CODE	COMPONENT- TYPE	DEPTH- FROM (metres)	DEPTH- TO (metres)	OD (mm)	ID (mm)	INTERVAL	DETAIL
1	1	Casing	(Unknown)	0.00	32.00	115			Driven into Hole

Water Bearing Zones ([top](#))

FROM- DEPTH (metres)	TO- DEPTH (metres)	THICKNESS (metres)	ROCK- CAT- DESC	S- W- L	D- D- L	YIELD	TEST- HOLE- DEPTH (metres)	DURATION	SALINITY
12.00	12.40	0.40	Fractured			0.08			(Unknown)
17.00	17.70	0.70	Fractured			0.26			(Unknown)
33.00	33.80	0.80	Fractured			0.26			(Unknown)

Drillers Log ([top](#))

FROM	TO	THICKNESS	DESC	GEO-MATERIAL	COMMENT
0.00	5.10	5.10	Clay		
5.10	38.10	33.00	Basalt	Water Supply	

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Groundwater Works Summary

For information on the meaning of fields please see [Glossary](#)
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Work Requested -- GW065791

Works Details [\(top\)](#)

GROUNDWATER NUMBER GW065791
LIC-NUM 30BL138872
AUTHORISED-PURPOSES DOMESTIC
INTENDED-PURPOSES DOMESTIC
WORK-TYPE Bore open thru rock
WORK-STATUS (Unknown)
CONSTRUCTION-METHOD Rotary Air
OWNER-TYPE Private
COMMENCE-DATE
COMPLETION-DATE 1989-09-04
FINAL-DEPTH (metres) 75.00
DRILLED-DEPTH (metres) 75.00
CONTRACTOR-NAME
DRILLER-NAME
PROPERTY N/A
GWMA - CENTRAL WEST FRACTURED ROCKS
GW-ZONE - MOONEY MOONEY AND MULLET CREEKS GROUNDWATER SOURCE
STANDING-WATER-LEVEL 3.00
SALINITY
YIELD 0.40

Site Details [\(top\)](#)

REGION 30 - NORTH COAST
RIVER-BASIN 205 - BELLINGER RIVER
AREA-DISTRICT
CMA-MAP 9537-3N
GRID-ZONE 56/2
SCALE 1:25,000
ELEVATION
ELEVATION-SOURCE
NORTHING 6648513.00
EASTING 509773.00
LATITUDE 30 17' 42"
LONGITUDE 153 6' 6"
GS-MAP 0092A2

AMG-ZONE 56
 COORD-SOURCE
 REMARK

Form-A [\(top\)](#)

COUNTY FITZROY
 PARISH COFF
 PORTION-LOT-DP LOT 21 DP855796

Licensed [\(top\)](#)

COUNTY FITZROY
 PARISH COFF
 PORTION-LOT-DP PT LT7 DP503130

Construction [\(top\)](#)

Negative depths indicate Above Ground Level;H-Hole;P-Pipe;OD-Outside Diameter;
 ID-Inside Diameter;C-Cemented;SL-Slot Length;A-Aperture;GS-Grain Size;Q-Quantity

HOLE- NO	PIPE- NO	COMPONENT- CODE	COMPONENT- TYPE	DEPTH- FROM (metres)	DEPTH- TO (metres)	OD (mm)	ID (mm)	INTERVAL	DETAIL
1		Hole	Hole	0.00	25.00	168			Rotary Air
1	1	Casing	PVC Class 6	0.00	8.00	160			Driven into Hole

Water Bearing Zones [\(top\)](#)

FROM- DEPTH (metres)	TO- DEPTH (metres)	THICKNESS (metres)	ROCK- CAT- DESC	S- W-L	D- D- L	YIELD	TEST- HOLE- DEPTH (metres)	DURATION	SALINITY
8.00	9.00	1.00	Fractured			0.20			
24.00	25.00	1.00	Fractured	3.00		0.20			

Drillers Log [\(top\)](#)

FROM	TO	THICKNESS	DESC	GEO-MATERIAL	COMMENT
0.00	3.00	3.00	CLAY		
3.00	6.00	3.00	SHALE SOFT		
6.00	7.00	1.00	HARD SHALE		
7.00	25.00	18.00	HARD SHALE		
25.00	26.00	1.00	SOFT SHALE		
26.00	75.00	49.00	BASALT		

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Groundwater Works Summary

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Work Requested -- GW071406

Works Details [\(top\)](#)

GROUNDWATER NUMBER GW071406
LIC-NUM 30BL153397
AUTHORISED-PURPOSES DOMESTIC
INTENDED-PURPOSES DOMESTIC
WORK-TYPE Bore
WORK-STATUS (Unknown)
CONSTRUCTION-METHOD Rotary
OWNER-TYPE
COMMENCE-DATE
COMPLETION-DATE 1993-11-07
FINAL-DEPTH (metres) 47.24
DRILLED-DEPTH (metres) 47.24
CONTRACTOR-NAME
DRILLER-NAME
PROPERTY ALFORD'S
GWMA - CENTRAL WEST FRACTURED ROCKS
GW-ZONE - MOONEY MOONEY AND MULLET CREEKS GROUNDWATER SOURCE
STANDING-WATER-LEVEL 13.70
SALINITY
YIELD 0.19

Site Details [\(top\)](#)

REGION 30 - NORTH COAST
RIVER-BASIN
AREA-DISTRICT
CMA-MAP
GRID-ZONE
SCALE
ELEVATION
ELEVATION-SOURCE
NORTHING 6648279.00
EASTING 509857.00
LATITUDE 30 17' 50"
LONGITUDE 153 6' 9"
GS-MAP

AMG-ZONE 56
COORD-SOURCE
REMARK

Form-A (top)

COUNTY FITZROY
PARISH COFF
PORTION-LOT-DP LOT 9 DP249068

Licensed (top)

COUNTY FITZROY
PARISH COFF
PORTION-LOT-DP 9 249068

Construction (top)

Negative depths indicate Above Ground Level;H-Hole;P-Pipe;OD-Outside Diameter;
ID-Inside Diameter;C-Cemented;SL-Slot Length;A-Aperture;GS-Grain Size;Q-Quantity

HOLE- NO	PIPE- NO	COMPONENT- CODE	COMPONENT- TYPE	DEPTH- FROM (metres)	DEPTH- TO (metres)	OD (mm)	ID (mm)	INTERVAL	DETAIL
1		Hole	Hole	0.00	7.00	140			Rotary Air
1		Hole	Hole	7.00	47.20	140			Down Hole Hammer
1	1	Casing	PVC Class 9	-0.30	47.20	125	-75		Glued; Seated on Bottom
1	1	Opening	Slots - Vertical	26.50	27.40	125			PVC Class 9; Sawn; SL: 100mm; A: 2.6mm
1	1	Opening	Slots - Vertical	32.00	36.00	125			PVC Class 9; Sawn; SL: 100mm; A: 2.6mm

Water Bearing Zones (top)

FROM- DEPTH (metres)	TO- DEPTH (metres)	THICKNESS (metres)	ROCK- CAT- DESC	S-W- L	D- D- L	YIELD	TEST- HOLE- DEPTH (metres)	DURATION	SALINITY
26.51	27.40	0.89		13.70		0.89			
32.00	36.50	4.50		13.70		0.10	47.24	2.00	Good

Drillers Log (top)

FROM TO THICKNESS DESC GEO-MATERIAL COMMENT

0.00	0.60	0.60	BROWN TOP SOIL
0.60	4.57	3.97	ORANGE CLAY
4.57	6.00	1.43	ORANGE CLAY & SHALE
6.00	7.00	1.00	BROWN SHALE
7.00	13.71	6.71	BROKEN BASSALT
13.71	15.20	1.49	GREY SHALE
15.20	16.62	1.42	BROWN BASSALT & MOTTLED CLAY
16.62	20.70	4.08	BLUE BASSALT
20.70	24.38	3.68	BLACK SHALE
24.38	47.24	22.86	HARD BLACK SHALE & SOME REEF QUARTZ

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Groundwater Works Summary

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Work Requested -- GW304953

Works Details ([top](#))

GROUNDWATER NUMBER GW304953
LIC-NUM 30BL182489
AUTHORISED-PURPOSES DOMESTIC
INTENDED-PURPOSES DOMESTIC
WORK-TYPE Bore
WORK-STATUS
CONSTRUCTION-METHOD Rotary - Percussion (Down Hole Hammer)
OWNER-TYPE
COMMENCE-DATE
COMPLETION-DATE 2004-12-01
FINAL-DEPTH (metres) 16.00
DRILLED-DEPTH (metres) 16.00
CONTRACTOR-NAME
DRILLER-NAME
PROPERTY POLLOCK'S
GWMA - CENTRAL WEST FRACTURED ROCKS
GW-ZONE - MOONEY MOONEY AND MULLET CREEKS GROUNDWATER SOURCE
STANDING-WATER-LEVEL 3.00
SALINITY 200.00
YIELD

Site Details ([top](#))

REGION 30 - NORTH COAST
RIVER-BASIN
AREA-DISTRICT
CMA-MAP
GRID-ZONE
SCALE
ELEVATION
ELEVATION-SOURCE
NORTHING 6648018.00
EASTING 509753.00
LATITUDE 30 17' 58"
LONGITUDE 153 6' 5"
GS-MAP

AMG-ZONE 56
COORD-SOURCE
REMARK

Form-A (top)

COUNTY FITZROY
PARISH COFF
PORTION-LOT-DP 1 709405

Licensed (top)

COUNTY FITZROY
PARISH COFF
PORTION-LOT-DP 1 709405

Construction (top)

Negative depths indicate Above Ground Level;H-Hole;P-Pipe;OD-Outside Diameter;
ID-Inside Diameter;C-Cemented;SL-Slot Length;A-Aperture;GS-Grain Size;Q-Quantity

HOLE- NO	PIPE- NO	COMPONENT- CODE	COMPONENT- TYPE	DEPTH- FROM (metres)	DEPTH- TO (metres)	OD (mm)	ID (mm)	INTERVAL	DETAIL
1		Hole	Hole	0.00	5.00	195			Rotary Air
1		Hole	Hole	5.00	16.00	175			Rotary - Percussion (Down Hole Hammer)
1	1	Casing	Steel - ERW	0.00	10.00	140	124		Glued; Seated on Bottom
1	1	Opening	Slots - Vertical	10.00	16.00	140			Steel; Casing - Hand Sawn Slot; SL: 200mm; A: 1mm
1		Annulus	Waterworn/Rounded	6.00	16.00				Graded; GS: 4- 6mm; Q: .3m ³

Water Bearing Zones (top)

FROM- DEPTH (metres)	TO- DEPTH (metres)	THICKNESS (metres)	ROCK- CAT- DESC	S- W-L	D- D-L	YIELD	TEST- HOLE- DEPTH (metres)	DURATION	SALINITY
9.50	10.50	1.00		3.00	0.00	0.85	16.00	1.50	200.00

Drillers Log (top)

FROM	TO	THICKNESS	DESC	GEO-MATERIAL COMMENT
0.00	0.20	0.20	top soil	
0.20	4.50	4.30	orange clay soft silty	
4.50	5.50	1.00	weathered siltstone	
5.50	9.50	4.00	hard blue siltstone	
9.50	10.50	1.00	water cut	
10.50	16.00	5.50	hard blue siltston	

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Groundwater Works Summary

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Work Requested -- GW300129

Works Details [\(top\)](#)

GROUNDWATER NUMBER GW300129
LIC-NUM 30BL143514
AUTHORISED-PURPOSES DOMESTIC
INTENDED-PURPOSES DOMESTIC
WORK-TYPE Bore
WORK-STATUS (Unknown)
CONSTRUCTION-METHOD Rotary Air
OWNER-TYPE Private
COMMENCE-DATE
COMPLETION-DATE 1991-08-20
FINAL-DEPTH (metres) 24.00
DRILLED-DEPTH (metres) 24.00
CONTRACTOR-NAME
DRILLER-NAME
PROPERTY SELLINGS
GWMA - CENTRAL WEST FRACTURED ROCKS
GW-ZONE - MOONEY MOONEY AND MULLET CREEKS GROUNDWATER SOURCE
STANDING-WATER-LEVEL 6.00
SALINITY
YIELD 5.30

Site Details [\(top\)](#)

REGION 30 - NORTH COAST
RIVER-BASIN 205 - BELLINGER RIVER
AREA-DISTRICT
CMA-MAP
GRID-ZONE
SCALE
ELEVATION
ELEVATION-SOURCE
NORTHING 6647773.00
EASTING 509863.00
LATITUDE 30 18' 6"
LONGITUDE 153 6' 9"
GS-MAP

AMG-ZONE 56
 COORD-SOURCE Map Interpretation
 REMARK

Form-A (top)

COUNTY FITZROY
 PARISH COFF
 PORTION-LOT-DP LOT 142 DP786984

Licensed (top)

COUNTY FITZROY
 PARISH COFF
 PORTION-LOT-DP 142 786984

Construction (top)

Negative depths indicate Above Ground Level;H-Hole;P-Pipe;OD-Outside Diameter;
 ID-Inside Diameter;C-Cemented;SL-Slot Length;A-Aperture;GS-Grain Size;Q-Quantity

HOLE- NO	PIPE- NO	COMPONENT- CODE	COMPONENT- TYPE	DEPTH- FROM (metres)	DEPTH- TO (metres)	OD (mm)	ID (mm)	INTERVAL	DETAIL
1		Hole	Hole	0.00	9.00	170			Rotary Air
1		Hole	Hole	9.00	24.00	170			Down Hole Hammer
1	1	Casing	PVC Class 9	-0.30	24.00	152			Glued; Seated on Bottom
1	1	Opening	Slots - Vertical	19.00	24.00	152		1	PVC Class 9; Sawn; SL: 100mm; A: 2.6mm

Water Bearing Zones (top)

FROM- DEPTH (metres)	TO-DEPTH (metres)	THICKNESS (metres)	ROCK- CAT- DESC	S- W-L	D- D- L	YIELD	TEST-HOLE- DEPTH (metres)	DURATION	SALINITY
19.00	24.00	5.00		6.00		5.30	24.00	1.00	Good

Drillers Log (top)

FROM	TO	THICKNESS	DESC	GEO-MATERIAL	COMMENT
0.00	0.30	0.30	RED TOP SOIL		
0.30	8.00	7.70	RED CLAY		
8.00	9.00	1.00	BROWN SHALE		
9.00	19.00	10.00	BASALT		
19.00	24.00	5.00	FRACTURED BASALT		

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Work Requested -- GW066308

Works Details [\(top\)](#)

GROUNDWATER NUMBER GW066308
LIC-NUM 30BL140291
AUTHORISED-PURPOSES DOMESTIC STOCK
INTENDED-PURPOSES
WORK-TYPE
WORK-STATUS (Unknown)
CONSTRUCTION-METHOD
OWNER-TYPE
COMMENCE-DATE
COMPLETION-DATE
FINAL-DEPTH (metres)
DRILLED-DEPTH (metres)
CONTRACTOR-NAME
DRILLER-NAME
PROPERTY N/A
GWMA - CENTRAL WEST FRACTURED ROCKS
GW-ZONE - MOONEY MOONEY AND MULLET CREEKS GROUNDWATER SOURCE
STANDING-WATER-LEVEL
SALINITY
YIELD

Site Details [\(top\)](#)

REGION 30 - NORTH COAST
RIVER-BASIN 205 - BELLINGER RIVER
AREA-DISTRICT
CMA-MAP
GRID-ZONE
SCALE
ELEVATION
ELEVATION-SOURCE Est. Contour 8-15M.
NORTHING 6647497.00
EASTING 509826.00
LATITUDE 30 18' 15"
LONGITUDE 153 6' 8"
GS-MAP 0092A2

AMG-ZONE 56
 COORD-SOURCE GD.,ACC.MAP
 REMARK

Form-A [\(top\)](#)

COUNTY RALEIGH
 PARISH BONVILLE
 PORTION-LOT-DP LOT 12 DP706613

Licensed [\(top\)](#)

COUNTY RALEIGH
 PARISH BONVILLE
 PORTION-LOT-DP 12 706613

Construction [\(top\)](#)

Negative depths indicate Above Ground Level;H-Hole;P-Pipe;OD-Outside Diameter;
 ID-Inside Diameter;C-Cemented;SL-Slot Length;A-Aperture;GS-Grain Size;Q-Quantity

HOLE- NO	PIPE- NO	COMPONENT- CODE	COMPONENT- TYPE	DEPTH- FROM (metres)	DEPTH- TO (metres)	OD (mm)	ID (mm)	INTERVAL	DETAIL
1	1	Casing	P.V.C.	0.00	24.00	160			Suspended in Clamps
1	1	Casing	P.V.C.	1.00	37.00	150			Seated on Bottom
1	1	Opening	Slots - Vertical	22.00	24.00	160		1	Mechanically Slotted; SL: 0mm; A: 3mm
1	1	Opening	Slots - Vertical	25.00	37.00	150		2	Mechanically Slotted; SL: 0mm; A: 3mm

Water Bearing Zones [\(top\)](#)

FROM- DEPTH (metres)	TO- DEPTH (metres)	THICKNESS (metres)	ROCK- CAT- DESC	S- W-L	D- D- L	YIELD	TEST- HOLE- DEPTH (metres)	DURATION	SALINITY
34.00	36.00	2.00	Fractured	3.40		1.00			

Drillers Log [\(top\)](#)

no details

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should be sought in interpreting and using this data.

Groundwater Works Summary

For information on the meaning of fields please see [Glossary](#)
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Work Requested -- GW300016

Works Details [\(top\)](#)

GROUNDWATER NUMBER GW300016
LIC-NUM 30BL154172
AUTHORISED-PURPOSES INDUSTRIAL
INTENDED-PURPOSES COMMERCIAL
WORK-TYPE Bore
WORK-STATUS (Unknown)
CONSTRUCTION-METHOD Rotary Air
OWNER-TYPE
COMMENCE-DATE
COMPLETION-DATE 1994-02-22
FINAL-DEPTH (metres) 25.90
DRILLED-DEPTH (metres) 25.90
CONTRACTOR-NAME
DRILLER-NAME
PROPERTY COFFS HARBOUR
GWMA - CENTRAL WEST FRACTURED ROCKS
GW-ZONE - MOONEY MOONEY AND MULLET CREEKS GROUNDWATER SOURCE
STANDING-WATER-LEVEL 3.00
SALINITY
YIELD 2.40

Site Details [\(top\)](#)

REGION 30 - NORTH COAST
RIVER-BASIN
AREA-DISTRICT
CMA-MAP
GRID-ZONE
SCALE
ELEVATION
ELEVATION-SOURCE
NORTHING 6647404.00
EASTING 509832.00
LATITUDE 30 18' 18"
LONGITUDE 153 6' 8"
GS-MAP

AMG-ZONE 56
 COORD-SOURCE
 REMARK

Form-A [\(top\)](#)

COUNTY RALEIGH
 PARISH BONVILLE
 PORTION-LOT-DP LOT 1 DP394898

Licensed [\(top\)](#)

COUNTY RALEIGH
 PARISH BONVILLE
 PORTION-LOT-DP 1 394898

Construction [\(top\)](#)

Negative depths indicate Above Ground Level;H-Hole;P-Pipe;OD-Outside Diameter;
 ID-Inside Diameter;C-Cemented;SL-Slot Length;A-Aperture;GS-Grain Size;Q-Quantity

HOLE- NO	PIPE- NO	COMPONENT- CODE	COMPONENT- TYPE	DEPTH- FROM (metres)	DEPTH- TO (metres)	OD (mm)	ID (mm)	INTERVAL	DETAIL
1		Hole	Hole	0.00	9.14	170			Rotary Air
1		Hole	Hole	9.14	25.90	140			Down Hole Hammer
1	1	Casing	PVC Class 9	-0.20	9.10	170			Glued; Seated on Bottom
1	1	Casing	PVC Class 9	9.10	25.90	125			Glued; Seated on Bottom
1	1	Opening	Slots - Vertical	16.00	22.00	125		1	PVC Class 9; SL: 100mm; A: 2.5mm

Water Bearing Zones [\(top\)](#)

FROM- DEPTH (metres)	TO-DEPTH (metres)	THICKNESS (metres)	ROCK- CAT- DESC	S- W-L	D- D- L	YIELD	TEST-HOLE- DEPTH (metres)	DURATION	SALINITY
16.76	21.30	4.54		3.00		2.40	25.90	2.00	Good

Drillers Log [\(top\)](#)

FROM	TO	THICKNESS	DESC	GEO- MATERIAL	COMMENT
0.00	0.50	0.50	LOAM		
0.50	9.14	8.64	BROWN ORANGE CLAY		

9.14	16.76	7.62	SOFT BROWN SHALE
16.76	21.30	4.54	MOTTLED CLAY & RIVER GRAVELS-DECAYED BED ROCK
21.30	25.90	4.60	THINLY BEDDED BLUE & BROWN SHALES

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Groundwater Works Summary

For information on the meaning of fields please see [Glossary](#)
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[Works Details](#) [Site Details](#) [Form A Licensed Construction](#) [Water Bearing Zones](#) [Drillers Log](#)

Work Requested -- GW071354

Works Details [\(top\)](#)

GROUNDWATER NUMBER GW071354
LIC-NUM 30BL153799
AUTHORISED-PURPOSES INDUSTRIAL
INTENDED-PURPOSES DOMESTIC
WORK-TYPE
WORK-STATUS (Unknown)
CONSTRUCTION-METHOD Rot. Rev. Circ Mud
OWNER-TYPE
COMMENCE-DATE
COMPLETION-DATE 1993-12-14
FINAL-DEPTH (metres) 29.56
DRILLED-DEPTH (metres) 29.50
CONTRACTOR-NAME
DRILLER-NAME
PROPERTY GEOFF KING MOTORS
GWMA - CENTRAL WEST FRACTURED ROCKS
GW-ZONE - MOONEY MOONEY AND MULLET CREEKS GROUNDWATER SOURCE
STANDING-WATER-LEVEL 4.00
SALINITY
YIELD 0.32

Site Details [\(top\)](#)

REGION 30 - NORTH COAST
RIVER-BASIN 205 - BELLINGER RIVER
AREA-DISTRICT
CMA-MAP
GRID-ZONE
SCALE
ELEVATION
ELEVATION-SOURCE Est. Contour 8-15M.
NORTHING 6647312.00
EASTING 509826.00
LATITUDE 30 18' 21"
LONGITUDE 153 6' 8"
GS-MAP 0092A2

AMG-ZONE 56
 COORD-SOURCE GD.,ACC.MAP
 REMARK

Form-A (top)

COUNTY RALEIGH
 PARISH BONVILLE
 PORTION-LOT-DP LOT 3 DP 714275

Licensed (top)

COUNTY RALEIGH
 PARISH BONVILLE
 PORTION-LOT-DP LOT 2 DP 714275

Construction (top)

Negative depths indicate Above Ground Level;H-Hole;P-Pipe;OD-Outside Diameter;
 ID-Inside Diameter;C-Cemented;SL-Slot Length;A-Aperture;GS-Grain Size;Q-Quantity

HOLE- NO	PIPE- NO	COMPONENT- CODE	COMPONENT- TYPE	DEPTH- FROM (metres)	DEPTH- TO (metres)	OD (mm)	ID (mm)	INTERVAL	DETAIL
1		Hole	Hole	0.00	7.61	170			Rotary
1		Hole	Hole	7.61	29.50	148			Down Hole Hammer
1	1	Casing	PVC Class 9	-1.50	7.61	170			Glued; invalid code
1	1	Casing	PVC Class 9	0.00	29.56	100			Glued; Seated on Bottom
1	1	Opening	Slots - Vertical	22.00	28.00	125		1	PVC Class 9; SL: 100mm; A: 2.6mm

Water Bearing Zones (top)

FROM- DEPTH (metres)	TO- DEPTH (metres)	THICKNESS (metres)	ROCK-CAT- DESC	S- W-L	D- D- L	YIELD	TEST- HOLE- DEPTH (metres)	DURATION	SALINITY
7.00	7.60	0.60	Unconsolidated	4.00	0.13	9.00			Good
22.80	27.40	4.60	Fractured	4.00	0.19	28.00	1.00		Good

Drillers Log (top)

FROM	TO	THICKNESS	DESC	GEO-MATERIAL	COMMENT
0.00	0.50	0.50	Topsoil		

0.50	7.60	7.10	Clay with lenses of sand
7.60	10.00	2.40	Shale - brown
10.00	22.80	12.80	Shale - blue
22.80	27.40	4.60	Shale - Blue & Brown & Quartz
27.40	29.50	2.10	Shale - hard blue

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Groundwater Works Summary

For information on the meaning of fields please see [Glossary](#)
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Work Requested -- GW071291

Works Details [\(top\)](#)

GROUNDWATER NUMBER GW071291
LIC-NUM 30BL152143
AUTHORISED-PURPOSES INDUSTRIAL
INTENDED-PURPOSES COMMERCIAL
WORK-TYPE Bore
WORK-STATUS (Unknown)
CONSTRUCTION-METHOD Rotary Air
OWNER-TYPE Private
COMMENCE-DATE
COMPLETION-DATE 1993-04-23
FINAL-DEPTH (metres) 18.00
DRILLED-DEPTH (metres) 18.00
CONTRACTOR-NAME
DRILLER-NAME
PROPERTY GEOFF KING MOTORS
GWMA - CENTRAL WEST FRACTURED ROCKS
GW-ZONE - MOONEY MOONEY AND MULLET CREEKS GROUNDWATER SOURCE
STANDING-WATER-LEVEL 5.00
SALINITY
YIELD 12.63

Site Details [\(top\)](#)

REGION 30 - NORTH COAST
RIVER-BASIN 205 - BELLINGER RIVER
AREA-DISTRICT
CMA-MAP 9537-3N
GRID-ZONE 56/2
SCALE 1:25,000
ELEVATION
ELEVATION-SOURCE Est. Contour 8-15M.
NORTHING 6647251.00
EASTING 509826.00
LATITUDE 30 18' 23"
LONGITUDE 153 6' 8"
GS-MAP 0092A2

AMG-ZONE 56
 COORD-SOURCE PR.,PR. MAP
 REMARK

Form-A [\(top\)](#)

COUNTY RALEIGH
 PARISH BONVILLE
 PORTION-LOT-DP LOT 1 DP 616809

Licensed [\(top\)](#)

COUNTY RALEIGH
 PARISH BONVILLE
 PORTION-LOT-DP 1 616809

Construction [\(top\)](#)

Negative depths indicate Above Ground Level;H-Hole;P-Pipe;OD-Outside Diameter;
 ID-Inside Diameter;C-Cemented;SL-Slot Length;A-Aperture;GS-Grain Size;Q-Quantity

HOLE- NO	PIPE- NO	COMPONENT- CODE	COMPONENT- TYPE	DEPTH- FROM (metres)	DEPTH- TO (metres)	OD (mm)	ID (mm)	INTERVAL	DETAIL
1		Hole	Hole	0.00	18.00	170			Rotary
1	1	Casing	PVC Class 9	-0.30	18.00	152			Glued; Seated on Bottom
1	1	Opening	Slots - Vertical	14.00	18.00	152		1	PVC Class 9; Sawn; SL: 100mm; A: 2.6mm

Water Bearing Zones [\(top\)](#)

FROM- DEPTH (metres)	TO-DEPTH (metres)	THICKNESS (metres)	ROCK- CAT- DESC	S- W-L	D- D- L	YIELD	TEST-HOLE- DEPTH (metres)	DURATION	SALINITY
14.00	18.00	4.00		5.00		12.68	18.00	1.00	Good

Drillers Log [\(top\)](#)

FROM	TO	THICKNESS	DESC	GEO-MATERIAL	COMMENT
0.00	0.60	0.60	Shale fill		
0.60	2.00	1.40	Clay - brown		
2.00	12.00	10.00	Clay - grey		
12.00	18.00	6.00	Reef quartz		

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Groundwater Works Summary

For information on the meaning of fields please see [Glossary](#)
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Work Requested -- GW300833

Works Details [\(top\)](#)

GROUNDWATER NUMBER GW300833
LIC-NUM 30BL177181
AUTHORISED-PURPOSES INDUSTRIAL
INTENDED-PURPOSES COMMERCIAL
WORK-TYPE Bore
WORK-STATUS (Unknown)
CONSTRUCTION-METHOD Rot. Rev. Circ. Air
OWNER-TYPE
COMMENCE-DATE
COMPLETION-DATE 1995-10-30
FINAL-DEPTH (metres) 18.00
DRILLED-DEPTH (metres) 20.00
CONTRACTOR-NAME
DRILLER-NAME
PROPERTY BELLBOWRIE MOTORS
GWMA - CENTRAL WEST FRACTURED ROCKS
GW-ZONE - MOONEY MOONEY AND MULLET CREEKS GROUNDWATER SOURCE
STANDING-WATER-LEVEL 3.00
SALINITY
YIELD 2.00

Site Details [\(top\)](#)

REGION 30 - NORTH COAST
RIVER-BASIN
AREA-DISTRICT
CMA-MAP
GRID-ZONE
SCALE
ELEVATION
ELEVATION-SOURCE
NORTHING 6647366.00
EASTING 509673.00
LATITUDE 30 18' 20"
LONGITUDE 153 6' 2"
GS-MAP

AMG-ZONE 56
 COORD-SOURCE
 REMARK

Form-A [\(top\)](#)

COUNTY RALEIGH
 PARISH BONVILLE
 PORTION-LOT-DP LOT 301 DP867096

Licensed [\(top\)](#)

COUNTY RALEIGH
 PARISH BONVILLE
 PORTION-LOT-DP 301 867096

Construction [\(top\)](#)

Negative depths indicate Above Ground Level;H-Hole;P-Pipe;OD-Outside Diameter;
 ID-Inside Diameter;C-Cemented;SL-Slot Length;A-Aperture;GS-Grain Size;Q-Quantity

HOLE- NO	PIPE- NO	COMPONENT- CODE	COMPONENT- TYPE	DEPTH- FROM (metres)	DEPTH- TO (metres)	OD (mm)	ID (mm)	INTERVAL	DETAIL
1		Hole	Hole	0.00	12.00	145			Rotary
1		Hole	Hole	12.00	20.00	145			Down Hole Hammer
1	1	Casing	PVC Class 9	-0.20	20.00	125			C: 0-1m; Glued; Cemented; Seated on Bottom
1	1	Opening	Slots - Vertical	12.00	20.00	125			PVC Class 9; SL: 8mm; A: 2mm

Water Bearing Zones [\(top\)](#)

FROM- DEPTH (metres)	TO-DEPTH (metres)	THICKNESS (metres)	ROCK- CAT- DESC	S- W-L	D- D- L	YIELD	TEST-HOLE- DEPTH (metres)	DURATION	SALINITY
12.00	20.00	8.00		3.00	2.00	20.00	1.00		Good

Drillers Log [\(top\)](#)

FROM	TO	THICKNESS	DESC	GEO-MATERIAL	COMMENT
0.00	0.60	0.60	TOPSOIL		
0.60	11.00	10.40	CLAY		
11.00	12.00	1.00	SHALE		
12.00	20.00	8.00	SHALE & LARGE QUARTZ		

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Groundwater Works Summary

For information on the meaning of fields please see [Glossary](#)
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Work Requested -- GW300315

Works Details [\(top\)](#)

GROUNDWATER NUMBER	GW300315
LIC-NUM	30BL176293
AUTHORISED-PURPOSES	DOMESTIC
INTENDED-PURPOSES	DOMESTIC
WORK-TYPE	Bore
WORK-STATUS	(Unknown)
CONSTRUCTION-METHOD	Rotary Air
OWNER-TYPE	Private
COMMENCE-DATE	
COMPLETION-DATE	1995-11-05
FINAL-DEPTH (metres)	21.00
DRILLED-DEPTH (metres)	21.00
CONTRACTOR-NAME	
DRILLER-NAME	
PROPERTY	PARKER'S
GWMA	- CENTRAL WEST FRACTURED ROCKS
GW-ZONE	- MOONEY MOONEY AND MULLET CREEKS GROUNDWATER SOURCE
STANDING-WATER-LEVEL	2.00
SALINITY	
YIELD	1.26

Site Details [\(top\)](#)

REGION	30 - NORTH COAST
RIVER-BASIN	205 - BELLINGER RIVER
AREA-DISTRICT	
CMA-MAP	
GRID-ZONE	
SCALE	
ELEVATION	
ELEVATION-SOURCE	
NORTHING	6647367.00
EASTING	509527.00
LATITUDE	30 18' 20"
LONGITUDE	153 5' 57"
GS-MAP	

AMG-ZONE 56
 COORD-SOURCE Map Interpretation
 REMARK

Form-A [\(top\)](#)

COUNTY RALEIGH
 PARISH BONVILLE
 PORTION-LOT-DP LOT 36 DP710147

Licensed [\(top\)](#)

COUNTY RALEIGH
 PARISH BONVILLE
 PORTION-LOT-DP 36 710147

Construction [\(top\)](#)

Negative depths indicate Above Ground Level;H-Hole;P-Pipe;OD-Outside Diameter;
 ID-Inside Diameter;C-Cemented;SL-Slot Length;A-Aperture;GS-Grain Size;Q-Quantity

HOLE- NO	PIPE- NO	COMPONENT- CODE	COMPONENT- TYPE	DEPTH- FROM (metres)	DEPTH- TO (metres)	OD (mm)	ID (mm)	INTERVAL	DETAIL
1		Hole	Hole	0.00	6.00	140			Rotary Air
1		Hole	Hole	6.00	21.00	140			Down Hole Hammer
1	1	Casing	PVC Class 9	-0.30	21.00	125	-75		Glued; Cemented; Seated on Bottom; Cap
1	1	Opening	Slots - Vertical	16.00	21.00	125		1	PVC Class 9; Sawn; SL: 100mm; A: 2.6mm

Water Bearing Zones [\(top\)](#)

FROM- DEPTH (metres)	TO-DEPTH (metres)	THICKNESS (metres)	ROCK- CAT- DESC	S- W-L	D- D- L	YIELD	TEST-HOLE- DEPTH (metres)	DURATION	SALINITY
16.00	21.00	5.00		2.00		1.26	21.00	0.75	Good

Drillers Log [\(top\)](#)

FROM	TO	THICKNESS	DESC	GEO-MATERIAL	COMMENT
0.00	0.30	0.30	GREY TOPSOIL		
0.30	6.00	5.70	GREY CLAY		
6.00	16.00	10.00	BASALT		
16.00	21.00	5.00	BROKEN BASALT		

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Groundwater Works Summary

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Work Requested – GW071408

Works Details [\(top\)](#)

GROUNDWATER NUMBER	GW071408
LIC-NUM	30BL153400
AUTHORISED-PURPOSES	DOMESTIC
INTENDED-PURPOSES	DOMESTIC
WORK-TYPE	Bore
WORK-STATUS	(Unknown)
CONSTRUCTION-METHOD	Rotary Air
OWNER-TYPE	Private
COMMENCE-DATE	
COMPLETION-DATE	1993-12-13
FINAL-DEPTH (metres)	25.00
DRILLED-DEPTH (metres)	25.00
CONTRACTOR-NAME	
DRILLER-NAME	
PROPERTY	N/A
GWMA	- CENTRAL WEST FRACTURED ROCKS
GW-ZONE	- MOONEY MOONEY AND MULLET CREEKS GROUNDWATER SOURCE
STANDING-WATER-LEVEL	16.00
SALINITY	
YIELD	0.76

Site Details [\(top\)](#)

REGION	30 - NORTH COAST
RIVER-BASIN	205 - BELLINGER RIVER
AREA-DISTRICT	
CMA-MAP	9537-3N
GRID-ZONE	56/2
SCALE	1:25,000
ELEVATION	
ELEVATION-SOURCE	
NORTHING	6647368.00
EASTING	509317.00
LATITUDE	30 18' 19"
LONGITUDE	153 5' 49"
GS-MAP	

AMG-ZONE 56
 COORD-SOURCE GD.,ACC.GIS
 REMARK

Form-A ([top](#))

COUNTY RALEIGH
 PARISH BONVILLE
 PORTION-LOT-DP LOT 2 DP261813

Licensed ([top](#))

COUNTY RALEIGH
 PARISH BONVILLE
 PORTION-LOT-DP 2 261813

Construction ([top](#))

Negative depths indicate Above Ground Level;H-Hole;P-Pipe;OD-Outside Diameter;
 ID-Inside Diameter;C-Cemented;SL-Slot Length;A-Aperture;GS-Grain Size;Q-Quantity

HOLE- NO	PIPE- NO	COMPONENT- CODE	COMPONENT- TYPE	DEPTH- FROM (metres)	DEPTH- TO (metres)	OD (mm)	ID (mm)	INTERVAL	DETAIL
1		Hole	Hole	0.00	6.00	140			Rotary Air
1		Hole	Hole	6.00	25.00	140			Down Hole Hammer
1	1	Casing	PVC Class 9	-0.50	25.00	125	-75		Glued; Seated on Bottom PVC Class 9;
1	1	Opening	Slots - Vertical	18.00	23.00	125		1	SL: 10mm; A: 2.6mm

Water Bearing Zones ([top](#))

FROM- DEPTH (metres)	TO- DEPTH (metres)	THICKNESS (metres)	ROCK- CAT- DESC	S-W- L	D- D- L	YIELD	TEST- HOLE- DEPTH (metres)	DURATION	SALINITY
18.20	22.80	4.60	Fractured	16.00	0.76	25.00	1.00		Good

Drillers Log ([top](#))

FROM	TO	THICKNESS	DESC	GEO-MATERIAL COMMENT
0.00	0.60	0.60	Brown Top Soil	
0.60	6.00	5.40	Brown Clay	
6.00	25.00	19.00	Black Shale With Intermittent Fracturing	

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Groundwater Works Summary

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Work Requested -- GW303014

Works Details [\(top\)](#)

GROUNDWATER NUMBER GW303014
LIC-NUM 30BL179582
AUTHORISED-PURPOSES DOMESTIC STOCK
INTENDED-PURPOSES DOMESTIC STOCK
WORK-TYPE Bore
WORK-STATUS
CONSTRUCTION-METHOD
OWNER-TYPE
COMMENCE-DATE
COMPLETION-DATE
FINAL-DEPTH (metres) 3.00
DRILLED-DEPTH (metres)
CONTRACTOR-NAME
DRILLER-NAME
PROPERTY KANE'S
GWMA - CENTRAL WEST FRACTURED ROCKS
GW-ZONE - MOONEY MOONEY AND MULLET CREEKS GROUNDWATER SOURCE
STANDING-WATER-LEVEL
SALINITY
YIELD

Site Details [\(top\)](#)

REGION 30 - NORTH COAST
RIVER-BASIN
AREA-DISTRICT
CMA-MAP
GRID-ZONE
SCALE
ELEVATION
ELEVATION-SOURCE
NORTHING 6647352.00
EASTING 509165.00
LATITUDE 30 18' 20"
LONGITUDE 153 5' 43"
GS-MAP

AMG-ZONE 56
COORD-SOURCE
REMARK

Form-A ([top](#))

COUNTY RALEIGH
PARISH BONVILLE
PORTION-LOT-DP LT 1 DP 938907

Licensed ([top](#))

COUNTY RALEIGH
PARISH BONVILLE
PORTION-LOT-DP 1 938907

Water Bearing Zones ([top](#))

no details

Drillers Log ([top](#))

no details

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Groundwater Works Summary

For information on the meaning of fields please see [Glossary](#)
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Work Requested -- GW070984

Works Details [\(top\)](#)

GROUNDWATER NUMBER GW070984
LIC-NUM 30BL150622
AUTHORISED-PURPOSES DOMESTIC
INTENDED-PURPOSES DOMESTIC
WORK-TYPE Bore
WORK-STATUS (Unknown)
CONSTRUCTION-METHOD Rotary Air
OWNER-TYPE Private
COMMENCE-DATE
COMPLETION-DATE 1992-09-12
FINAL-DEPTH (metres) 24.00
DRILLED-DEPTH (metres) 24.00
CONTRACTOR-NAME
DRILLER-NAME
PROPERTY N/A
GWMA - CENTRAL WEST FRACTURED ROCKS
GW-ZONE - MOONEY MOONEY AND MULLET CREEKS GROUNDWATER SOURCE
STANDING-WATER-LEVEL 8.00
SALINITY
YIELD 1.14

Site Details [\(top\)](#)

REGION 30 - NORTH COAST
RIVER-BASIN 205 - BELLINGER RIVER
AREA-DISTRICT
CMA-MAP
GRID-ZONE
SCALE
ELEVATION
ELEVATION-SOURCE Est. Contour 8-15M.
NORTHING 6646912.00
EASTING 509745.00
LATITUDE 30 18' 34"
LONGITUDE 153 6' 5"
GS-MAP 0092A2

AMG-ZONE 56
 COORD-SOURCE GD.,ACC.MAP
 REMARK

Form-A (top)

COUNTY RALEIGH
 PARISH BONVILLE
 PORTION-LOT-DP LOT 1 DP847730

Licensed (top)

COUNTY RALEIGH
 PARISH BONVILLE
 PORTION-LOT-DP LT100 DP813873

Construction (top)

Negative depths indicate Above Ground Level;H-Hole;P-Pipe;OD-Outside Diameter;
 ID-Inside Diameter;C-Cemented;SL-Slot Length;A-Aperture;GS-Grain Size;Q-Quantity

HOLE- NO	PIPE- NO	COMPONENT- CODE	COMPONENT- TYPE	DEPTH- FROM (metres)	DEPTH- TO (metres)	OD (mm)	ID (mm)	INTERVAL	DETAIL
1		Hole	Hole	0.00	8.00	170			Rotary Air
1		Hole	Hole	8.00	24.00	170			Down Hole Hammer
1	1	Casing	PVC Class 9	-0.30	24.00	152	-98		Glued; Sealed on Bottom
1	1	Opening	Slots - Vertical	19.50	24.00	152		1	PVC Class 9; SL: 100mm; A: 2.6mm

Water Bearing Zones (top)

FROM- DEPTH (metres)	TO- DEPTH (metres)	THICKNESS (metres)	ROCK- CAT- DESC	S- W-L	D- D- L	YIELD	TEST- HOLE- DEPTH (metres)	DURATION	SALINITY
19.50	24.00	4.50	Fractured	8.00	1.14	24.00	0.75		Good

Drillers Log (top)

FROM	TO	THICKNESS	DESC	GEO-MATERIAL	COMMENT
0.00	3.00	3.00	Shale fill		
3.00	3.50	0.50	Black topsoil		
3.50	3.90	0.40	Brown clay		
3.90	8.00	4.10	Brown Shale		
8.00	10.00	2.00	Grey shale		

10.00	19.50	9.50	Basalt
19.50	24.00	4.50	broken basalt

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Groundwater Works Summary

For information on the meaning of fields please see [Glossary](#)
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Work Requested -- GW300018

Works Details [\(top\)](#)

GROUNDWATER NUMBER GW300018
LIC-NUM 30BL154186
AUTHORISED-PURPOSES INDUSTRIAL
INTENDED-PURPOSES COMMERCIAL DOMESTIC INDUSTRIAL
WORK-TYPE Bore
WORK-STATUS (Unknown)
CONSTRUCTION-METHOD Rotary Air
OWNER-TYPE
COMMENCE-DATE
COMPLETION-DATE
FINAL-DEPTH (metres) 45.00
DRILLED-DEPTH (metres) 45.00
CONTRACTOR-NAME
DRILLER-NAME
PROPERTY N/A
GWMA - CENTRAL WEST FRACTURED ROCKS
GW-ZONE - MOONEY MOONEY AND MULLET CREEKS GROUNDWATER SOURCE
STANDING-WATER-LEVEL 12.00
SALINITY
YIELD 0.50

Site Details [\(top\)](#)

REGION 30 - NORTH COAST
RIVER-BASIN
AREA-DISTRICT
CMA-MAP
GRID-ZONE
SCALE
ELEVATION
ELEVATION-SOURCE
NORTHING 6646857.00
EASTING 509723.00
LATITUDE 30 18' 36"
LONGITUDE 153 6' 4"
GS-MAP

AMG-ZONE 56
 COORD-SOURCE
 REMARK

Form-A [\(top\)](#)

COUNTY FITZROY
 PARISH COFF
 PORTION-LOT-DP LOT13 DP871648

Licensed [\(top\)](#)

COUNTY RALEIGH
 PARISH BONVILLE
 PORTION-LOT-DP 13 871648

Construction [\(top\)](#)

Negative depths indicate Above Ground Level;H-Hole;P-Pipe;OD-Outside Diameter;
 ID-Inside Diameter;C-Cemented;SL-Slot Length;A-Aperture;GS-Grain Size;Q-Quantity

HOLE- NO	PIPE- NO	COMPONENT- CODE	COMPONENT- TYPE	DEPTH- FROM (metres)	DEPTH- TO (metres)	OD (mm)	ID (mm)	INTERVAL	DETAIL
1		Hole	Hole	0.00	45.00	165			Rotary Air
1	1	Casing	PVC Class 9	0.00	45.00	125			Glued; Seated on Bottom
1	1	Opening	Slots - Vertical	15.00	21.00	125		1	PVC; Sawn; SL: 6mm; A: 1mm
1	1	Opening	Slots - Vertical	22.00	30.00			2	Sawn; SL: 8mm; A: 1mm

Water Bearing Zones [\(top\)](#)

FROM- DEPTH (metres)	TO- DEPTH (metres)	THICKNESS (metres)	ROCK- CAT- DESC	S-W- L	D- D- L	YIELD	TEST- HOLE- DEPTH (metres)	DURATION	SALINITY
15.00	16.00	1.00		12.00	0.25	45.00	1.00	Good	
24.00	30.00	6.00		12.00	0.25	45.00	2.00	Good	

Drillers Log [\(top\)](#)

FROM	TO	THICKNESS	DESC	GEO-MATERIAL	COMMENT
0.00	1.00	1.00	CLAY		
1.00	6.00	5.00	SHALE		
6.00	9.00	3.00	CLAY		
9.00	45.00	36.00	SHALE		

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Work Requested -- GW300593

Works Details [\(top\)](#)

GROUNDWATER NUMBER GW300593
LIC-NUM 30BL176636
AUTHORISED-PURPOSES DOMESTIC
INTENDED-PURPOSES DOMESTIC
WORK-TYPE Bore
WORK-STATUS (Unknown)
CONSTRUCTION-METHOD Rotary Air
OWNER-TYPE
COMMENCE-DATE
COMPLETION-DATE 1995-01-06
FINAL-DEPTH (metres) 36.00
DRILLED-DEPTH (metres) 36.00
CONTRACTOR-NAME
DRILLER-NAME
PROPERTY HARRIS
GWMA - CENTRAL WEST FRACTURED ROCKS
GW-ZONE - MOONEY MOONEY AND MULLET CREEKS GROUNDWATER SOURCE
STANDING-WATER-LEVEL 6.00
SALINITY
YIELD 1.82

Site Details [\(top\)](#)

REGION 30 - NORTH COAST
RIVER-BASIN
AREA-DISTRICT
CMA-MAP
GRID-ZONE
SCALE
ELEVATION
ELEVATION-SOURCE
NORTHING 6646821.00
EASTING 509853.00
LATITUDE 30 18' 37"
LONGITUDE 153 6' 9"
GS-MAP

AMG-ZONE 56
COORD-SOURCE
REMARK

Form-A [\(top\)](#)

COUNTY RALEIGH
PARISH BONVILLE
PORTION-LOT-DP LOT 70 DP838347

Licensed [\(top\)](#)

COUNTY RALEIGH
PARISH BONVILLE
PORTION-LOT-DP 70 838347

Construction [\(top\)](#)

Negative depths indicate Above Ground Level;H-Hole;P-Pipe;OD-Outside Diameter;
ID-Inside Diameter;C-Cemented;SL-Slot Length;A-Aperture;GS-Grain Size;Q-Quantity

HOLE- NO	PIPE- NO	COMPONENT- CODE	COMPONENT- TYPE	DEPTH- FROM (metres)	DEPTH- TO (metres)	OD (mm)	ID (mm)	INTERVAL	DETAIL
1		Hole	Hole	0.00	16.00	140			Rotary Air
1		Hole	Hole	16.00	36.00	140			Down Hole Hammer
1	1	Casing	PVC Class 9	0.00	36.00	125	-75		Glued; Seated on Bottom; Cap
1	1	Opening	Slots - Vertical	31.00	36.00	125			PVC Class 9; Sawn; SL: 100mm; A: 2.6mm

Water Bearing Zones [\(top\)](#)

FROM- DEPTH (metres)	TO-DEPTH (metres)	THICKNESS (metres)	ROCK- CAT- DESC	S- W-L	D- D- L	YIELD	TEST-HOLE- DEPTH (metres)	DURATION	SALINITY
31.00	36.00	5.00		6.00		1.82	36.00	1.00	Good

Drillers Log [\(top\)](#)

FROM	TO	THICKNESS	DESC	GEO-MATERIAL	COMMENT
0.00	0.30	0.30	BROWN TOPSOIL		
0.30	6.00	5.70	BROWN PUG CLAY		
6.00	16.00	10.00	BROWN SHALE		
16.00	31.00	15.00	BASALT		
31.00	36.00	5.00	BROKEN BASALT		

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Groundwater Works Summary

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Work Requested -- GW301011

Works Details ([top](#))

GROUNDWATER NUMBER GW301011
LIC-NUM 30BL152516
AUTHORISED-PURPOSES DOMESTIC STOCK
INTENDED-PURPOSES DOMESTIC
WORK-TYPE Bore
WORK-STATUS (Unknown)
CONSTRUCTION-METHOD Rotary Air
OWNER-TYPE Private
COMMENCE-DATE
COMPLETION-DATE 1993-07-10
FINAL-DEPTH (metres) 37.00
DRILLED-DEPTH (metres) 37.00
CONTRACTOR-NAME
DRILLER-NAME
PROPERTY N/A
GWMA - CENTRAL WEST FRACTURED ROCKS
GW-ZONE - MOONEY MOONEY AND MULLET CREEKS GROUNDWATER SOURCE
STANDING-WATER-LEVEL 6.00
SALINITY
YIELD 1.26

Site Details ([top](#))

REGION 30 - NORTH COAST
RIVER-BASIN
AREA-DISTRICT
CMA-MAP
GRID-ZONE
SCALE
ELEVATION
ELEVATION-SOURCE
NORTHING 6646861.00
EASTING 509152.00
LATITUDE 30 18' 36"
LONGITUDE 153 5' 43"
GS-MAP

AMG-ZONE 56
 COORD-SOURCE Map Interpretation
 REMARK

Form-A [\(top\)](#)

COUNTY RALEIGH
 PARISH BONVILLE
 PORTION-LOT-DP LOT 20 DP 583095

Licensed [\(top\)](#)

COUNTY RALEIGH
 PARISH BONVILLE
 PORTION-LOT-DP 20 583095

Construction [\(top\)](#)

Negative depths indicate Above Ground Level; H-Hole; P-Pipe; OD-Outside Diameter;
 ID-Inside Diameter; C-Cemented; SL-Slot Length; A-Aperture; GS-Grain Size; Q-Quantity

HOLE- NO	PIPE- NO	COMPONENT- CODE	COMPONENT- TYPE	DEPTH- FROM (metres)	DEPTH- TO (metres)	OD (mm)	ID (mm)	INTERVAL	DETAIL
1		Hole	Hole	0.00	27.00	170			Rotary
1		Hole	Hole	27.00	37.00	170			Percussion
1	1	Casing	PVC Class 9	0.00	37.00	152			Glued; Seated on Bottom
1	1	Opening	Slots - Vertical	32.00	37.00	152			PVC Class 9; Sawn; SL: 100mm; A: 2.6mm

Water Bearing Zones [\(top\)](#)

FROM- DEPTH (metres)	TO-DEPTH (metres)	THICKNESS (metres)	ROCK- CAT- DESC	S- W-L	D- D- L	YIELD	TEST-HOLE- DEPTH (metres)	DURATION	SALINITY
32.00	37.00	5.00		6.00		1.26	37.00	1.00	Good

Drillers Log [\(top\)](#)

FROM	TO	THICKNESS	DESC	GEO-MATERIAL	COMMENT
0.00	0.60	0.60	BLACK TOPSOIL		
0.60	3.00	2.40	BROWN CLAY		
3.00	6.00	3.00	RED MOTTLED CLAY		
6.00	27.00	21.00	BROWN SHALE		
27.00	37.00	10.00	BROKEN BASALT		

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Groundwater Works Summary

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Work Requested -- GW304939

Works Details [\(top\)](#)

GROUNDWATER NUMBER GW304939
LIC-NUM 30BL183087
AUTHORISED-PURPOSES DOMESTIC
INTENDED-PURPOSES DOMESTIC
WORK-TYPE Bore
WORK-STATUS
CONSTRUCTION-METHOD Rotary - Percussion (Down Hole Hammer)
OWNER-TYPE
COMMENCE-DATE
COMPLETION-DATE 2004-10-28
FINAL-DEPTH (metres) 24.50
DRILLED-DEPTH (metres) 24.50
CONTRACTOR-NAME
DRILLER-NAME
PROPERTY ROBB'S
GWMA - CENTRAL WEST FRACTURED ROCKS
GW-ZONE - MOONEY MOONEY AND MULLET CREEKS GROUNDWATER SOURCE
STANDING-WATER-LEVEL 5.00
SALINITY 400.00
YIELD 0.50

Site Details [\(top\)](#)

REGION 30 - NORTH COAST
RIVER-BASIN
AREA-DISTRICT
CMA-MAP
GRID-ZONE
SCALE
ELEVATION
ELEVATION-SOURCE
NORTHING 6646937.00
EASTING 508842.00
LATITUDE 30 18' 33"
LONGITUDE 153 5' 31"
GS-MAP

AMG-ZONE 56
 COORD-SOURCE
 REMARK

Form-A [\(top\)](#)

COUNTY RALEIGH
 PARISH BONVILLE
 PORTION-LOT-DP 17 1070670

Licensed [\(top\)](#)

COUNTY RALEIGH
 PARISH BONVILLE
 PORTION-LOT-DP 17 1070670

Construction [\(top\)](#)

Negative depths indicate Above Ground Level;H-Hole;P-Pipe;OD-Outside Diameter;
 ID-Inside Diameter;C-Cemented;SL-Slot Length;A-Aperture;GS-Grain Size;Q-Quantity

HOLE- NO	PIPE- NO	COMPONENT- CODE	COMPONENT- TYPE	DEPTH- FROM (metres)	DEPTH- TO (metres)	OD (mm)	ID (mm)	INTERVAL	DETAIL
1		Hole	Hole	0.00	11.00	195			Rotary Air
1		Hole	Hole	11.00	24.50	175			Rotary - Percussion (Down Hole Hammer)
1	1	Casing	PVC Class 9	0.00	24.00	145	135		Glued; Cemented PVC Class 9; Casing -
1	1	Opening	Slots - Vertical	18.00	22.00	145			Hand Sawn Slot; SL: 100mm; A: 2mm
1		Annulus	(Unknown)	15.00	24.50				Graded; GS: 3-3.5mm; Q: .2m³

Water Bearing Zones [\(top\)](#)

FROM- DEPTH (metres)	TO-DEPTH (metres)	THICKNESS (metres)	ROCK- CAT- DESC	S- W-L	D- D- L	YIELD	TEST-HOLE- DEPTH (metres)	DURATION	SALINITY
19.00	19.50	0.50		5.00	0.50	24.50	2.00	400.00	

Drillers Log [\(top\)](#)

FROM	TO	THICKNESS	DESC	GEO-MATERIAL	COMMENT
0.00	0.11	0.11	soil		
0.11	1.00	0.89	clay brown		

1.00	10.00	9.00	silty clay brown
10.00	12.20	2.20	weathered silt / stone
12.20	19.00	6.80	silt stone hard blue
19.00	19.50	0.50	water out
19.50	24.50	5.00	silt stone hard blue

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Groundwater Works Summary

For information on the meaning of fields please see [Glossary](#)
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Work Requested -- GW300360

Works Details ([top](#))

GROUNDWATER NUMBER GW300360
LIC-NUM 30BL154289
AUTHORISED-PURPOSES DOMESTIC
INTENDED-PURPOSES DOMESTIC
WORK-TYPE Bore
WORK-STATUS (Unknown)
CONSTRUCTION-METHOD Rotary
OWNER-TYPE Private
COMMENCE-DATE
COMPLETION-DATE 1994-05-01
FINAL-DEPTH (metres) 52.00
DRILLED-DEPTH (metres)
CONTRACTOR-NAME
DRILLER-NAME
PROPERTY BAILEY'S
GWMA - CENTRAL WEST FRACTURED ROCKS
GW-ZONE - MOONEY MOONEY AND MULLET CREEKS GROUNDWATER SOURCE
STANDING-WATER-LEVEL 50.00
SALINITY
YIELD 5.04

Site Details ([top](#))

REGION 30 - NORTH COAST
RIVER-BASIN 205 - BELLINGER RIVER
AREA-DISTRICT
CMA-MAP
GRID-ZONE
SCALE
ELEVATION
ELEVATION-SOURCE
NORTHING 6646917.00
EASTING 508720.00
LATITUDE 30 18' 34"
LONGITUDE 153 5' 26"
GS-MAP

AMG-ZONE 56
 COORD-SOURCE Map Interpretation
 REMARK

Form-A (top)

COUNTY RALEIGH
 PARISH BONVILLE
 PORTION-LOT-DP LOT 1 DP773626

Licensed (top)

COUNTY RALEIGH
 PARISH BONVILLE
 PORTION-LOT-DP 1 773626

Construction (top)

Negative depths indicate Above Ground Level;H-Hole;P-Pipe;OD-Outside Diameter;
 ID-Inside Diameter;C-Cemented;SL-Slot Length;A-Aperture;GS-Grain Size;Q-Quantity

HOLE- NO	PIPE- NO	COMPONENT- CODE	COMPONENT- TYPE	DEPTH- FROM (metres)	DEPTH- TO (metres)	OD (mm)	ID (mm)	INTERVAL	DETAIL
1		Hole	Hole	0.00	52.00				Rotary
1	1	Casing	P.V.C.	0.00	52.00	125			
1	1	Opening	Slots	40.00	46.00	125		1	PVC

Water Bearing Zones (top)

FROM- DEPTH (metres)	TO- DEPTH (metres)	THICKNESS (metres)	ROCK- CAT- DESC	S-W- L	D-D- L	YIELD	TEST- HOLE- DEPTH (metres)	DURATION	SALINITY
0.00	52.00	52.00		50.00	40.00	5.04	50.00		Potable

Drillers Log (top)

no details

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Groundwater Works Summary

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Work Requested -- GW061642

Works Details [\(top\)](#)

GROUNDWATER NUMBER GW061642
LIC-NUM 30BL133943
AUTHORISED-PURPOSES DOMESTIC
INTENDED-PURPOSES DOMESTIC
WORK-TYPE Bore
WORK-STATUS (Unknown)
CONSTRUCTION-METHOD Rotary Air
OWNER-TYPE Private
COMMENCE-DATE
COMPLETION-DATE 1986-03-01
FINAL-DEPTH (metres) 53.00
DRILLED-DEPTH (metres) 53.00
CONTRACTOR-NAME
DRILLER-NAME
PROPERTY N/A
GWMA - CENTRAL WEST FRACTURED ROCKS
GW-ZONE - MOONEY MOONEY AND MULLET CREEKS GROUNDWATER SOURCE
STANDING-WATER-LEVEL
SALINITY
YIELD

Site Details [\(top\)](#)

REGION 30 - NORTH COAST
RIVER-BASIN 205 - BELLINGER RIVER
AREA-DISTRICT
CMA-MAP 9537-3N
GRID-ZONE 56/2
SCALE 1:25,000
ELEVATION
ELEVATION-SOURCE (Unknown)
NORTHING 6647006.00
EASTING 508490.00
LATITUDE 30 18' 31"
LONGITUDE 153 5' 18"
GS-MAP 0092A2

AMG-ZONE 56
 COORD-SOURCE GD.,ACC.MAP
 REMARK

Form-A (top)

COUNTY RALEIGH
 PARISH BONVILLE
 PORTION-LOT-DP L3 (23)

Licensed (top)

COUNTY RALEIGH
 PARISH BONVILLE
 PORTION-LOT-DP LT3 PT23

Construction (top)

Negative depths indicate Above Ground Level;H-Hole;P-Pipe;OD-Outside Diameter;
 ID-Inside Diameter;C-Cemented;SL-Slot Length;A-Aperture;GS-Grain Size;Q-Quantity

HOLE- NO	PIPE- NO	COMPONENT- CODE	COMPONENT- TYPE	DEPTH- FROM (metres)	DEPTH- TO (metres)	OD (mm)	ID (mm)	INTERVAL	DETAIL
1	1	Casing	P.V.C.	0.00	53.00	125			Seated on Bottom
1	1	Opening	Slots - Vertical	14.00	20.00	125		1	SL: 0mm; A: 3mm
1	1	Opening	Slots - Vertical	47.00	53.00	125		2	SL: 0mm; A: 3mm

Water Bearing Zones (top)

FROM- DEPTH (metres)	TO- DEPTH (metres)	THICKNESS (metres)	ROCK- CAT-DESC	S- W- L	D- D- L	YIELD	TEST- HOLE- DEPTH (metres)	DURATION	SALINITY
16.00	28.00	12.00	Fractured			0.39			(Unknown)
45.00	50.00	5.00	(Unknown)			1.56			(Unknown)

Drillers Log (top)

FROM	TO	THICKNESS	DESC	GEO-MATERIAL	COMMENT
0.00	3.00	3.00	Shale		
3.00	16.00	13.00	Basalt		
16.00	18.00	2.00	Rock Broken Shale	Water Supply	
18.00	40.00	22.00	Basalt	Water Supply	
18.00	40.00	22.00	Quartz Shale		

40.00	45.00	5.00	Basalt Hard
45.00	50.00	5.00	Rock Broken Water Supply
50.00	53.00	3.00	Basalt

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Appendix B

Engineering Logs

Soil Description Explanation Sheet (1 of 2)

DEFINITION:

In engineering terms soil includes every type of uncemented or partially cemented inorganic or organic material found in the ground. In practice, if the material can be remoulded or disintegrated by hand in its field condition or in water it is described as a soil. Other materials are described using rock description terms.

CLASSIFICATION SYMBOL & SOIL NAME

Soils are described in accordance with the Unified Soil Classification (UCS) as shown in the table on Sheet 2.

PARTICLE SIZE DESCRIPTIVE TERMS

NAME	SUBDIVISION	SIZE
Boulders		>200 mm
Cobbles		63 mm to 200 mm
Gravel	coarse	20 mm to 63 mm
	medium	6 mm to 20 mm
	fine	2.36 mm to 6 mm
Sand	coarse	600 µm to 2.36 mm
	medium	200 µm to 600 µm
	fine	75 µm to 200 µm

MOISTURE CONDITION

Dry Looks and feels dry. Cohesive and cemented soils are hard, friable or powdery. Uncemented granular soils run freely through hands.

Moist Soil feels cool and darkened in colour. Cohesive soils can be moulded. Granular soils tend to cohere.

Wet As for moist but with free water forming on hands when handled.

CONSISTENCY OF COHESIVE SOILS

TERM	UNDRAINED STRENGTH s_u (kPa)	FIELD GUIDE
Very Soft	<12	A finger can be pushed well into the soil with little effort.
Soft	12 - 25	A finger can be pushed into the soil to about 25mm depth.
Firm	25 - 50	The soil can be indented about 5mm with the thumb, but not penetrated.
Stiff	50 - 100	The surface of the soil can be indented with the thumb, but not penetrated.
Very Stiff	100 - 200	The surface of the soil can be marked, but not indented with thumb pressure.
Hard	>200	The surface of the soil can be marked only with the thumbnail.
Friable	–	Crumbles or powders when scraped by thumbnail.

DENSITY OF GRANULAR SOILS

TERM	DENSITY INDEX (%)
Very loose	Less than 15
Loose	15 - 35
Medium Dense	35 - 65
Dense	65 - 85
Very Dense	Greater than 85

MINOR COMPONENTS

TERM	ASSESSMENT GUIDE	PROPORTION OF MINOR COMPONENT IN:
Trace of	Presence just detectable by feel or eye, but soil properties little or no different to general properties of primary component.	Coarse grained soils: <5% Fine grained soils: <15%
With some	Presence easily detected by feel or eye, soil properties little different to general properties of primary component.	Coarse grained soils: 5 - 12% Fine grained soils: 15 - 30%

SOIL STRUCTURE

ZONING	CEMENTING
Layers Continuous across exposure or sample.	Weakly cemented Easily broken up by hand in air or water.
Lenses Discontinuous layers of lenticular shape.	Moderately cemented Effort is required to break up the soil by hand in air or water.
Pockets Irregular inclusions of different material.	

GEOLOGICAL ORIGIN

WEATHERED IN PLACE SOILS

Extremely weathered material Structure and fabric of parent rock visible.

Residual soil Structure and fabric of parent rock not visible.

TRANSPORTED SOILS

Aeolian soil Deposited by wind.

Alluvial soil Deposited by streams and rivers.

Colluvial soil Deposited on slopes (transported downslope by gravity).

Fill Man made deposit. Fill may be significantly more variable between tested locations than naturally occurring soils.

Lacustrine soil Deposited by lakes.

Marine soil Deposited in ocean basins, bays, beaches and estuaries.

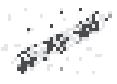
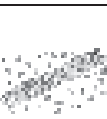
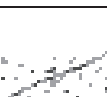
Soil Description Explanation Sheet (2 of 2)

SOIL CLASSIFICATION INCLUDING IDENTIFICATION AND DESCRIPTION

FIELD IDENTIFICATION PROCEDURES (Excluding particles larger than 60 mm and basing fractions on estimated mass)				USC	PRIMARY NAME
COARSE GRAINED SOILS More than 50% of materials less than 63 mm is larger than 0.075 mm	GRAVELS More than half of coarse fraction is larger than 2.0 mm	CLEAN GRAVELS (Little or no fines)	Wide range in grain size and substantial amounts of all intermediate particle sizes.	GW	GRAVEL
			Predominantly one size or a range of sizes with more intermediate sizes missing.	GP	GRAVEL
		GRAVELS WITH FINES (Appreciable amount of fines)	Non-plastic fines (for identification procedures see ML below)	GM	SILTY GRAVEL
			Plastic fines (for identification procedures see CL below)	GC	CLAYEY GRAVEL
	SANDS More than half of coarse fraction is smaller than 2.0 mm	CLEAN SANDS (Little or no fines)	Wide range in grain sizes and substantial amounts of all intermediate sizes missing	SW	SAND
			Predominantly one size or a range of sizes with some intermediate sizes missing.	SP	SAND
		SANDS WITH FINES (Appreciable amount of fines)	Non-plastic fines (for identification procedures see ML below).	SM	SILTY SAND
			Plastic fines (for identification procedures see CL below).	SC	CLAYEY SAND
FINE GRAINED SOILS More than 50% of material less than 63 mm is smaller than 0.075 mm	IDENTIFICATION PROCEDURES ON FRACTIONS <0.2 mm.				
	SILTS & CLAYS Liquid limit less than 50	DRY STRENGTH	DILATANCY	TOUGHNESS	
		None to Low	Quick to slow	None	ML SILT
		Medium to High	None	Medium	CL CLAY
		Low to medium	Slow to very slow	Low	OL ORGANIC SILT
	SILTS & CLAYS Liquid limit greater than 50	Low to medium	Slow to very slow	Low to medium	MH SILT
		High	None	High	CH CLAY
		Medium to High	None	Low to medium	OH ORGANIC CLAY
HIGHLY ORGANIC SOILS	Readily identified by colour, odour, spongy feel and frequently by fibrous texture.			Pt	PEAT

• Low plasticity – Liquid Limit W_L less than 35%. • Medium plasticity – W_L between 35% and 50%.

COMMON DEFECTS IN SOIL

TERM	DEFINITION	DIAGRAM	TERM	DEFINITION	DIAGRAM
PARTING	A surface or crack across which the soil has little or no tensile strength. Parallel or sub parallel to layering (eg bedding). May be open or closed.		SOFTENED ZONE	A zone in clayey soil, usually adjacent to a defect in which the soil has a higher moisture content than elsewhere.	
JOINT	A surface or crack across which the soil has little or no tensile strength but which is not parallel or sub parallel to layering. May be open or closed. The term 'fissure' may be used for irregular joints <0.2 m in length.		TUBE	Tubular cavity. May occur singly or as one of a large number of separate or inter-connected tubes. Walls often coated with clay or strengthened by denser packing of grains. May contain organic matter	
SHEARED ZONE	Zone in clayey soil with roughly parallel near planar, curved or undulating boundaries containing closely spaced, smooth or slickensided, curved intersecting joints which divide the mass into lenticular or wedge shaped blocks.		TUBE CAST	Roughly cylindrical elongated body of soil different from the soil mass in which it occurs. In some cases the soil which makes up the tube cast is cemented.	
SHEARED SURFACE	A near planar curved or undulating, smooth, polished or slickensided surface in clayey soil. The polished or slickensided surface indicates that movement (in many cases very little) has occurred along the defect.		INFILLED SEAM	Sheet or wall like body of soil substance or mass with roughly planar to irregular near parallel boundaries which cuts through a soil mass. Formed by infilling of open joints.	

Rock Description Explanation Sheet (1 of 2)

The descriptive terms used by Coffey are given below. They are broadly consistent with Australian Standard AS1726-1993.

DEFINITIONS: Rock substance, defect and mass are defined as follows:

Rock Substance In engineering terms rock substance is any naturally occurring aggregate of minerals and organic material which cannot be disintegrated or remoulded by hand in air or water. Other material is described using soil descriptive terms. Effectively homogenous material, may be isotropic or anisotropic.

Defect Discontinuity or break in the continuity of a substance or substances.

Mass Any body of material which is not effectively homogeneous. It can consist of two or more substances without defects, or one or more substances with one or more defects.

SUBSTANCE DESCRIPTIVE TERMS:

ROCK NAME Simple rock names are used rather than precise geological classification.

PARTICLE SIZE Grain size terms for sandstone are:
Coarse grained Mainly 0.6mm to 2mm
Medium grained Mainly 0.2mm to 0.6mm
Fine grained Mainly 0.06mm (just visible) to 0.2mm

FABRIC Terms for layering of penetrative fabric (eg. bedding, cleavage etc.) are:

Massive No layering or penetrative fabric.

Indistinct Layering or fabric just visible. Little effect on properties.

Distinct Layering or fabric is easily visible. Rock breaks more easily parallel to layering of fabric.

CLASSIFICATION OF WEATHERING PRODUCTS

Term	Abbreviation	Definition
Residual Soil	RS	Soil derived from the weathering of rock; the mass structure and substance fabric are no longer evident; there is a large change in volume but the soil has not been significantly transported.
Extremely Weathered Material	XW	Material is weathered to such an extent that it has soil properties, ie, it either disintegrates or can be remoulded in water. Original rock fabric still visible.
Highly Weathered Rock	HW	Rock strength is changed by weathering. The whole of the rock substance is discoloured, usually by iron staining or bleaching to the extent that the colour of the original rock is not recognisable. Some minerals are decomposed to clay minerals. Porosity may be increased by leaching or may be decreased due to the deposition of minerals in pores.
Moderately Weathered Rock	MW	The whole of the rock substance is discoloured, usually by iron staining or bleaching, to the extent that the colour of the fresh rock is no longer recognisable.
Slightly Weathered Rock	SW	Rock substance affected by weathering to the extent that partial staining or partial discolouration of the rock substance (usually by limonite) has taken place. The colour and texture of the fresh rock is recognisable; strength properties are essentially those of the fresh rock substance.
Fresh Rock	FR	Rock substance unaffected by weathering.

Notes on Weathering:

- AS1726 suggests the term "Distinctly Weathered" (DW) to cover the range of substance weathering conditions between XW and SW. For projects where it is not practical to delineate between HW and MW or it is judged that there is no advantage in making such a distinction. DW may be used with the definition given in AS1726.
- Where physical and chemical changes were caused by hot gasses and liquids associated with igneous rocks, the term "altered" may be substituted for "weathering" to give the abbreviations XA, HA, MA, SA and DA.

ROCK SUBSTANCE STRENGTH TERMS

Term	Abbreviation	Point Load Index, I_{s50} (MPa)	Field Guide
Very Low	VL	Less than 0.1	Material crumbles under firm blows with sharp end of pick; can be peeled with a knife; pieces up to 30mm thick can be broken by finger pressure.
Low	L	0.1 to 0.3	Easily scored with a knife; indentations 1mm to 3mm show with firm bows of a pick point; has a dull sound under hammer. Pieces of core 150mm long by 50mm diameter may be broken by hand. Sharp edges of core may be friable and break during handling.
Medium	M	0.3 to 1.0	Readily scored with a knife; a piece of core 150mm long by 50mm diameter can be broken by hand with difficulty.
High	H	1 to 3	A piece of core 150mm long by 50mm can not be broken by hand but can be broken by a pick with a single firm blow; rock rings under hammer.
Very High	VH	3 to 10	Hand specimen breaks after more than one blow of a pick; rock rings under hammer.
Extremely High	EH	More than 10	Specimen requires many blows with geological pick to break; rock rings under hammer.

Notes on Rock Substance Strength:

- In anisotropic rocks the field guide to strength applies to the strength perpendicular to the anisotropy. High strength anisotropic rocks may break readily parallel to the planar anisotropy.
- The term "extremely low" is not used as a rock substance strength term. While the term is used in AS1726-1993, the field guide therein makes it clear that materials in that strength range are soils in engineering terms.
- The unconfined compressive strength for isotropic rocks (and anisotropic rocks which fall across the planar anisotropy) is typically 10 to 25 times the point load index (I_{s50}). The ratio may vary for different rock types. Lower strength rocks often have lower ratios than higher strength rocks.

Rock Description Explanation Sheet (2 of 2)

COMMON DEFECTS IN ROCK MASSES			DEFECT SHAPE		TERMS
Term	Definition	Diagram	Map Symbol	Graphic Log (Note 1)	The defect does not vary in orientation
Parting	A surface or crack across which the rock has little or no tensile strength. Parallel or sub parallel to layering (eg bedding) or a planar anisotropy in the rock substance (eg, cleavage). May be open or closed.				Planar The defect has a gradual change in orientation Curved The defect has a wavy surface Undulating The defect has one or more well defined steps Stepped The defect has many sharp changes of orientation
Joint	A surface or crack across which the rock has little or no tensile strength, but which is not parallel or sub parallel to layering or planar anisotropy in the rock substance. May be open or closed.				Note: The assessment of defect shape is partly influenced by the scale of the observation.
Sheared Zone (Note 3)	Zone of rock substance with roughly parallel near planar, curved or undulating boundaries cut by closely spaced joints, sheared surfaces or other defects. Some of the defects are usually curved and intersect to divide the mass into lenticular or wedge shaped blocks.				ROUGHNESS TERMS Slickensided Grooved or striated surface, usually polished Polished Shiny smooth surface Smooth Smooth to touch. Few or no surface irregularities Rough Many small surface irregularities (amplitude generally less than 1mm). Feels like fine to coarse sand paper. Very Rough Many large surface irregularities (amplitude generally more than 1mm). Feels like, or coarser than very coarse sand paper.
Sheared Surface (Note 3)	A near planar, curved or undulating surface which is usually smooth, polished or slickensided.				
Crushed Seam (Note 3)	Seam with roughly parallel almost planar boundaries, composed of disoriented, usually angular fragments of the host rock substance which may be more weathered than the host rock. The seam has soil properties.				COATING TERMS Clean No visible coating Stained No visible coating but surfaces are discoloured Veneer A visible coating of soil or mineral, too thin to measure; may be patchy Coating A visible coating up to 1mm thick. Thicker soil material is usually described using appropriate defect terms (eg, infilled seam). Thicker rock strength material is usually described as a vein.
Infilled Seam	Seam of soil substance usually with distinct roughly parallel boundaries formed by the migration of soil into an open cavity or joint, infilled seams less than 1mm thick may be described as veneer or coating on joint surface.				
Extremely Weathered Seam	Seam of soil substance, often with gradational boundaries. Formed by weathering of the rock substance in place.				BLOCK SHAPE TERMS Blocky Approximately equidimensional Tabular Thickness much less than length or width Columnar Height much greater than cross section
Notes on Defects: 1. Usually borehole logs show the true dip of defects and face sketches and sections the apparent dip. 2. Partings and joints are not usually shown on the graphic log unless considered significant. 3. Sheared zones, sheared surfaces and crushed seams are faults in geological terms.					

Engineering Log - Excavation

Client: **Doug Gow & Associates Pty Ltd**

Date started: **29.11.2007**

Principal: **Noubia Pty Ltd**

Date completed: **29.11.2007**

Project: **The Lakes Estate**

Logged by: **MR**

Test pit location: **Refer to Figure 6**

Checked by:

equipment type and model: 13t Excavator				Pit Orientation:				Easting: 56508898 m				R.L. Surface: Not Measured				
excavation dimensions: 2m long 0.6m wide				Northing: 6647386 m				datum:								
excavation information						material substance										
method	penetration			support	water	notes samples, tests, etc	depth metres	RL	graphic log	classification symbol	material soil type: plasticity or particle characteristics, colour, secondary and minor components.	moisture condition	consistency/ density index	pocket penetro- meter kPa	structure and additional observations	
	1	2	3													
E				N	None Observed	D				ML	TOPSOIL: Silt, low plasticity, dark brown, root affected.	M			TOPSOIL	
									ML	SILT: low plasticity, pale grey.		St			ALLUVIAL SOIL	
						D		0.5		CL	CLAY: low to medium plasticity, pale grey with orange-brown mottle. Fissured soil structure.	M>Wp	F/St	X		
								1.0						X		
								1.5		CL	CLAY: low plasticity, pale grey with orange-brown mottle. Weakly cemented, fissured clay structure, occasional orange-brown iron stone concretions, and weakly cemented silt lenses.	M=Wp	St	X		
						D		2.0							X	
								2.5								
					D		3.0				ASTP1 terminated at 3.0m depth due to limit of required investigation Test pit ASTP1 terminated at 3m				X	
							3.5									
							4.0									

Sketch

method	support	notes, samples, tests	classification symbols and soil description	consistency/density index
N natural exposure X existing excavation BH backhoe bucket B bulldozer blade R ripper E excavator	S shoring N nil penetration 1 2 3 4 no resistance ranging to refusal water water level on date shown water inflow water outflow	U ₅₀ undisturbed sample 50mm diameter U ₆₃ undisturbed sample 63mm diameter D disturbed sample V vane shear (kPa) Bs bulk sample E environmental sample R refusal	based on unified classification system moisture D dry M moist W wet Wp plastic limit WL liquid limit	VS very soft S soft F firm St stiff VSt very stiff H hard Fb friable VL very loose L loose MD medium dense D dense VD very dense

Engineering Log - Excavation

Client: **Doug Gow & Associates Pty Ltd**

Date started: **29.11.2007**

Principal: **Noubia Pty Ltd**

Date completed: **29.11.2007**

Project: **The Lakes Estate**

Logged by: **MR**

Test pit location: **Refer to Figure 6**

Checked by:

equipment type and model: 13t Excavator				Pit Orientation:				Easting: 56508907 m				R.L. Surface: Not Measured			
excavation dimensions: 2m long 0.6m wide				Northing: 6647445 m				datum:							
excavation information						material substance									
method	penetration			support	water	notes samples, tests, etc	RL	depth metres	graphic log	classification symbol	material soil type: plasticity or particle characteristics, colour, secondary and minor components.	moisture condition	consistency/ density index	pocket penetro- meter kPa 100 200 300 400	structure and additional observations
	1	2	3												
E				N		D				ML	TOPSOIL: Silt, low plasticity, dark brown, root affected.	M			TOPSOIL
								0.5		ML	Clayey SILT: low plasticity, pale grey with orange-brown mottle. Water seepage through root hole.	M>Wp	St		ALLUVIAL SOIL
										CL	CLAY: low plasticity, pale grey with orange-brown mottle.			x	
								1.0						x	
										CL	CLAY: low plasticity, pale grey with orange-brown mottle. Occasional orange-brown iron stone concretions.		St/VSt		
								1.5						x	
						D									
								2.0			Fissured soil structure.	M	H		
														x	
								2.5							
								3.0							
						D									
								3.5			ASTP2 terminated at 3.2m due to limit of required investigation Test pit ASTP2 terminated at 3.2m				
								4.0							

Sketch

method N natural exposure X existing excavation BH backhoe bucket B bulldozer blade R ripper E excavator		support S shoring N nil penetration 1 2 3 4 no resistance ranging to refusal water water level on date shown water inflow water outflow		notes, samples, tests U ₅₀ undisturbed sample 50mm diameter U ₆₃ undisturbed sample 63mm diameter D disturbed sample V vane shear (kPa) Bs bulk sample E environmental sample R refusal		classification symbols and soil description based on unified classification system moisture D dry M moist W wet Wp plastic limit WL liquid limit		consistency/density index VS very soft S soft F firm St stiff VSt very stiff H hard Fb friable VL very loose L loose MD medium dense D dense VD very dense	

Excavation No. **ASTP3**

Engineering Log - Excavation

Sheet 1 of 1

Project No: **GEOTCOFH02233AA**

Client: **Doug Gow & Associates Pty Ltd**

Date started: **29.11.2007**

Principal: **Noubia Pty Ltd**

Date completed: **29.11.2007**

Project: **The Lakes Estate**

Logged by: **MR**

Test pit location: **Refer to Figure 6**

Checked by:

equipment type and model: 13t Excavator				Pit Orientation:				Easting: 56508887 m				R.L. Surface: Not Measured			
excavation dimensions: 2m long 0.6m wide				Northing: 6647472 m				datum:							
excavation information						material substance									
method	penetration			support	water	notes samples, tests, etc	depth metres	graphic log	classification symbol	material soil type: plasticity or particle characteristics, colour, secondary and minor components.	moisture condition	consistency/ density index	pocket penetro- meter kPa	structure and additional observations	
E	1	2	3	N		D			ML	TOPSOIL: Silt, low plasticity, dark brown, root affected.	M>Wp	F	100	TOPSOIL	
							0.5		ML	Clayey SILT: low plasticity, pale grey.			200	ALLUVIAL SOIL	
						D			CL	CLAY: medium plasticity, pale grey and pale brown.			300		
							1.0		CL	CLAY: medium plasticity, pale grey with orange-brown mottle. Occasional orange-brown iron stone concretions.		St	400		
							1.5			Occasional localised pockets of firm clay (Cu 30-40kPa).		St/VSt			
						D					M<Wp				
							2.0			Fissured soil structure from 2.0m to 3.2m					
							2.5								
							3.0					VSt/H			
						D									
							3.5			ASTP3 terminated at 3.2m due to limit of required investigation. Test pit ASTP3 terminated at 3.2m					
							4.0								

Sketch

method N natural exposure X existing excavation BH backhoe bucket B bulldozer blade R ripper E excavator		support S shoring N nil penetration 1 2 3 4 no resistance ranging to refusal water water level on date shown water inflow water outflow		notes, samples, tests U ₅₀ undisturbed sample 50mm diameter U ₆₃ undisturbed sample 63mm diameter D disturbed sample V vane shear (kPa) Bs bulk sample E environmental sample R refusal		classification symbols and soil description based on unified classification system moisture D dry M moist W wet Wp plastic limit WL liquid limit		consistency/density index VS very soft S soft F firm St stiff VSt very stiff H hard Fb friable VL very loose L loose MD medium dense D dense VD very dense	

Excavation No. **ASTP4**

Engineering Log - Excavation

Sheet 1 of 1

Project No: **GEOTCOFH02233AA**

Client: **Doug Gow & Associates Pty Ltd**

Date started: **29.11.2007**

Principal: **Noubia Pty Ltd**

Date completed: **29.11.2007**

Project: **The Lakes Estate**

Logged by: **MR**

Test pit location: **Refer to Figure 6**

Checked by:

equipment type and model: 13t Excavator				Pit Orientation:				Easting: 56508915 m				R.L. Surface: Not Measured					
excavation dimensions: 2m long 0.6m wide				Northing: 6647513 m				datum:									
excavation information								material substance									
method	penetration 1 2 3			support	water	notes samples, tests, etc	depth RL metres		graphic log	classification symbol	material soil type: plasticity or particle characteristics, colour, secondary and minor components.		moisture condition	consistency/ density index	pocket penetro- meter kPa 100 200 300 400	structure and additional observations	
E				N		D			ML	TOPSOIL: Silt, low plasticity, dark brown, root affected		M			TOPSOIL		
								0.5	CL	CLAY: low plasticity, pale grey with orange-brown mottle. High silt content. Fissured soil structure.		M>Wp	F		ALLUVIAL SOIL		
								1.0								Roots and fissures provide a seepage path for water inflow.	
								1.5									
								2.0									
								2.5									
								3.0									
						D					Becoming weakly cemented		VSt				
							</										

Sketch

method N natural exposure X existing excavation BH backhoe bucket B bulldozer blade R ripper E excavator		support S shoring N nil penetration 1 2 3 4 no resistance ranging to refusal water water level on date shown water inflow water outflow		notes, samples, tests U ₅₀ undisturbed sample 50mm diameter U ₆₃ undisturbed sample 63mm diameter D disturbed sample V vane shear (kPa) Bs bulk sample E environmental sample R refusal		classification symbols and soil description based on unified classification system moisture D dry M moist W wet Wp plastic limit WL liquid limit		consistency/density index VS very soft S soft F firm St stiff VSt very stiff H hard Fb friable VL very loose L loose MD medium dense D dense VD very dense	

Engineering Log - Excavation

Client: **Doug Gow & Associates Pty Ltd**

Date started: **29.11.2007**

Principal: **Noubia Pty Ltd**

Date completed: **29.11.2007**

Project: **The Lakes Estate**

Logged by: **MR**

Test pit location: **Refer to Figure 6**

Checked by:

equipment type and model: 13t Excavator					Pit Orientation:					Easting: 56508882 m					R.L. Surface: Not Measured				
excavation dimensions: 2m long 0.6m wide					Northing: 6647546 m					datum:									
excavation information										material substance									
method	penetration			support	water	notes samples, tests, etc	depth RL metres		graphic log	classification symbol	material	moisture condition	consistency/density index	pocket penetrometer kPa	structure and additional observations				
E	1	2	3	N	None Observed	D	0.5		ML	CL	TOPSOIL: Silt, low plasticity, dark brown, root affected. CLAY: low plasticity, pale grey and pale brown, high silt content. CLAY: low to medium plasticity, pale grey and pale brown. With occasional orange iron stone concretions. Fissured soil structure.	M	F	100 200 300 400	TOPSOIL				
				D		M>Wp			ALLUVIAL SOIL										
				D		M=Wp			St/VSt			X							
						1.0		X											
				D		1.5													
						2.0													
						2.5													
				D		3.0				X									
					3.5					ASTP5 terminated at 3.3m due to limit of required investigation Test pit ASTP5 terminated at 3.3m									
					4.0														

Sketch

method	support	notes, samples, tests	classification symbols and soil description	consistency/density index
N natural exposure X existing excavation BH backhoe bucket B bulldozer blade R ripper E excavator	S shoring N nil penetration 1 2 3 4 no resistance ranging to refusal water water level on date shown water inflow water outflow	U ₅₀ undisturbed sample 50mm diameter U ₆₃ undisturbed sample 63mm diameter D disturbed sample V vane shear (kPa) Bs bulk sample E environmental sample R refusal	based on unified classification system moisture D dry M moist W wet Wp plastic limit WL liquid limit	VS very soft S soft F firm St stiff VSt very stiff H hard Fb friable VL very loose L loose MD medium dense D dense VD very dense

Engineering Log - Excavation

Client: **Doug Gow & Associates Pty Ltd**

Date started: **29.11.2007**

Principal: **Noubia Pty Ltd**

Date completed: **29.11.2007**

Project: **The Lakes Estate**

Logged by: **MR**

Test pit location: **Refer to Figure 6**

Checked by:

equipment type and model: 13t Excavator				Pit Orientation:		Easting: 56508931 m		R.L. Surface: Not Measured						
excavation dimensions: 2m long 0.6m wide				Northing: 6647554 m		datum:								
excavation information					material substance									
method	penetration			support	water	notes samples, tests, etc	depth metres	graphic log	classification symbol	material	moisture condition	consistency/ density index	pocket penetro- meter kPa	structure and additional observations
E	1	2	3	N	None Observed	D			ML	TOPSOIL: Silt, low plasticity, dark brown, root affected.	M			TOPSOIL
							0.5		ML	SILT: low plasticity, pale grey and pale brown, with some clay lenses. Dilatency indicates very high silt content.	M>Wp	F	x	ALLUVIAL SOIL
							1.0						x	
						D	1.5		CL	CLAY: medium plasticity, pale grey and pale brown mottle. Fissured soil structure, occasional iron stone concretions, some iron oxide staining along fissures.	M=Wp	St/VSt	x	
							2.0						x	
						2.5							x	
						3.0							x	
						D								
							3.5			ASTP6 terminated at 3.1m due to limit of required investigation. Test pit ASTP6 terminated at 3.1m				
							4.0							

Sketch

method N natural exposure X existing excavation BH backhoe bucket B bulldozer blade R ripper E excavator		support S shoring N nil penetration 1 2 3 4 no resistance ranging to refusal water water level on date shown water inflow water outflow		notes, samples, tests U ₅₀ undisturbed sample 50mm diameter U ₆₃ undisturbed sample 63mm diameter D disturbed sample V vane shear (kPa) Bs bulk sample E environmental sample R refusal		classification symbols and soil description based on unified classification system moisture D dry M moist W wet Wp plastic limit WL liquid limit		consistency/density index VS very soft S soft F firm St stiff VSt very stiff H hard Fb friable VL very loose L loose MD medium dense D dense VD very dense	

Engineering Log - Excavation

Client: **Doug Gow & Associates Pty Ltd**
Principal: **Noubia Pty Ltd**
Project: **The Lakes Estate**
Test pit location: **Refer to Figure 6**

Excavation No. **ASTP7**

Sheet 1 of 1

Project No: **GEOTCOFH02233AA**

Date started: **29.11.2007**

Date completed: **29.11.2007**

Logged by: **MR**

Checked by:

equipment type and model: 13t Excavator Pit Orientation: Easting: 56508867 m R.L. Surface: Not Measured
excavation dimensions: 2m long 0.6m wide Northing: 6647565 m datum:

excavation information					material substance												
method	penetration			support	water	notes samples, tests, etc	RL	depth metres	graphic log	classification symbol	material soil type: plasticity or particle characteristics, colour, secondary and minor components.	moisture condition	consistency/ density index	pocket penetro- meter			structure and additional observations
	1	2	3											100 kPa	200 kPa	300 kPa	
E				N	Observed					ML	TOPSOIL: Silt, low plasticity, dark brown, root affected.	M	F				TOPSOIL
								0.5		ML	SILT: low plasticity, grey.						ALLUVIAL SOIL
					D			1.0		CL	CLAY: low to medium plasticity, pale grey and pale brown. Occasional pockets of soft clay (Cu<20kPa), possibly root holes.			x	x		
								1.5		CL	CLAY: low plasticity, pale grey, occasional weakly cemented silt zones.	M-D	St/VSt		x	x	
					D			2.0		CL	CLAY: low to medium plasticity, pale grey with orange-brown mottle. Occasional iron stone concretions, fissured soil structure.	M>Wp			x		
								2.5					H			x	
					D			3.0									
								3.5			ASTP7 terminated at 3.0m due to limit of required investigation. Test pit ASTP7 terminated at 3m						
								4.0									

Sketch

method N natural exposure X existing excavation BH backhoe bucket B bulldozer blade R ripper E excavator	support S shoring N nil penetration 1 2 3 4 no resistance ranging to refusal water water level on date shown water inflow water outflow	notes, samples, tests U ₅₀ undisturbed sample 50mm diameter U ₆₃ undisturbed sample 63mm diameter D disturbed sample V vane shear (kPa) Bs bulk sample E environmental sample R refusal	classification symbols and soil description based on unified classification system moisture D dry M moist W wet Wp plastic limit W _L liquid limit	consistency/density index VS very soft S soft F firm St stiff VSt very stiff H hard Fb friable VL very loose L loose MD medium dense D dense VD very dense

Engineering Log - Excavation

Client: **Doug Gow & Associates Pty Ltd**

Date started: **29.11.2007**

Principal: **Noubia Pty Ltd**

Date completed: **29.11.2007**

Project: **The Lakes Estate**

Logged by: **MR**

Test pit location: **Refer to Figure 6**

Checked by:

equipment type and model: 13t Excavator				Pit Orientation:		Easting: 56508790 m		R.L. Surface: Not Measured							
excavation dimensions: 2m long 0.6m wide				Northing: 6647554 m		datum:									
excavation information						material substance									
method	penetration			support	water	notes samples, tests, etc	depth metres	RL	graphic log	classification symbol	material soil type: plasticity or particle characteristics, colour, secondary and minor components.	moisture condition	consistency/ density index	pocket penetro- meter kPa	structure and additional observations
	1	2	3												
E				N			0.5			ML	FILL: Silt, low plasticity, dark brown and brown.	M			FILL
							1.0			ML	TOPSOIL: Silt, low plasticity, dark brown, root affected.	M>Wp	F		OLD TOPSOIL
						D				CL	CLAY: low to medium plasticity, pale grey and pale brown.			X	ALLUVIAL SOIL
							1.5			CL	CLAY: low to medium plasticity, pale grey with brown and orange-brown mottle. Occasional iron stone concretions, fissured soil structure.	M=Wp	VSt	X	
							2.0								
						D	2.5							X	
							3.0							X	
						D								X	
							3.5				ASTP8 terminated at 3.4m due to limit of required investigation. Test pit ASTP8 terminated at 3.4m				
							4.0								

Sketch

method N natural exposure X existing excavation BH backhoe bucket B bulldozer blade R ripper E excavator		support S shoring N nil penetration 1 2 3 4 no resistance ranging to refusal water water level on date shown water inflow water outflow		notes, samples, tests U ₅₀ undisturbed sample 50mm diameter U ₆₃ undisturbed sample 63mm diameter D disturbed sample V vane shear (kPa) Bs bulk sample E environmental sample R refusal		classification symbols and soil description based on unified classification system moisture D dry M moist W wet Wp plastic limit WL liquid limit		consistency/density index VS very soft S soft F firm St stiff VSt very stiff H hard Fb friable VL very loose L loose MD medium dense D dense VD very dense	

Engineering Log - Excavation

Client: **Doug Gow & Associates Pty Ltd**

Date started: **29.11.2007**

Principal: **Noubia Pty Ltd**

Date completed: **29.11.2007**

Project: **The Lakes Estate**

Logged by: **MR**

Test pit location: **Refer to Figure 6**

Checked by:

equipment type and model: 13t Excavator					Pit Orientation:					Easting: 56508896 m					R.L. Surface: Not Measured				
excavation dimensions: 2m long 0.6m wide					Northing: 6647610 m					datum:									
excavation information						material substance													
method	penetration			support	water	notes samples, tests, etc	depth metres	graphic log	classification symbol	material soil type: plasticity or particle characteristics, colour, secondary and minor components.	moisture condition	consistency/ density index	pocket penetro- meter kPa 100 200 300 400	structure and additional observations					
	1	2	3																
E				N	None Observed	D	0.5		ML	TOPSOIL: Silt, low plasticity, dark brown, root affected.	M			TOPSOIL					
						D	1.0		ML	Clayey SILT: low plasticity, pale grey with pale brown mottle.	M>Wp	F		ALLUVIAL SOIL					
						D	1.5		CL	CLAY: low plasticity, pale grey with pale brown and orange-brown mottle. Occasional iron stone concretions, fissured soil structure, some iron oxide staining along fissures.	M<Wp	St	x	VS Pk-15/R-3 VS Pk-8/R-3 VS Pk-30/R-12					
						D	2.0												
						D	2.5					VSt/H	x						
						D	3.0			Becoming weakly cemented.			x						
							3.5			ASTP9 terminated at 3.0m due to limit of required investigation. Test pit ASTP9 terminated at 3m									
							4.0												

Sketch

method	support	notes, samples, tests	classification symbols and soil description	consistency/density index
N natural exposure X existing excavation BH backhoe bucket B bulldozer blade R ripper E excavator	S shoring N nil penetration 1 2 3 4 no resistance ranging to refusal water water level on date shown water inflow water outflow	U ₅₀ undisturbed sample 50mm diameter U ₆₃ undisturbed sample 63mm diameter D disturbed sample V vane shear (kPa) Bs bulk sample E environmental sample R refusal	based on unified classification system moisture D dry M moist W wet Wp plastic limit WL liquid limit	VS very soft S soft F firm St stiff VSt very stiff H hard Fb friable VL very loose L loose MD medium dense D dense VD very dense

Excavation No. **ASTP10**

Engineering Log - Excavation

Sheet 1 of 1

Project No: **GEOTCOFH02233AA**

Client: **Doug Gow & Associates Pty Ltd**

Date started: **29.11.2007**

Principal: **Noubia Pty Ltd**

Date completed: **29.11.2007**

Project: **The Lakes Estate**

Logged by: **MR**

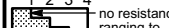
Test pit location: **Refer to Figure 6**

Checked by:

equipment type and model: 13t Excavator Pit Orientation: Easting: 56508814 m R.L. Surface: Not Measured
excavation dimensions: 2m long 0.6m wide Northing: 6647619 m datum:

excavation information					material substance				
method	penetration	support	water	notes samples, tests, etc	depth RL metres	graphic log	classification symbol	material	structure and additional observations
E	1 2 3	N	None Observed				ML	TOPSOIL: Silt, low plasticity, dark brown, root affected.	TOPSOIL
					0.5		ML	SILT: low plasticity, brown and grey.	ALLUVIAL SOIL
					1.0		CL	Silty CLAY: low to medium plasticity, pale grey and pale brown mottle. Generally firm clay with occasional soft pockets of clay ($C_u < 10 \text{ kPa}$) up to 400mm in size (possibly old root holes).	
				D	1.5		CL	Silty CLAY: low to medium plasticity, pale grey and pale brown with orange-brown mottle. Occasional orange-brown iron stone concretions.	
					2.0				
				D	2.5				
					3.0				
				D	3.5				
					4.0			ASTP10 terminated at 3.0m due to limit of required investigation. Test pit ASTP10 terminated at 3m	

Sketch

method		support	notes, samples, tests		classification symbols and soil description		consistency/density index	
N	natural exposure	S shoring	N nil	U ₅₀ undisturbed sample 50mm diameter	based on unified classification system		VS	very soft
X	existing excavation		U ₆₃ undisturbed sample 63mm diameter	S			soft	
BH	backhoe bucket		D disturbed sample	V vane shear (kPa)			F	firm
B	bulldozer blade			Bs bulk sample	moisture		St	stiff
R	ripper		E environmental sample				D	dry
E	excavator		R refusal				M	moist
		penetration					W	wet
							Wp	plastic limit
		water					W _L	liquid limit
			water level on date shown					
			water inflow					
			water outflow					
							MD	medium dense
							D	dense
							VD	very dense

Engineering Log - Excavation

Client: **Doug Gow & Associates Pty Ltd**

Date started: **29.11.2007**

Principal: **Noubia Pty Ltd**

Date completed: **29.11.2007**

Project: **The Lakes Estate**

Logged by: **MR**

Test pit location: **Refer to Figure 6**

Checked by:

equipment type and model: 13t Excavator					Pit Orientation:					Easting: 56508744 m					R.L. Surface: Not Measured				
excavation dimensions: 2m long 0.6m wide					Northing: 6647617 m					datum:									
excavation information						material substance													
method	penetration			support	water	notes samples, tests, etc	depth metres	RL	graphic log	classification symbol	material soil type: plasticity or particle characteristics, colour, secondary and minor components.	moisture condition	consistency/ density index	pocket penetro- meter kPa 100 200 300 400	structure and additional observations				
	1	2	3																
E				N						ML	FILL: Silt, low plasticity, dark brown, root affected.	M			FILL				
							0.5			ML	TOPSOIL: Clayey Silt, low plasticity, dark brown, root affected.				TOPSOIL				
							1.0			CL	CLAY: low to medium plasticity, pale brown and pale grey mottle.	M>Wp	St		ALLUVIAL SOIL				
					D		1.5							x					
							2.0			CL	CLAY: low to medium plasticity, pale brown, pale grey and orange-brown mottle. Some occasional orange iron stone concretions. Trace fine grained gravel (<10mm in size).	M=Wp	VSt	x					
							2.5							x					
					D		3.0							x					
							3.5							x					
					D		4.0				ASTP11 terminated at 3.6m due to limit of required investigation. Test pit ASTP11 terminated at 3.6m								

Sketch

method	support	notes, samples, tests	classification symbols and soil description	consistency/density index
N natural exposure X existing excavation BH backhoe bucket B bulldozer blade R ripper E excavator	S shoring N nil penetration 1 2 3 4 no resistance ranging to refusal water water level on date shown water inflow water outflow	U ₅₀ undisturbed sample 50mm diameter U ₆₃ undisturbed sample 63mm diameter D disturbed sample V vane shear (kPa) Bs bulk sample E environmental sample R refusal	based on unified classification system moisture D dry M moist W wet Wp plastic limit WL liquid limit	VS very soft S soft F firm St stiff VSt very stiff H hard Fb friable VL very loose L loose MD medium dense D dense VD very dense

Excavation No. **SSTP1**

Engineering Log - Excavation

Sheet 1 of 1

Project No: **GEOTCOFH02233AA**

Client: **Doug Gow & Associates Pty Ltd**

Date started: **29.11.2007**

Principal: **Noubia Pty Ltd**

Date completed: **29.11.2007**

Project: **The Lakes Estate**

Logged by: **MR**

Test pit location: **Refer to Figure 7**

Checked by:

equipment type and model: 13t Excavator Pit Orientation: Easting: 56508541 m R.L. Surface: Not Measured
excavation dimensions: 2m long 0.6m wide Northing: 6647232 m datum:

excavation information					material substance									
method	penetration			support	water	notes samples, tests, etc	depth metres	graphic log	classification symbol	material soil type: plasticity or particle characteristics, colour, secondary and minor components.	moisture condition	consistency/ density index	pocket penetro- meter kPa	structure and additional observations
E	1	2	3	N	None Observed				ML	TOPSOIL: Silt, low plasticity, dark brown, root affected.	M			TOPSOIL
							0.5		CL	CLAY: low to medium plasticity, orange-brown.	M>Wp	St/VSt	×	COLLUVIAL SOIL
							1.0						×	
							1.5		CL	Gravelly CLAY: medium plasticity, orange-brown, relict rock structure.	M<Wp	VSu/H		RESIDUAL SOIL
							2.0			Extremely to Highly Weathered SILTSTONE/CLAY: pale grey to grey with orange-brown iron oxide staining along defects. Estimated very low to low strength, extremely closely spaced defects (<80mm).	M	Fb		EXTREMELY TO HIGHLY WEATHERED METASILTSTONE
							2.5							
							3.0							
							3.5			SSTP1 terminated at 3.0m due to limit of required investigation Test pit SSTP1 terminated at 3m				
							4.0							

Sketch

method	support	notes, samples, tests	classification symbols and soil description	consistency/density index
N natural exposure X existing excavation BH backhoe bucket B bulldozer blade R ripper E excavator	S shoring N nil penetration 1 2 3 4 no resistance ranging to refusal water water level on date shown water inflow water outflow	U ₅₀ undisturbed sample 50mm diameter U ₆₃ undisturbed sample 63mm diameter D disturbed sample V vane shear (kPa) Bs bulk sample E environmental sample R refusal	based on unified classification system moisture D dry M moist W wet Wp plastic limit WL liquid limit	VS very soft S soft F firm St stiff VSt very stiff H hard Fb friable VL very loose L loose MD medium dense D dense VD very dense

Engineering Log - Excavation

Client: **Doug Gow & Associates Pty Ltd**

Principal: **Noubia Pty Ltd**

Project: **The Lakes Estate**

Test pit location: **Refer to Figure 7**

Excavation No. **SSTP2**

Sheet 1 of 1

Project No: **GEOTCOFH02233AA**

Date started: **29.11.2007**

Date completed: **29.11.2007**

Logged by: **MR**

Checked by:

equipment type and model: 13t Excavator Pit Orientation: Easting: 56508532 m R.L. Surface: Not Measured
excavation dimensions: 2m long 0.6m wide Northing: 6647331 m datum:

excavation information					material substance				
method	penetration	support	water	notes samples, tests, etc	depth RL metres	graphic log	classification symbol	material	structure and additional observations
E	1 2 3	N	None Observed				ML	FILL: Silt, low plasticity, brown and dark brown, some organics, woody and grassy fragments.	FILL
					0.5		ML	TOPSOIL: Silt, low plasticity, dark brown, root affected.	OLD TOPSOIL
					1.0		CL	CLAY: medium plasticity, dark orange-brown and pale yellow-brown mottle, rounded iron stone nodules and siltstone fragments within colluvial soil	COLLUVIAL SOIL
					1.5			Colour change to dark red-brown.	
					2.0		CL	CLAY: medium plasticity, dark red-brown.	RESIDUAL SOIL?
					2.5				
					3.0				
					3.5			SSTP2 terminated due to limit required and reach of excavator Test pit SSTP2 terminated at 3m	
					4.0				

Sketch

method N natural exposure X existing excavation BH backhoe bucket B bulldozer blade R ripper E excavator	support S shoring N nil penetration 1 2 3 4 no resistance ranging to refusal water water level on date shown water inflow water outflow	notes, samples, tests U ₅₀ undisturbed sample 50mm diameter U ₆₃ undisturbed sample 63mm diameter D disturbed sample V vane shear (kPa) Bs bulk sample E environmental sample R refusal	classification symbols and soil description based on unified classification system moisture D dry M moist W wet W _p plastic limit W _L liquid limit	consistency/density index VS very soft S soft F firm St stiff VSt very stiff H hard Fb friable VL very loose L loose MD medium dense D dense VD very dense

Engineering Log - Excavation

Client: **Doug Gow & Associates Pty Ltd**

Principal: **Noubia Pty Ltd**

Project: **The Lakes Estate**

Test pit location: **Refer to Figure 7**

Excavation No. **SSTP3**

Sheet 1 of 1

Project No: **GEOTCOFH02233AA**

Date started: **29.11.2007**

Date completed: **29.11.2007**

Logged by: **MR**

Checked by:

equipment type and model: 13t Excavator Pit Orientation: Easting: 56508405 m R.L. Surface: Not Measured
excavation dimensions: 2m long 0.6m wide Northing: 6647357 m datum:

excavation information					material substance									
method	penetration			support	water	notes samples, tests, etc	depth metres	graphic log	classification symbol	material soil type: plasticity or particle characteristics, colour, secondary and minor components.	moisture condition	consistency/ density index	pocket penetro- meter kPa	structure and additional observations
E	1	2	3	N	Observed				ML	TOPSOIL: Silt, low plasticity, dark brown, root affected.	M		100 200 300 400	TOPSOIL
					None		0.5		CL	CLAY: low to medium plasticity, orange-brown with pale yellow-brown mottle. Rounded ironstone nodules and fragments of extremely weathered meta-siltstone in colluvial soil	M>Wp	St		COLLUVIAL SOIL
							1.0						X X	
							1.5				M<Wp	VS/H	X	
							2.0							
							2.5							
							3.0					Fb		Potentially grading to RESIDUAL SOIL
							3.5			SSTP3 terminated at 3.0m due to limit of required investigation Test pit SSTP3 terminated at 3m				
							4.0							

Sketch

method N natural exposure X existing excavation BH backhoe bucket B bulldozer blade R ripper E excavator	support S shoring N nil penetration 1 2 3 4 no resistance ranging to refusal water water level on date shown water inflow water outflow	notes, samples, tests U ₅₀ undisturbed sample 50mm diameter U ₆₃ undisturbed sample 63mm diameter D disturbed sample V vane shear (kPa) Bs bulk sample E environmental sample R refusal	classification symbols and soil description based on unified classification system moisture D dry M moist W wet Wp plastic limit WL liquid limit	consistency/density index VS very soft S soft F firm St stiff VSt very stiff H hard Fb friable VL very loose L loose MD medium dense D dense VD very dense

Engineering Log - Excavation

Client: **Doug Gow & Associates Pty Ltd**

Date started: **5.12.2007**

Principal: **Noubia Pty Ltd**

Date completed: **5.12.2007**

Project: **The Lakes Estate**

Logged by: **MR**

Test pit location: **Refer to Figure 7**

Checked by:

equipment type and model: 13t Excavator Pit Orientation: Easting: 56508897 m R.L. Surface: Not Measured
excavation dimensions: 2m long 0.6m wide Northing: 6647982 m datum:

excavation information					material substance				
method	penetration	support	water	notes samples, tests, etc	depth RL metres	graphic log	classification symbol	material	structure and additional observations
U	1 2 3	N	None Observed				ML	TOPSOIL: Silt, low plasticity, dark brown. some roots	TOPSOIL
					0.5		ML	SILT: low plasticity, brown	COLLUVIAL SOIL
							CL	CLAY: medium plasticity, orange-brown, with some angular to sub-rounded iron stone gravel.	
					1.0				
					1.5		CL	CLAY: low to medium plasticity, grey, brown and orange-yellow mottle, with relict rock structure.	RESIDUAL SOIL
					2.0				
					2.5		GC	Extremely to Highly Weathered METASILTSTONE/Clayey GRAVEL , pale grey and orange-brown, iron oxide staining along some defects. Estimated very low to low strength, extremely closely spaced defects (<80mm spacing)	EXTREMELY WEATHERED METASILTSTONE / PHYLLITE
					3.0			Becoming pale grey and grey with orange-brown iron oxide staining.	
					3.5			SSTP4 terminated at 3.4m due to limit of required investigation. Test pit SSTP4 terminated at 3.4m	
					4.0				

Sketch

method	support	notes, samples, tests	classification symbols and soil description	consistency/density index
N natural exposure X existing excavation BH backhoe bucket B bulldozer blade R ripper E excavator	S shoring N nil penetration 1 2 3 4 no resistance ranging to refusal water water level on date shown water inflow water outflow	U ₅₀ undisturbed sample 50mm diameter U ₆₃ undisturbed sample 63mm diameter D disturbed sample V vane shear (kPa) Bs bulk sample E environmental sample R refusal	based on unified classification system moisture D dry M moist W wet Wp plastic limit WL liquid limit	VS very soft S soft F firm St stiff VSt very stiff H hard Fb friable VL very loose L loose MD medium dense D dense VD very dense

Engineering Log - Excavation

Client: **Doug Gow & Associates Pty Ltd**
 Principal: **Noubia Pty Ltd**
 Project: **The Lakes Estate**
 Test pit location: **Refer to Figure 7**

Excavation No. **SSTP5**
 Sheet 1 of 2
 Project No: **GEOTCOFH02233AA**
 Date started: **5.12.2007**
 Date completed: **5.12.2007**
 Logged by: **MR**
 Checked by:

equipment type and model: 13t Excavator Pit Orientation: Easting: 56508921 m R.L. Surface: Not Measured
 excavation dimensions: 2m long 0.6m wide Northing: 6648042 m datum:

excavation information					material substance				
method	penetration	support	water	notes samples, tests, etc	depth RL metres	graphic log	classification symbol	material	structure and additional observations
E	1 2 3	N	None Observed				ML	TOPSOIL: Silt, low plasticity, dark brown, some roots to 0.3m depth.	TOPSOIL
					0.5		CL	CLAY: low to medium plasticity, dark orange-brown, brown and red-brown, trace of metasiltstone gravel.	COLLUVIAL SOIL
					1.0				
					1.5				
					2.0			With some gravel	
					2.5		CL	Gravelly CLAY: low to medium plasticity, dark orange-brown and yellow-brown, gravel is metasiltstone and rounded iron stone nodules in colluvial soil.	Potentially RESIDUAL SOIL
					3.0				
					3.5				
					4.0		CL-ML	Extremely Weathered METASILTSTONE/SILT & CLAY: low to medium plasticity, dark orange-brown and grey, iron oxide stained, relict rock structure	EXTREMELY WEATHERED METASILTSTONE

Sketch

method N natural exposure X existing excavation BH backhoe bucket B bulldozer blade R ripper E excavator	support S shoring N nil penetration 1 2 3 4 no resistance ranging to refusal water water level on date shown water inflow water outflow	notes, samples, tests U ₅₀ undisturbed sample 50mm diameter U ₆₃ undisturbed sample 63mm diameter D disturbed sample V vane shear (kPa) Bs bulk sample E environmental sample R refusal	classification symbols and soil description based on unified classification system moisture D dry M moist W wet Wp plastic limit W _L liquid limit	consistency/density index VS very soft S soft F firm St stiff VSt very stiff H hard Fb friable VL very loose L loose MD medium dense D dense VD very dense

Excavation No. **SSTP5**

Engineering Log - Excavation

Sheet 2 of 2

Project No: **GEOTCOFH02233AA**

Client: **Doug Gow & Associates Pty Ltd**

Date started: **5.12.2007**

Principal: **Noubia Pty Ltd**

Date completed: **5.12.2007**

Project: **The Lakes Estate**

Logged by: **MR**

Test pit location: **Refer to Figure 7**

Checked by:

equipment type and model: 13t Excavator Pit Orientation: Easting: 56508921 m R.L. Surface: Not Measured
excavation dimensions: 2m long 0.6m wide Northing: 6648042 m datum:

excavation information					material substance									
method	penetration			support	water	notes samples, tests, etc	depth metres	graphic log	classification symbol	material soil type: plasticity or particle characteristics, colour, secondary and minor components.	moisture condition	consistency/ density index	pocket penetro- meter kPa	structure and additional observations
	1	2	3				RL						100 200 300 400	
										present. Friable to very low rock strength. SSTP5 terminated at 4.0m due to limit of required investigation Test pit SSTP5 terminated at 4m				
							4.5							
							5.0							
							5.5							
							6.0							
							6.5							
							7.0							
							7.5							
							8.0							

Sketch

method	support	notes, samples, tests	classification symbols and soil description based on unified classification system	consistency/density index
N natural exposure X existing excavation BH backhoe bucket B bulldozer blade R ripper E excavator	S shoring N nil penetration 1 2 3 4 no resistance ranging to refusal water water level on date shown water inflow water outflow	U ₅₀ undisturbed sample 50mm diameter U ₆₃ undisturbed sample 63mm diameter D disturbed sample V vane shear (kPa) Bs bulk sample E environmental sample R refusal	moisture D dry M moist W wet W _p plastic limit W _L liquid limit	VS very soft S soft F firm St stiff VSt very stiff H hard Fb friable VL very loose L loose MD medium dense D dense VD very dense

Excavation No. **SSTP6**

Engineering Log - Excavation

Sheet 1 of 1

Project No: **GEOTCOFH02233AA**

Client: **Doug Gow & Associates Pty Ltd**

Date started: **5.12.2007**

Principal: **Noubia Pty Ltd**

Date completed: **5.12.2007**

Project: **The Lakes Estate**

Logged by: **MR**

Test pit location: **Refer to Figure 7**

Checked by:

equipment type and model: 13t Excavator					Pit Orientation:					Easting: 56508793 m					R.L. Surface: Not Measured				
excavation dimensions: 2m long 0.6m wide					Northing: 6648020 m					datum:									
excavation information										material substance									
method	penetration			support	water	notes samples, tests, etc	depth RL metres		graphic log	classification symbol	material			moisture condition	consistency/ density index	pocket penetrometer kPa	structure and additional observations		
E	1	2	3	N	None Observed						soil type: plasticity or particle characteristics, colour, secondary and minor components.					100 200 300 400			
										ML	TOPSOIL: Silt, low plasticity, dark brown, some roots			M				TOPSOIL	
							0.5			CL	CLAY: low to medium plasticity, orange-brown, occasional root fibres.			M>Wp	VSt			COLLUVIAL SOIL	
							1.0				Occasional metasiltstone gravel within colluvial soil				H				
							1.5			CL	CLAY: low to medium plasticity, orange/red-brown with yellow-brown mottle.							RESIDUAL SOIL	
							2.0			CL	Extremely Weathered METASILTSTONE/CLAY: orange-brown and red-brown, estimated very low strength, with very closely spaced defects (<80mm spacing).			M	Fb			EXTREMELY WEATHERED METASILTSTONE	
							2.5				Numerous well developed clay seams (<100mm thick), low to medium plasticity and very stiff to hard.								
							3.0												
							3.5				SSTP6 terminated at 3.4m due to limit of required investigation Test pit SSTP6 terminated at 3.4m								
							4.0												

Sketch

method	support	notes, samples, tests	classification symbols and soil description	consistency/density index
N natural exposure X existing excavation BH backhoe bucket B bulldozer blade R ripper E excavator	S shoring N nil penetration 1 2 3 4 no resistance ranging to refusal water water level on date shown water inflow water outflow	U ₅₀ undisturbed sample 50mm diameter U ₆₃ undisturbed sample 63mm diameter D disturbed sample V vane shear (kPa) Bs bulk sample E environmental sample R refusal	based on unified classification system moisture D dry M moist W wet Wp plastic limit WL liquid limit	VS very soft S soft F firm St stiff VSt very stiff H hard Fb friable VL very loose L loose MD medium dense D dense VD very dense

Excavation No. **SSTP7**

Engineering Log - Excavation

Sheet 1 of 1

Project No: **GEOTCOFH02233AA**

Client: **Doug Gow & Associates Pty Ltd**

Date started: **5.12.2007**

Principal: **Noubia Pty Ltd**

Date completed: **5.12.2007**

Project: **The Lakes Estate**

Logged by: **MR**

Test pit location: **Refer to Figure 7**

Checked by:

equipment type and model: 13t Excavator				Pit Orientation:				Easting: 56508845 m				R.L. Surface: Not Measured			
excavation dimensions: 2m long 0.6m wide				Northing: 6648051 m				datum:							
excavation information					material substance										
method	penetration			support	water	notes samples, tests, etc	depth metres	graphic log	classification symbol	material soil type: plasticity or particle characteristics, colour, secondary and minor components.	moisture condition	consistency/ density index	pocket penetro- meter kPa	structure and additional observations	
	1	2	3												
E				N	None Observed		0.5		ML	TOPSOIL: Silt, low plasticity, dark brown, some roots	M			TOPSOIL	
							0.5		CL	CLAY: medium plasticity, orange/red-brown, occasional metasiltstone gravel within colluvial soil	M>Wp	St	X	COLLUVIAL SOIL	
							1.0			Some fine to coarse grained angular to sub-rounded metasiltstone gravel (2mm to 100mm in size)		VSt	X		
							1.5						X		
							2.0								
							2.5		CL	Gravelly CLAY: low plasticity, orange-brown, high strength siliceous siltstone boulders (<0.5m in size).	M	Fb	X	Potentially grading to RESIDUAL SOIL	
							3.0								
							3.5								
							4.0			SSTP7 terminated at 3.6m due to limit of required investigation Test pit SSTP7 terminated at 3.6m					

Sketch

method N natural exposure X existing excavation BH backhoe bucket B bulldozer blade R ripper E excavator		support S shoring N nil penetration 1 2 3 4 no resistance ranging to refusal water water level on date shown water inflow water outflow		notes, samples, tests U ₅₀ undisturbed sample 50mm diameter U ₆₃ undisturbed sample 63mm diameter D disturbed sample V vane shear (kPa) Bs bulk sample E environmental sample R refusal		classification symbols and soil description based on unified classification system moisture D dry M moist W wet Wp plastic limit WL liquid limit		consistency/density index VS very soft S soft F firm St stiff VSt very stiff H hard Fb friable VL very loose L loose MD medium dense D dense VD very dense	

Engineering Log - Excavation

Client: **Doug Gow & Associates Pty Ltd**
 Principal: **Noubia Pty Ltd**
 Project: **The Lakes Estate**
 Test pit location: **Refer to Figure 7**

Excavation No. **SSTP8**

Sheet 1 of 2

Project No: **GEOTCOFH02233AA**

Date started: **5.12.2007**

Date completed: **5.12.2007**

Logged by: **MR**

Checked by:

equipment type and model: 13t Excavator Pit Orientation: Easting: 56508820 m R.L. Surface: Not Measured
 excavation dimensions: 2m long 0.6m wide Northing: 6648063 m datum:

excavation information					material substance				
method	penetration	support	water	notes samples, tests, etc	depth RL metres	graphic log	classification symbol	material	structure and additional observations
1 2 3									
E		N	None Observed				ML	TOPSOIL: Silt, low plasticity, dark brown, some roots	TOPSOIL
					0.5		CL	CLAY: medium plasticity, orange/red-brown, with trace to some angular metasiltstone gravel and boulders	COLLUVIAL SOIL
					1.0				
					1.5				
					2.0				
					2.5				
					3.0		CL	CLAY: medium plasticity, orange/red-brown with yellow-brown mottle, relict rock structure.	RESIDUAL SOIL
					3.5		GP	Extremely Highly Weathered METASILTSTONE/GRAVEL: orange-brown and pale grey. Estimated very low to low strength, iron oxide staining throughout rock mass and along most defect faces, extremely closely spaced defects (<80mm)	EXTREMELY TO HIGHLY WEATHERED METASILTSTONE
					4.0				

Sketch

method N natural exposure X existing excavation BH backhoe bucket B bulldozer blade R ripper E excavator	support S shoring N nil penetration 1 2 3 4 no resistance ranging to refusal water water level on date shown water inflow water outflow	notes, samples, tests U ₅₀ undisturbed sample 50mm diameter U ₆₃ undisturbed sample 63mm diameter D disturbed sample V vane shear (kPa) Bs bulk sample E environmental sample R refusal	classification symbols and soil description based on unified classification system moisture D dry M moist W wet Wp plastic limit W _L liquid limit	consistency/density index VS very soft S soft F firm St stiff VSt very stiff H hard Fb friable VL very loose L loose MD medium dense D dense VD very dense

Engineering Log - Excavation

Client: **Doug Gow & Associates Pty Ltd**
Principal: **Noubia Pty Ltd**
Project: **The Lakes Estate**
Test pit location: **Refer to Figure 7**

Excavation No. **SSTP8**

Sheet 2 of 2

Project No: **GEOTCOFH02233AA**

Date started: **5.12.2007**

Date completed: **5.12.2007**

Logged by: **MR**

Checked by:

equipment type and model: 13t Excavator Pit Orientation: Easting: 56508820 m R.L. Surface: Not Measured
excavation dimensions: 2m long 0.6m wide Northing: 6648063 m datum:

excavation information						material substance								
method	penetration			support	water	notes samples, tests, etc	depth metres	graphic log	classification symbol	material soil type: plasticity or particle characteristics, colour, secondary and minor components.	moisture condition	consistency/ density index	pocket penetro- meter kPa	structure and additional observations
	1	2	3											
							4.5			SSTP8 terminated at 4.0m due to limit of required investigation Test pit SSTP8 terminated at 4m				
							5.0							
							5.5							
							6.0							
							6.5							
							7.0							
							7.5							
							8.0							

Sketch

method	support	notes, samples, tests	classification symbols and soil description	consistency/density index
N natural exposure X existing excavation BH backhoe bucket B bulldozer blade R ripper E excavator	S shoring N nil penetration 1 2 3 4 no resistance ranging to refusal water water level on date shown water inflow water outflow	U ₅₀ undisturbed sample 50mm diameter U ₆₃ undisturbed sample 63mm diameter D disturbed sample V vane shear (kPa) Bs bulk sample E environmental sample R refusal	based on unified classification system moisture D dry M moist W wet W _p plastic limit W _L liquid limit	VS very soft S soft F firm St stiff VSt very stiff H hard Fb friable VL very loose L loose MD medium dense D dense VD very dense

Engineering Log - Excavation

Client: **Doug Gow & Associates Pty Ltd**
Principal: **Noubia Pty Ltd**
Project: **The Lakes Estate**
Test pit location: **Refer to Figure 7**

Excavation No. **SSTP9**
Sheet 1 of 1
Project No: **GEOTCOFH02233AA**
Date started: **5.12.2007**
Date completed: **5.12.2007**
Logged by: **MR**
Checked by:

equipment type and model: 13t Excavator					Pit Orientation:					Easting: 56508857 m					R.L. Surface: Not Measured				
excavation dimensions: 2m long 0.6m wide					Northing: 6648092 m					datum:									
excavation information						material substance													
method	penetration			support	water	notes samples, tests, etc	depth metres	graphic log	classification symbol	material soil type: plasticity or particle characteristics, colour, secondary and minor components.	moisture condition	consistency/ density index	pocket penetro- meter kPa	structure and additional observations					
	1	2	3																
E				N	None Observed				ML	TOPSOIL: Silt, low plasticity, dark brown, some roots	M				TOPSOIL				
							0.5		CL	CLAY: medium plasticity, orange/red-brown, with occasional angular to subangular metasiltstone gravel and boulders (<300mm). Becoming pale grey and grey	M>Wp	St/VSt			COLLUVIAL SOIL				
							1.0												
							1.5												
							2.0					VSt							
							2.5		CL	CLAY: medium plasticity, orange/red-brown with yellow-brown mottle, relict rock structure.	M				RESIDUAL SOIL				
							3.0												
							3.5		ML	Extremely to Highly Weathered METASILTSTONE/Gravelly SILT low plasticity, orange-brown, pale grey and purple. Estimated very low to low strength, extremely closely spaced defects (<80mm). Orange and purple iron oxide staining throughout rock mass and along some defect faces SSTP9 terminated at 3.5m due to limit of required investigation Test pit SSTP9 terminated at 3.5m		Fb			EXTREMELY TO HIGHLY WEATHERED METASILTSTONE				
							4.0												

Sketch

method	support	notes, samples, tests	classification symbols and soil description	consistency/density index
N natural exposure X existing excavation BH backhoe bucket B bulldozer blade R ripper E excavator	S shoring N nil penetration 1 2 3 4 no resistance ranging to refusal water water level on date shown water inflow water outflow	U ₅₀ undisturbed sample 50mm diameter U ₆₃ undisturbed sample 63mm diameter D disturbed sample V vane shear (kPa) Bs bulk sample E environmental sample R refusal	based on unified classification system moisture D dry M moist W wet Wp plastic limit WL liquid limit	VS very soft S soft F firm St stiff VSt very stiff H hard Fb friable VL very loose L loose MD medium dense D dense VD very dense

Engineering Log - Excavation

Client: **Doug Gow & Associates Pty Ltd**

Principal: **Noubia Pty Ltd**

Project: **The Lakes Estate**

Test pit location: **Refer to Figure 7**

Excavation No. **SSTP10**

Sheet 1 of 2

Project No: **GEOTCOFH02233AA**

Date started: **5.12.2007**

Date completed: **5.12.2007**

Logged by: **MR**

Checked by:

equipment type and model: 13t Excavator Pit Orientation: Easting: 56508802 m R.L. Surface: Not Measured
excavation dimensions: 2m long 0.6m wide Northing: 6648094 m datum:

excavation information					material substance				
method	penetration	support	water	notes samples, tests, etc	depth RL metres	graphic log	classification symbol	material	structure and additional observations
E	1 2 3	N	None Observed				ML	TOPSOIL: Silt, low plasticity, dark brown, some roots	TOPSOIL
					0.5		CL	CLAY: medium plasticity, orange/red-brown, some roots.	COLLUVIAL SOIL
					1.0			Occasional metasiltstone and siliceous siltstone gravel (60mm to 100mm) in colluvial soil	
					1.5				
					2.0		CL	CLAY: low to medium plasticity, orange/red-brown with pale yellow mottle, relict rock structure observed.	RESIDUAL SOIL
					2.5			Occasional nodules of iron stone	
					3.0				
					3.5			Extremely to Highly Weathered METASILTSTONE: pale grey and orange/red-brown. Estimated very low strength, extremely closely spaced defects (<80mm spacing). Orange-brown and red-brown iron oxide staining throughout rock mass and along most defect faces.	EXTREMELY TO HIGHLY WEATHERED METASILTSTONE
					4.0				

Sketch

method N natural exposure X existing excavation BH backhoe bucket B bulldozer blade R ripper E excavator	support S shoring N nil penetration 1 2 3 4 no resistance ranging to refusal water water level on date shown water inflow water outflow	notes, samples, tests U ₅₀ undisturbed sample 50mm diameter U ₆₃ undisturbed sample 63mm diameter D disturbed sample V vane shear (kPa) Bs bulk sample E environmental sample R refusal	classification symbols and soil description based on unified classification system moisture D dry M moist W wet Wp plastic limit WL liquid limit	consistency/density index VS very soft S soft F firm St stiff VSt very stiff H hard Fb friable VL very loose L loose MD medium dense D dense VD very dense

Excavation No. **SSTP10**

Engineering Log - Excavation

Sheet 2 of 2

Project No: **GEOTCOFH02233AA**

Client: **Doug Gow & Associates Pty Ltd**

Date started: **5.12.2007**

Principal: **Noubia Pty Ltd**

Date completed: **5.12.2007**

Project: **The Lakes Estate**

Logged by: **MR**

Test pit location: **Refer to Figure 7**

Checked by:

equipment type and model: 13t Excavator Pit Orientation: Easting: 56508802 m R.L. Surface: Not Measured
excavation dimensions: 2m long 0.6m wide Northing: 6648094 m datum:

excavation information						material substance								
method	penetration			support	water	notes samples, tests, etc	depth metres	graphic log	classification symbol	material	moisture condition	consistency/ density index	pocket penetro- meter kPa	structure and additional observations
	1	2	3				RL			soil type: plasticity or particle characteristics, colour, secondary and minor components.			100 200 300 400	
										SSTP10 terminated at 3.7m due to limit of required investigation Test pit SSTP10 terminated at 3.7m				
							4.5							
							5.0							
							5.5							
							6.0							
							6.5							
							7.0							
							7.5							
							8.0							

Sketch

method	support	notes, samples, tests	classification symbols and soil description based on unified classification system	consistency/density index
N natural exposure X existing excavation BH backhoe bucket B bulldozer blade R ripper E excavator	S shoring N nil penetration 1 2 3 4 no resistance ranging to refusal water water level on date shown water inflow water outflow	U ₅₀ undisturbed sample 50mm diameter U ₆₃ undisturbed sample 63mm diameter D disturbed sample V vane shear (kPa) Bs bulk sample E environmental sample R refusal	moisture D dry M moist W wet W _p plastic limit W _L liquid limit	VS very soft S soft F firm St stiff VSt very stiff H hard Fb friable VL very loose L loose MD medium dense D dense VD very dense

Excavation No. **SSTP11**

Engineering Log - Excavation

Sheet 1 of 1

Project No: **GEOTCOFH02233AA**

Client: **Doug Gow & Associates Pty Ltd**

Date started: **5.12.2007**

Principal: **Noubia Pty Ltd**

Date completed: **5.12.2007**

Project: **The Lakes Estate**

Logged by: **MR**

Test pit location: **Refer to Figure 7**

Checked by:

equipment type and model: 13t Excavator				Pit Orientation:				Easting: 56508846 m				R.L. Surface: Not Measured				
excavation dimensions: 2m long 0.6m wide				Northing: 6647836 m				datum:								
excavation information						material substance										
method	penetration			support	water	notes samples, tests, etc	depth metres	RL	graphic log	classification symbol	material	moisture condition	consistency/ density index	pocket penetro- meter kPa	structure and additional observations	
	1	2	3													
E				N	None Observed					ML	TOPSOIL: Silt, low plasticity, dark brown, root affected	M				TOPSOIL
							0.5			CL	CLAY: medium plasticity, orange-brown and pale grey/pale yellow mottle. Some rounded gravel (<20mm).	M>Wp				COLLUVIAL SOIL
							1.0			CL	CLAY: medium plasticity, orange-brown and pale grey/pale yellow mottle.	VSt/H		x		RESIDUAL SOIL
							1.5							x		
							2.0			CL	Extremely Weathered METASILTSTONE/Gravelly CLAY: low plasticity, pale grey with orange-brown iron oxide staining. Estimated very low to low strength, extremely closely spaced defects (<80mm spacing), iron oxide staining along defect faces.	M	Fb			EXTREMELY WEATHERED METASILTSTONE
							2.5				Highly to Moderately Weathered METASILTSTONE: dark grey, estimated low strength, extremely closely spaced defects (<80mm), iron oxide staining along defect faces.					HIGHLY TO MODERATELY WEATHERED METASILTSTONE
							3.0				SSTP11 terminated at 3.0m due to limit of required investigation Test pit SSTP11 terminated at 3m					
							3.5									
							4.0									

Sketch

method	support	notes, samples, tests	classification symbols and soil description	consistency/density index
N natural exposure X existing excavation BH backhoe bucket B bulldozer blade R ripper E excavator	S shoring N nil penetration 1 2 3 4 no resistance ranging to refusal water water level on date shown water inflow water outflow	U ₅₀ undisturbed sample 50mm diameter U ₆₃ undisturbed sample 63mm diameter D disturbed sample V vane shear (kPa) Bs bulk sample E environmental sample R refusal	based on unified classification system moisture D dry M moist W wet Wp plastic limit WL liquid limit	VS very soft S soft F firm St stiff VSt very stiff H hard Fb friable VL very loose L loose MD medium dense D dense VD very dense

Engineering Log - Excavation

Client: **Doug Gow & Associates Pty Ltd**

Date started: **5.12.2007**

Principal: **Noubia Pty Ltd**

Date completed: **5.12.2007**

Project: **The Lakes Estate**

Logged by: **MR**

Test pit location: **Refer to Figure 7**

Checked by:

equipment type and model: 13t Excavator Pit Orientation: Easting: 56508815 m R.L. Surface: Not Measured
excavation dimensions: 2m long 0.6m wide Northing: 6647792 m datum:

excavation information					material substance				
method	penetration	support	water	notes samples, tests, etc	depth RL metres	graphic log	classification symbol	material	structure and additional observations
E	1 2 3	N	None Observed				ML	TOPSOIL: Silt, low plasticity, dark brown, root affected	TOPSOIL
					0.5		CL	CLAY: medium plasticity, orange-brown and pale grey mottle, with a trace of fine subangular to subrounded gravel. Some slightly to moderately weathered medium to high strength gravel.	COLLUVIAL SOIL
					1.0				
					1.5			Colour change to orange-brown with pale grey/white mottle. Some rounded and angular gravel	
					2.0		CL	CLAY: medium plasticity, orange-brown with pale grey/white mottle, relict rock structure	RESIDUAL SOIL
					2.5				
					3.0				
					3.5		CL	Extremely Weathered METASILTSTONE/CLAY: low plasticity, pale grey/white with orange-brown mottle, estimated very low strength.	EXTREMELY WEATHERED METASILTSTONE
					4.0				

Sketch

method	support	notes, samples, tests	classification symbols and soil description	consistency/density index
N natural exposure X existing excavation BH backhoe bucket B bulldozer blade R ripper E excavator	S shoring N nil penetration 1 2 3 4 no resistance ranging to refusal water water level on date shown water inflow water outflow	U ₅₀ undisturbed sample 50mm diameter U ₆₃ undisturbed sample 63mm diameter D disturbed sample V vane shear (kPa) Bs bulk sample E environmental sample R refusal	based on unified classification system moisture D dry M moist W wet Wp plastic limit WL liquid limit	VS very soft S soft F firm St stiff VSt very stiff H hard Fb friable VL very loose L loose MD medium dense D dense VD very dense

Engineering Log - Excavation

Client: **Doug Gow & Associates Pty Ltd**

Date started: **5.12.2007**

Principal: **Noubia Pty Ltd**

Date completed: **5.12.2007**

Project: **The Lakes Estate**

Logged by: **MR**

Test pit location: **Refer to Figure 7**

Checked by:

equipment type and model: 13t Excavator Pit Orientation: Easting: 56508815 m R.L. Surface: Not Measured
excavation dimensions: 2m long 0.6m wide Northing: 6647792 m datum:

excavation information					material substance									
method	penetration			support	water	notes samples, tests, etc	depth metres	graphic log	classification symbol	material soil type: plasticity or particle characteristics, colour, secondary and minor components.	moisture condition	consistency/ density index	pocket penetro- meter kPa	structure and additional observations
	1	2	3				RL						100 200 300 400	
										SSTP12 terminated at 4.0m due to limit of required investigation Test pit SSTP12 terminated at 4m				
							4.5							
							5.0							
							5.5							
							6.0							
							6.5							
							7.0							
							7.5							
							8.0							

Sketch

method	support	notes, samples, tests	classification symbols and soil description	consistency/density index
N natural exposure X existing excavation BH backhoe bucket B bulldozer blade R ripper E excavator	S shoring N nil penetration 1 2 3 4 no resistance ranging to refusal water water level on date shown water inflow water outflow	U ₅₀ undisturbed sample 50mm diameter U ₆₃ undisturbed sample 63mm diameter D disturbed sample V vane shear (kPa) Bs bulk sample E environmental sample R refusal	based on unified classification system moisture D dry M moist W wet W _p plastic limit W _L liquid limit	VS very soft S soft F firm St stiff VSt very stiff H hard Fb friable VL very loose L loose MD medium dense D dense VD very dense

Excavation No. **SSTP13**

Engineering Log - Excavation

Sheet 1 of 1

Project No: **GEOTCOFH02233AA**

Client: **Doug Gow & Associates Pty Ltd**

Date started: **5.12.2007**

Principal: **Noubia Pty Ltd**

Date completed: **5.12.2007**

Project: **The Lakes Estate**

Logged by: **MR**

Test pit location: **Refer to Figure 7**

Checked by:

equipment type and model: 13t Excavator				Pit Orientation:				Easting: 56508623 m				R.L. Surface: Not Measured							
excavation dimensions: 2m long 0.6m wide				Northing: 6647752 m				datum:											
excavation information								material substance											
method	penetration			support	water	notes samples, tests, etc	depth RL metres		graphic log	classification symbol	material soil type: plasticity or particle characteristics, colour, secondary and minor components.			moisture condition	consistency/ density index	pocket penetrometer kPa		structure and additional observations	
E	1 2 3			N	None Observed					ML	TOPSOIL: Silt, low plasticity, dark brown, root affected			M				TOPSOIL	
							0.5			CL	CLAY: medium plasticity, grey/brown, with trace to some metasiltstone gravel (<50mm). Colour change to orange-brown			M>Wp	VSt	x		COLLUVIAL SOIL	
							1.0			CL	CLAY: medium plasticity, orange-brown and yellow-brown mottle			M	H	x		RESIDUAL SOIL	
							1.5				Relict rock structure					x			
							2.0								H/Fb	x			
							2.5									x			
							3.0				METASILTSTONE: extremely weathered, grey with orange-brown mottle, estimated very low to low strength, iron oxide staining along defects, extremely closely spaced defect (<80mm spacing).				Fb			EXTREMELY WEATHERED METASILTSTONE	
							3.5				SSTP13 terminated at 3.4m due to limit of required investigation Test pit SSTP13 terminated at 3.4m								
							4.0												

Sketch

method	support	notes, samples, tests	classification symbols and soil description	consistency/density index
N natural exposure X existing excavation BH backhoe bucket B bulldozer blade R ripper E excavator	S shoring N nil penetration 1 2 3 4 no resistance ranging to refusal water water level on date shown water inflow water outflow	U ₅₀ undisturbed sample 50mm diameter U ₆₃ undisturbed sample 63mm diameter D disturbed sample V vane shear (kPa) Bs bulk sample E environmental sample R refusal	based on unified classification system moisture D dry M moist W wet Wp plastic limit WL liquid limit	VS very soft S soft F firm St stiff VSt very stiff H hard Fb friable VL very loose L loose MD medium dense D dense VD very dense

Engineering Log - Excavation

Client: **Doug Gow & Associates Pty Ltd**

Date started: **5.12.2007**

Principal: **Noubia Pty Ltd**

Date completed: **5.12.2007**

Project: **The Lakes Estate**

Logged by: **MR**

Test pit location: **Refer to Figure 7**

Checked by:

equipment type and model: 13t Excavator				Pit Orientation:				Easting: 56508520 m				R.L. Surface: Not Measured			
excavation dimensions: 2m long 0.6m wide				Northing: 6647844 m				datum:							
excavation information								material substance							
method	penetration			support	water	notes samples, tests, etc	depth metres	graphic log	classification symbol	material soil type: plasticity or particle characteristics, colour, secondary and minor components.	moisture condition	consistency/ density index	pocket penetro- meter kPa	structure and additional observations	
E	1	2	3	N	None Observed				ML	TOPSOIL: Silt, low plasticity, dark brown	M				TOPSOIL
							0.5		CL	CLAY: medium plasticity, orange-brown	M>Wp	St	X		COLLUVIAL SOIL
							1.0						X		
							1.5		CL	CLAY: medium plasticity, orange-brown and grey, relict rock structure. Grading to extremely weathered metasiltstone	M	VSt	X		RESIDUAL SOIL
							2.0						X		
							2.5					Fb	X		
							3.0						X		
							3.5			METASILTSTONE: extremely to moderately weathered, dark grey with pale grey and orange-brown, estimated very low to low strength, extremely closely spaced defects (<80mm spacing), iron oxide staining along most defects.					EXTREMELY TO MODERATELY WEATHERED METASILTSTONE
							4.0			SSTP14 terminated at 3.4m due to limit of required investigation Test pit SSTP14 terminated at 3.4m					

Sketch

method	support	notes, samples, tests	classification symbols and soil description	consistency/density index
N natural exposure X existing excavation BH backhoe bucket B bulldozer blade R ripper E excavator	S shoring N nil penetration 1 2 3 4 no resistance ranging to refusal water water level on date shown water inflow water outflow	U ₅₀ undisturbed sample 50mm diameter U ₆₃ undisturbed sample 63mm diameter D disturbed sample V vane shear (kPa) Bs bulk sample E environmental sample R refusal	based on unified classification system moisture D dry M moist W wet Wp plastic limit WL liquid limit	VS very soft S soft F firm St stiff VSt very stiff H hard Fb friable VL very loose L loose MD medium dense D dense VD very dense

Engineering Log - Excavation

Client: **Doug Gow & Associates Pty Ltd**

Date started: **5.12.2007**

Principal: **Noubia Pty Ltd**

Date completed: **5.12.2007**

Project: **The Lakes Estate**

Logged by: **MR**

Test pit location: **Refer to Figure 7**

Checked by:

equipment type and model: 13t Excavator					Pit Orientation:		Easting: 56508379 m		R.L. Surface: Not Measured					
excavation dimensions: 2m long 0.6m wide					Northing: 6647906 m		datum:							
excavation information					material substance									
method	penetration			support	water	notes samples, tests, etc	depth metres	graphic log	classification symbol	material soil type: plasticity or particle characteristics, colour, secondary and minor components.	moisture condition	consistency/ density index	pocket penetro- meter kPa 100 200 300 400	structure and additional observations
	1	2	3											
E				N	None Observed				ML	TOPSOIL: Silt, low plasticity, dark brown, root affected	M			TOPSOIL
							0.5		ML	SILT: low plasticity, brown-grey		F	x	COLLUVIAL SOIL
							1.0		CL	CLAY: medium plasticity, orange-brown, with a trace of fine angular to subrounded metasiltstone and quartz gravel	M>Wp		x	
							1.5		CL	CLAY: medium plasticity, orange-brown with pale grey mottle.	M	H/Fb	x	RESIDUAL SOIL
							2.0							
							2.5							
							3.0		CL	CLAY: medium plasticity, orange-brown with pale grey mottle, relict rock strcture				
							3.5			METASILTSTONE:extremely grading to moderately weathered, brown-grey with grey ad orange-brown, estimated very low to low strength, extremely closely spaced defects (<80mm), iron oxide staining along most defects				EXTREMELY TO MODERATELY WEATHERED METASILTSTONE
							4.0			SSTP15 terminated at 3.4m due to limit of required investigation Test pit SSTP15 terminated at 3.4m				

Sketch

method	support	notes, samples, tests	classification symbols and soil description	consistency/density index
N natural exposure X existing excavation BH backhoe bucket B bulldozer blade R ripper E excavator	S shoring N nil penetration 1 2 3 4 no resistance ranging to refusal water water level on date shown water inflow water outflow	U ₅₀ undisturbed sample 50mm diameter U ₆₃ undisturbed sample 63mm diameter D disturbed sample V vane shear (kPa) Bs bulk sample E environmental sample R refusal	based on unified classification system moisture D dry M moist W wet Wp plastic limit WL liquid limit	VS very soft S soft F firm St stiff VSt very stiff H hard Fb friable VL very loose L loose MD medium dense D dense VD very dense

Engineering Log - Excavation

Client: **Doug Gow & Associates Pty Ltd**

Date started: **5.12.2007**

Principal: **Noubia Pty Ltd**

Date completed: **5.12.2007**

Project: **The Lakes Estate**

Logged by: **MR**

Test pit location: **Refer to Figure 7**

Checked by:

equipment type and model: 13t Excavator					Pit Orientation:		Easting: 56508309 m		R.L. Surface: Not Measured						
excavation dimensions: 2m long 0.6m wide					Northing: 6647843 m		datum:								
excavation information					material substance										
method	penetration			support	water	notes samples, tests, etc	depth metres	RL	graphic log	classification symbol	material soil type: plasticity or particle characteristics, colour, secondary and minor components.	moisture condition	consistency/ density index	pocket penetro- meter kPa 100 200 300 400	structure and additional observations
	1	2	3												
E				N						ML	TOPSOIL: Silt, low plasticity, dark brown, root affected	M			TOPSOIL
							0.5			ML	SILT: low plasticity, grey	M>Wp	F	x	COLLUVIAL SOIL
							1.0			CL	CLAY: low to medium plasticity, pale brown, orange-brown and yellow-brown mottle, with trace to some subangular to subrounded metasiltstone gravel (<80mm) Water inflow approx. 0.25-0.5 litres per minute	M	St/VSt	x	
							1.5							x	
							2.0								
							2.5			CL	CLAY: medium plasticity, pale grey/white with orange-brown mottle.	M>Wp	VSt	x	RESIDUAL SOIL
							3.0				Relict rock structure			x	
							3.5				SSTP16 terminated at 3.4m due to limit of required investigation Test pit SSTP16 terminated at 3.4m			x	
							4.0								

Sketch

method		support	notes, samples, tests		classification symbols and soil description		consistency/density index	
N	natural exposure	S shoring	N nil	U ₅₀ undisturbed sample 50mm diameter	based on unified classification system		VS	very soft
X	existing excavation		U ₆₃ undisturbed sample 63mm diameter				S	soft
BH	backhoe bucket	penetration		D disturbed sample	moisture		F	firm
B	bulldozer blade			V vane shear (kPa)			St	stiff
R	ripper	water		Bs bulk sample	D dry	VSt	very stiff	
E	excavator	 water level on date shown		E environmental sample	M moist	H	hard	
		 water inflow		R refusal	W wet	Fb	friable	
		 water outflow			Wp plastic limit	VL	very loose	
					W _L liquid limit	L	loose	
						MD	medium dense	
						D	dense	
						VD	very dense	

Excavation No. **SSTP17**

Engineering Log - Excavation

Sheet 1 of 1

Project No: **GEOTCOFH02233AA**

Client: **Doug Gow & Associates Pty Ltd**

Date started: **5.12.2007**

Principal: **Noubia Pty Ltd**

Date completed: **5.12.2007**

Project: **The Lakes Estate**

Logged by: **MR**

Test pit location: **Refer to Figure 7**

Checked by:

equipment type and model: 13t Excavator					Pit Orientation:		Easting: 56508263 m		R.L. Surface: Not Measured					
excavation dimensions: 2m long 0.6m wide					Northing: 6647971 m		datum:							
excavation information					material substance									
method	penetration			support	water	notes samples, tests, etc	depth metres	graphic log	classification symbol	material soil type: plasticity or particle characteristics, colour, secondary and minor components.	moisture condition	consistency/ density index	pocket penetro- meter kPa	structure and additional observations
	1	2	3											
E				N	None Observed				ML ML CL MH	TOPSOIL: Silt, low plasticity, dark brown, root affected SILT: low plasticity, brown CLAY: medium plasticity, orange/red-brown SILT: low to medium plasticity, orange-brown, purple and yellow-brown. Relict rock structure METASILTSTONE: extremely weathered, grey, pale grey and orange-brown, estimated very low strength, extremely closely spaced defects (<80mm), iron oxide staining throughout rock mass.	M M>Wp M	St VSt H/Fb	100 200 300 400 x x x x x 600x	TOPSOIL COLLUVIAL SOIL RESIDUAL SOIL EXTREMELY WEATHERED METASILTSTONE
										SSTP17 terminated at 3.0m due to limit of required investigation Test pit SSTP17 terminated at 3m				

Sketch

method	support	notes, samples, tests	classification symbols and soil description	consistency/density index
N natural exposure X existing excavation BH backhoe bucket B bulldozer blade R ripper E excavator	S shoring N nil penetration 1 2 3 4 no resistance ranging to refusal water water level on date shown water inflow water outflow	U ₅₀ undisturbed sample 50mm diameter U ₆₃ undisturbed sample 63mm diameter D disturbed sample V vane shear (kPa) Bs bulk sample E environmental sample R refusal	based on unified classification system moisture D dry M moist W wet Wp plastic limit WL liquid limit	VS very soft S soft F firm St stiff VSt very stiff H hard Fb friable VL very loose L loose MD medium dense D dense VD very dense

Engineering Log - Excavation

Client: **Doug Gow & Associates Pty Ltd**

Date started: **5.12.2007**

Principal: **Noubia Pty Ltd**

Date completed: **5.12.2007**

Project: **The Lakes Estate**

Logged by: **MR**

Test pit location: **Refer to Figure 7**

Checked by:

equipment type and model: 13t Excavator				Pit Orientation:				Easting: 56508173 m				R.L. Surface: Not Measured									
excavation dimensions: 2m long 0.6m wide				Northing: 6647902 m				datum:													
excavation information								material substance													
method	penetration			support	water	notes samples, tests, etc	depth metres		graphic log	classification symbol	material soil type: plasticity or particle characteristics, colour, secondary and minor components.				moisture condition	consistency/ density index	pocket penetro- meter kPa	structure and additional observations			
E	1	2	3	C	None Observed				ML	TOPSOIL: Silt, low plasticity, dark brown, root affected				M				TOPSOIL			
							0.5		ML	SILT: low plasticity, brown				M>Wp	St/VSt			COLLUVIAL SOIL			
									CL	CLAY: medium plasticity, orange-brown and yellow-brown mottle, trace of angular gravel				M<Wp		x					
							1.0							M	H		x				
							1.5														
							2.0														
							2.5														
									CL	Gravelly CLAY: low plasticity, orange-brown and yellow-brown mottle, relict rock structure					Fb			RESIDUAL SOIL			
							3.0														
							3.5														
										SSTP18 terminated at 3.5m due to limit of required investigation Test pit SSTP18 terminated at 3.5m											
							4.0														

Sketch

method	support	notes, samples, tests	classification symbols and soil description	consistency/density index
N natural exposure X existing excavation BH backhoe bucket B bulldozer blade R ripper E excavator	S shoring N nil penetration 1 2 3 4 no resistance ranging to refusal water water level on date shown water inflow water outflow	U ₅₀ undisturbed sample 50mm diameter U ₆₃ undisturbed sample 63mm diameter D disturbed sample V vane shear (kPa) Bs bulk sample E environmental sample R refusal	based on unified classification system moisture D dry M moist W wet Wp plastic limit WL liquid limit	VS very soft S soft F firm St stiff VSt very stiff H hard Fb friable VL very loose L loose MD medium dense D dense VD very dense

Engineering Log - Excavation

Client: **Doug Gow & Associates Pty Ltd**

Date started: **5.12.2007**

Principal: **Noubia Pty Ltd**

Date completed: **5.12.2007**

Project: **The Lakes Estate**

Logged by: **MR**

Test pit location: **Refer to Figure 7**

Checked by:

equipment type and model: 13t Excavator				Pit Orientation:				Easting: 56508176 m				R.L. Surface: Not Measured					
excavation dimensions: 2m long 0.6m wide				Northing: 6647830 m				datum:									
excavation information								material substance									
method		penetration		support	water	notes samples, tests, etc	depth metres	graphic log	classification symbol	material soil type: plasticity or particle characteristics, colour, secondary and minor components.	moisture condition	consistency/ density index	pocket penetro- meter kPa				structure and additional observations
1	2	3	100										200	300	400		
E				N	None Observed				ML	TOPSOIL: Silt, low plasticity, dark brown, root affected	M					TOPSOIL	
							0.5		ML	SILT: low plasticity, pale grey and pale brown	M>Wp	St	x	x		COLLUVIAL SOIL	
							1.0		CL	CLAY: low to medium plasticity, orange-brown and pale yellow-brown mottle		VSt		x			
							1.5					H		x	x		
							2.0		CL	CLAY: low plasticity, orange-brown and red/yellow-brown mottle	M	Fb				RESIDUAL SOIL	
							2.5			Relict rock structure							
							3.0			Colour change to grey and orange-brown							
							3.5			SSTP19 terminated at 3.4m due to limit of required investigation Test pit SSTP19 terminated at 3.4m							
							4.0										

Sketch

method N natural exposure X existing excavation BH backhoe bucket B bulldozer blade R ripper E excavator		support S shoring N nil penetration 1 2 3 4 no resistance ranging to refusal water water level on date shown water inflow water outflow		notes, samples, tests U ₅₀ undisturbed sample 50mm diameter U ₆₃ undisturbed sample 63mm diameter D disturbed sample V vane shear (kPa) Bs bulk sample E environmental sample R refusal		classification symbols and soil description based on unified classification system moisture D dry M moist W wet Wp plastic limit WL liquid limit		consistency/density index VS very soft S soft F firm St stiff VSt very stiff H hard Fb friable VL very loose L loose MD medium dense D dense VD very dense	

Engineering Log - Excavation

Client: **Doug Gow & Associates Pty Ltd**

Date started: **5.12.2007**

Principal: **Noubia Pty Ltd**

Date completed: **5.12.2007**

Project: **The Lakes Estate**

Logged by: **MR**

Test pit location: **Refer to Figure 7**

Checked by:

equipment type and model: 13t Excavator					Pit Orientation:					Easting: 56508104 m					R.L. Surface: Not Measured				
excavation dimensions: 2m long 0.6m wide					Northing: 6647961 m					datum:									
excavation information						material substance													
method	penetration			support	water	notes samples, tests, etc	depth RL metres		graphic log	classification symbol	material soil type: plasticity or particle characteristics, colour, secondary and minor components.	moisture condition	consistency/ density index	pocket penetrometer kPa	structure and additional observations				
	1	2	3																
E				N	None Observed				ML	TOPSOIL: Silt, low plasticity, dark brown, root affected	M				TOPSOIL				
							0.5		ML	SILT: low to medium plasticity, brown	M>Wp	St			COLLUVIAL SOIL				
							1.0		CL	CLAY: low to medium plasticity, orange-brown, with trace to some of metasiltstone gravel		VSt/H			RESIDUAL SOIL				
							1.5			METASILTSTONE: orange-brown and purple, extremely weathered	M	Fb			EXTREMELY WEATHERED METASILTSTONE				
							2.0												
							2.5			METASILTSTONE: extremely grading to moderately weathered, dark grey and orange-brown, estimated low to very low strength, extremely closely spaced defects (<80mm), iron oxide staining throughout rock mass					EXTREMELY TO MODERATELY WEATHERED METASILTSTONE				
							3.0												
							3.5			SSTP20 terminated at 3.2m due to limit of required investigation Test pit SSTP20 terminated at 3.2m									
							4.0												

Sketch

method	support	notes, samples, tests	classification symbols and soil description	consistency/density index
N natural exposure X existing excavation BH backhoe bucket B bulldozer blade R ripper E excavator	S shoring N nil penetration 1 2 3 4 no resistance ranging to refusal water water level on date shown water inflow water outflow	U ₅₀ undisturbed sample 50mm diameter U ₆₃ undisturbed sample 63mm diameter D disturbed sample V vane shear (kPa) Bs bulk sample E environmental sample R refusal	based on unified classification system moisture D dry M moist W wet Wp plastic limit WL liquid limit	VS very soft S soft F firm St stiff VSt very stiff H hard Fb friable VL very loose L loose MD medium dense D dense VD very dense

Engineering Log - Excavation

Client: **Doug Gow & Associates Pty Ltd**

Date started: **5.12.2007**

Principal: **Noubia Pty Ltd**

Date completed: **5.12.2007**

Project: **The Lakes Estate**

Logged by: **MR**

Test pit location: **Refer to Figure 7**

Checked by:

equipment type and model: 13t Excavator Pit Orientation: Easting: 56507970 m R.L. Surface: Not Measured
excavation dimensions: 2m long 0.6m wide Northing: 6648013 m datum:

excavation information					material substance									
method	penetration			support	water	notes samples, tests, etc	depth metres	graphic log	classification symbol	material	moisture condition	consistency/ density index	pocket penetro- meter	structure and additional observations
E	1	2	3	N	None Observed				ML	TOPSOIL: Silt, low plasticity, dark brown, root affected	M	F	100	TOPSOIL
							0.5		GP	GRAVEL: orange-brown clay and grey metasiltstone gravel, gravel is estimated to be low to medium strength	M>Wp		200	RESIDUAL SOIL
							1.0			METASILTSTONE: moderately weathered, grey-brown, with well developed clay seams along defects (<100mm thickness). Estimated high strength, open joints becoming closed and tight with depth, iron oxide staining throughout rock mass. Extremely closely spaced defects (80mm-1000mm)			300	MODERATELY WEATHERED METASILTSTONE
							1.5						400	
							2.0			METASILTSTONE: grey-dark grey with iron oxide staining along some defects, slightly weathered, estimated high strength, closed and tight defects. SSTP21 terminated due to refusal on weathered metasiltstone Test pit SSTP21 terminated at 1.8m				SLIGHTLY WEATHERED METASILTSTONE
							2.5							
							3.0							
							3.5							
							4.0							

Sketch

method	support	notes, samples, tests	classification symbols and soil description	consistency/density index
N natural exposure X existing excavation BH backhoe bucket B bulldozer blade R ripper E excavator	S shoring N nil penetration 1 2 3 4 no resistance ranging to refusal water water level on date shown water inflow water outflow	U ₅₀ undisturbed sample 50mm diameter U ₆₃ undisturbed sample 63mm diameter D disturbed sample V vane shear (kPa) Bs bulk sample E environmental sample R refusal	based on unified classification system moisture D dry M moist W wet Wp plastic limit WL liquid limit	VS very soft S soft F firm St stiff VSt very stiff H hard Fb friable VL very loose L loose MD medium dense D dense VD very dense

Engineering Log - Excavation

Client: **Doug Gow & Associates Pty Ltd**

Date started: **5.12.2007**

Principal: **Noubia Pty Ltd**

Date completed: **5.12.2007**

Project: **The Lakes Estate**

Logged by: **MR**

Test pit location: **Refer to Figure 7**

Checked by:

equipment type and model: 13t Excavator				Pit Orientation:				Easting: 56507922 m				R.L. Surface: Not Measured			
excavation dimensions: 2m long 0.6m wide				Northing: 6647945 m				datum:							
excavation information						material substance									
method	penetration			support	water	notes samples, tests, etc	depth metres	RL	graphic log	classification symbol	material soil type: plasticity or particle characteristics, colour, secondary and minor components.	moisture condition	consistency/ density index	pocket penetro- meter kPa 100 200 300 400	structure and additional observations
	1	2	3												
E				N	None Observed					ML	TOPSOIL: Silt, low plasticity, dark grey, root affected	M			TOPSOIL
							0.5			ML	SILT: low plasticity, brown	M>Wp	St	X	COLLUVIAL SOIL
										CL	CLAY: medium plasticity, orange-brown, with a trace of subrounded gravel			X	
							1.0			CL	CLAY: medium plasticity, orange-brown	M=Wp	VSt/H	X	RESIDUAL SOIL
							1.5				Relict rock structure				
							2.0				METASILTSTONE:extremely weathered, orange-brown and grey, estimated very low strength, extensively iron oxide stained through rock mass, extremely closely spaced defects (<80mm)	M	Fb		EXTREMELY WEATHERED METASILTSTONE
							2.5				METASILTSTONE:extremely grading to highly weathered, orange-brown and grey, estimated very low to low strength, some iron oxide staining along defects				EXTREMELY TO HIGHLY WEATHERED METASILTSTONE
							3.0								
							3.5				SSTP22 terminated at 3.4m due to limit of required investigation Test pit SSTP22 terminated at 3.4m				
							4.0								

Sketch

method	support	notes, samples, tests	classification symbols and soil description	consistency/density index
N natural exposure X existing excavation BH backhoe bucket B bulldozer blade R ripper E excavator	S shoring N nil penetration 1 2 3 4 no resistance ranging to refusal water water level on date shown water inflow water outflow	U ₅₀ undisturbed sample 50mm diameter U ₆₃ undisturbed sample 63mm diameter D disturbed sample V vane shear (kPa) Bs bulk sample E environmental sample R refusal	based on unified classification system moisture D dry M moist W wet Wp plastic limit WL liquid limit	VS very soft S soft F firm St stiff VSt very stiff H hard Fb friable VL very loose L loose MD medium dense D dense VD very dense

Excavation No. **SSTP23**

Engineering Log - Excavation

Sheet 1 of 1

Project No. **GEOTCOFH02233AA**

Client: **Doug Gow & Associates Pty Ltd**

Date started: **5.12.2007**

Principal: **Noubia Pty Ltd**

Date completed: **5.12.2007**

Project: **The Lakes Estate**

Logged by: **MR**

Test pit location: **Refer to Figure 7**

Checked by:

equipment type and model: 13t Excavator					Pit Orientation:					Easting: 56508019 m					R.L. Surface: Not Measured				
excavation dimensions: 2m long 0.6m wide					Northing: 6647934 m					datum:									
excavation information										material substance									
method	penetration			support	water	notes samples, tests, etc	depth RL metres		graphic log	classification symbol	material	moisture condition	consistency/density index	pocket penetrometer kPa	structure and additional observations				
E	1	2	3	N	None Observed						soil type: plasticity or particle characteristics, colour, secondary and minor components.								

Sketch

method	support	notes, samples, tests	classification symbols and soil description	consistency/density index
N natural exposure X existing excavation BH backhoe bucket B bulldozer blade R ripper E excavator	S shoring N nil penetration 1 2 3 4 no resistance ranging to refusal water water level on date shown water inflow water outflow	U ₅₀ undisturbed sample 50mm diameter U ₆₃ undisturbed sample 63mm diameter D disturbed sample V vane shear (kPa) Bs bulk sample E environmental sample R refusal	based on unified classification system moisture D dry M moist W wet Wp plastic limit WL liquid limit	VS very soft S soft F firm St stiff VSt very stiff H hard Fb friable VL very loose L loose MD medium dense D dense VD very dense

Appendix C

Environmental Laboratory Test Reports

CERTIFICATE OF ANALYSIS

Coffey Geotechnics Pty Ltd
Unit 1 18 Hurley Dve
Coffs Harbour
NSW 2450
Site: GEOTCOFH02233AA

Report Number: 218321 Page 1 of 16
Order Number:
Date Received: Nov 30, 2007
Date Sampled: Nov 30, 2007
Date Reported: Dec 10, 2007
Contact: Emma Coleman

Methods

- USEPA 8081A Organochlorine Pesticides
- USEPA 6010B Heavy Metals & USEPA 7470/71 Mercury
- USEPA 6020 Heavy Metals
- Method 102 - ANZECC - % Moisture

Comments

Notes

1. The 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.

ABBREVIATIONS

mg/kg : milligrams per kilograms, mg/L : milligrams per litre, ppm : parts per million,

LOR : Limit of Reporting

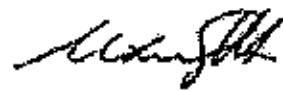
RPD : Relative Percent Difference

CRM : Certified Reference Material

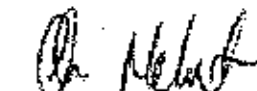
LCS : Laboratory Control Sample

Authorised

Report Number: 218321



Michael Wright
Laboratory Manager
NATA Signatory



Osnur Mehmet
Client Manager
NATA Signatory



Orlando Scalzo
Chief Organic Chemist
NATA Signatory



Tammy Lakeland
Chief Inorganic Chemist



WORLDWIDE
ACCREDITATION

NATA Accredited
Laboratory Number 1261

The tests, calibrations or measurements covered by this document have been performed in accordance with NATA requirements which include the requirements of ISO/IEC 17025 and are traceable to national standards of measurement. This document shall not be reproduced, except in full.



Member

3 Kingston Town Close, Oadleigh, Victoria 3166, Australia
 Postal address: P. O. Box 276, Oadleigh, Victoria 3166, Australia
 Telephone: (03) 9564 7055
 Fax: (03) 9564 7190
 Email: mgt@mgtenv.com.au

Client Sample ID		T1	T2	T3	T4
Coffey Geotechnics Pty Ltd Unit 1 18 Hurley Dve Cofts Harbour NSW 2450 Analysis Type % Moisture Heavy Metals Arsenic Lead	Lab Number	07-No09819	07-No09820	07-No09821	07-No09822
	Matrix	Soil	Soil	Soil	Soil
	Sample Date	Nov 30, 2007	Nov 30, 2007	Nov 30, 2007	Nov 30, 2007
	LOR				
	Units				
	%	25	33	32	33
	mg/kg	240	140	60	100
	mg/kg	15	13	15	19

3 Kingston Town Close, Oakleigh, Victoria 3166, Australia
 Postal address: P. O. Box 276, Oakleigh, Victoria 3166, Australia
 Telephone: (03) 9584 7055
 Fax: (03) 9584 7190
 Email: mgt@mgtenv.com.au

Coffey Geotechnics Pty Ltd

Unit 1 18 Hurley Dve

Coffs Harbour

NSW 2450

Analysys Type

% Moisture

Heavy Metals

Arsenic

Lead

Client Sample ID				T5	T6	T7	T8
Lab Number				07-No09823	07-No09824	07-No09825	07-No09826
Matrix				Soil	Soil	Soil	Soil
Sample Date				Nov 30, 2007	Nov 30, 2007	Nov 30, 2007	Nov 30, 2007
LOR							
Units							
0.1				30	41	36	40
%							
2.0				260	170	37	83
mg/kg							
5				24	19	24	17
mg/kg							

COMMENTS:

Coffey Geotechnics Pty Ltd

Unit 118 Hurley Dye

Coffs Harbour

NSW 2450

Analysis Type

% Moisture

Heavy Metals

Arsenic

Lead

Client Sample ID	T9	U1	U2	U3
Lab Number	07-No09827	07-No09828	07-No09829	07-No09830
Matrix	Soil	Soil	Soil	Soil
Sample Date	Nov 30, 2007	Nov 30, 2007	Nov 30, 2007	Nov 30, 2007
LOR				
0.1	34	31	33	37
2.0	80	110	120	51
5	17	13	11	5.2
Units				
%				
mg/kg				
mg/kg				

COMMENTS:

Coffey Geotechnics Pty Ltd

Client Sample ID	U4	U5	U6	U7
Lab Number	07-No09831	07-No09832	07-No09833	07-No09834
Matrix	Soil	Soil	Soil	Soil
Sample Date	Nov 30, 2007	Nov 30, 2007	Nov 30, 2007	Nov 30, 2007
Analysis Type	Units			
% Moisture	%	32	35	34
Heavy Metals				
Arsenic	mg/kg	240	120	70
Lead	mg/kg	19	20	23

COMMENTS:

Coffey Geotechnics Pty Ltd

Client Sample ID	U8	U9	V1	V2
Lab Number	07-No09835	07-No09836	07-No09837	07-No09838
Matrix	Soil	Soil	Soil	Soil
Sample Date	Nov 30, 2007	Nov 30, 2007	Nov 30, 2007	Nov 30, 2007
Analysis Type	Unks			
% Moisture	0.1	34	30	31
Heavy Metals				
Arsenic	2.0	58	16	190
Lead	5	17	9.4	10

COMMENTS:

Coffey Geotechnics Pty Ltd

Client Sample ID		V3	V4	V5	V6
Unit 118 Hurley Dye Coffs Harbour NSW 2450	Lab Number	07-No09839	07-No09840	07-No09841	07-No09842
	Matrix	Soil	Soil	Soil	Soil
	Sample Date	Nov 30, 2007	Nov 30, 2007	Nov 30, 2007	Nov 30, 2007
	LOR				
	0.1	31	35	29	32
Analysis Type	% Moisture				
	Heavy Metals				
	Arsenic	170	230	94	130
	Lead	8.1	13	12	21

Coffey Geotechnics Pty Ltd

Client Sample ID		V7	V8	V9	DUP12
Unit 1 18 Hurley Dye	Lab Number	07-No09843	07-No09844	07-No09845	07-No09846
Coffs Harbour	Matrix	Soil	Soil	Soil	Soil
NSW 2450.	Sample Date	Nov 30, 2007	Nov 30, 2007	Nov 30, 2007	Nov 30, 2007
Analysis Type	LOR	Units			
% Moisture	0.1	%	34	33	30
Heavy Metals					
Arsenic	2.0	mg/kg	48	45	67
Lead	5	mg/kg	15	13	16

COMMENTS:

Coffey Geotechnics Pty Ltd

Client Sample ID		DUP13	DUP14	CA	CB
Lab Number		07-No09847	07-No09848	07-No09849	07-No09850
Matrix		Soil	Soil	Soil	Soil
Sample Date		Nov 30, 2007	Nov 30, 2007	Nov 30, 2007	Nov 30, 2007
LOR					
Analysis Type		Units			
Organochlorine Pesticides					
4,4'-DDD		mg/kg	-	< 0.05	< 0.05
4,4'-DDE		mg/kg	-	< 0.05	< 0.05
4,4'-DDT		mg/kg	-	< 0.05	< 0.05
α-BHC		mg/kg	-	< 0.05	< 0.05
Aldrin		mg/kg	-	< 0.05	< 0.05
β-BHC		mg/kg	-	< 0.05	< 0.05
Chlordane		mg/kg	-	< 0.05	< 0.05
δ-BHC		mg/kg	-	< 0.1	< 0.1
Dieldrin		mg/kg	-	< 0.05	< 0.05
Endosulfan I		mg/kg	-	< 0.05	< 0.05
Endosulfan II		mg/kg	-	< 0.05	< 0.05
Endosulfan sulphate		mg/kg	-	< 0.05	< 0.05
Endrin		mg/kg	-	< 0.05	< 0.05
Endrin aldehyde		mg/kg	-	< 0.05	< 0.05
Endrin ketone		mg/kg	-	< 0.05	< 0.05
γ-BHC (Lindane)		mg/kg	-	< 0.05	< 0.05
Heptachlor		mg/kg	-	< 0.05	< 0.05
Heptachlor epoxide		mg/kg	-	< 0.05	< 0.05
Hexachlorobenzene		mg/kg	-	< 0.05	< 0.05
Methoxychlor		mg/kg	-	< 0.05	< 0.05
Toxophene		mg/kg	-	< 0.05	< 0.05
Dibutylchloride (sur.)		%	-	< 0.1	< 0.1
Tetrachloro-m-xylene (sur.)		%	-	64	80
%		%	-	55	82
%		%	-		
%		%	37	31	30
%		%			
Heavy Metals					
Arsenic		mg/kg	57	120	
Lead		mg/kg	22	11	

COMMENTS:

Coffey Geotechnics Pty Ltd

Client Sample ID		CC	CD	CE	CF
Lab Number		07-No09851	07-No09852	07-No09853	07-No09854
Matrix		Soil	Soil	Soil	Soil
Sample Date		Nov 30, 2007	Nov 30, 2007	Nov 30, 2007	Nov 30, 2007
LOR					
Analysis Type		Units			
Organochlorine Pesticides					
4,4'-DDD	0.05	mg/kg	< 0.05	< 0.05	< 0.05
4,4'-DDE	0.05	mg/kg	< 0.05	< 0.05	< 0.05
4,4'-DDT	0.05	mg/kg	< 0.05	< 0.05	< 0.05
a-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05
Aldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05
b-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05
Chlordane	0.1	mg/kg	< 0.1	< 0.1	< 0.1
d-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05
Dieldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05
Endosulfan I	0.05	mg/kg	< 0.05	< 0.05	< 0.05
Endosulfan II	0.05	mg/kg	< 0.05	< 0.05	< 0.05
Endosulfan sulphate	0.05	mg/kg	< 0.05	< 0.05	< 0.05
Endrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05
Endrin aldehyde	0.05	mg/kg	< 0.05	< 0.05	< 0.05
Endrin ketone	0.05	mg/kg	< 0.05	< 0.05	< 0.05
g-BHC (Lindane)	0.05	mg/kg	< 0.05	< 0.05	< 0.05
Heptachlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05
Heptachlor epoxide	0.05	mg/kg	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	0.05	mg/kg	< 0.05	< 0.05	< 0.05
Methoxychlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05
Toxophene	0.1	mg/kg	< 0.1	< 0.1	< 0.1
Dibutylchlorodale (sum.)	1	%	124	119	91
Tetrachloro-m-xylene (sum.)	1	%	134	118	115
% Moisture	0.1	%	34	39	35

COMMENTS:

Coffey Geotechnics Pty Ltd

Client Sample ID	CG	CH	CI	WB3
Lab Number	07-No09855	07-No09856	07-No09857	07-No09858
Matrix	Soil	Soil	Soil	Water
Sample Date	Nov 30, 2007	Nov 30, 2007	Nov 30, 2007	Nov 30, 2007
Analysis Type	Units			
Organochlorine Pesticides				
4,4'-DDD	mg/kg	< 0.05	< 0.05	< 0.05
4,4'-DDE	mg/kg	< 0.05	< 0.05	< 0.05
4,4'-DDT	mg/kg	< 0.05	< 0.05	< 0.05
a-BHC	mg/kg	< 0.05	< 0.05	< 5
Aldrin	mg/kg	< 0.05	< 0.05	< 0.05
b-BHC	mg/kg	< 0.05	< 0.05	< 0.05
Chlordane	mg/kg	< 0.05	< 0.05	< 0.05
d-BHC	mg/kg	< 0.1	< 0.1	< 0.1
Dieldrin	mg/kg	< 0.05	< 0.05	< 0.05
Endosulfan I	mg/kg	< 0.05	< 0.05	< 0.05
Endosulfan II	mg/kg	< 0.05	< 0.05	< 0.05
Endosulfan sulphate	mg/kg	< 0.05	< 0.05	< 0.05
Endrin	mg/kg	< 0.05	< 0.05	< 0.05
Endrin aldehyde	mg/kg	< 0.05	< 0.05	< 0.05
Endrin ketone	mg/kg	< 0.05	< 0.05	< 0.05
g-BHC (Lindane)	mg/kg	< 0.05	< 0.05	< 0.05
Heptachlor	mg/kg	< 0.05	< 0.05	< 0.05
Heptachlor epoxide	mg/kg	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	mg/kg	< 0.05	< 0.05	< 0.05
Methoxychlor	mg/kg	< 0.05	< 0.05	< 0.05
Toxophene	mg/kg	< 0.1	< 0.1	< 0.1
Dibutylchlorodate (sum.)	%	140	135	131
Tetrachloro-m-xylene (sum.)	%	130	103	111
% Moisture	%	36	39	37
Heavy Metals				
Arsenic	mg/L	-	-	< 0.001
Lead	mg/L	-	-	< 0.001

COMMENTS:

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 Email: mgt@mgtenv.com.au

Corley Geotechnics Pty Ltd		Client Sample ID	T1	T1	T1	T1
Unit 118 Hurley Dye Coffs Harbour NSW 2450		Lab Number	07-No09819	07-No09819	07-No09819	07-No09819
		QA Description		Duplicate	Duplicate % RPD	Spike % Recovery
		Matrix	Soil	Soil	Soil	Soil
		Sample Date	Nov 30, 2007	Nov 30, 2007	Nov 30, 2007	Nov 30, 2007
Analysis Type		Units			% RPD	% Recovery
Heavy Metals						
Lead			15	16	3.5	88

COMMENTS:

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 Email: mgt@mgtenv.com.au

Corley Geotechnics Pty Ltd		Client Sample ID	U2	U2	U2	U2
Unit 118 Hurley Dve Coffs Harbour NSW 2450		Lab Number	07-No09829	07-No09829	07-No09829	07-No09829
		QA Description		Duplicate	Duplicate % RPD	Spike % Recovery
		Matrix	Soil	Soil	Soil	Soil
		Sample Date	Nov 30, 2007	Nov 30, 2007	Nov 30, 2007	Nov 30, 2007
Analysis Type		Units			% RPD	% Recovery
Heavy Metals						
Arsenic			120	120	2.3	106
Lead			11	11	1.9	90

COMMENTS:

COMMENTS:

Colley Geotechnics Pty Ltd		Client Sample ID	RPD	CB	Method blank
Unit 1 18 Hurley Dve		Lab Number	BATCH	07-No09850	Batch
Coffs Harbour		QA Description		Spike % Recovery	
NSW 2450		Matrix	Soil	Soil	Soil
Analysis Type		Sample Date	Nov 30, 2007	Nov 30, 2007	Nov 30, 2007
Organochlorine Pesticides		Units		% Recovery	mg/L
4,4'-DDD			< 1	128	< 0.005
4,4'-DDE			< 1	129	< 0.005
4,4'-DDT			< 1	84	< 0.005
a-BHC			< 1	123	< 0.005
Aldrin			< 1	125	< 0.005
b-BHC			< 1	123	< 0.005
Chlordane			< 1	96	< 0.01
d-BHC			< 1	128	< 0.005
Dieldrin			< 1	120	< 0.005
Endosulfan I			< 1	129	< 0.005
Endosulfan II			< 1	117	< 0.005
Endosulfan sulphate			< 1	113	< 0.005
Endrin			< 1	128	< 0.005
Endrin aldehyde			< 1	91	< 0.005
Endrin ketone			< 1	107	< 0.005
g-BHC (Lindane)			< 1	108	< 0.005
Heptachlor			< 1	127	< 0.005
Heptachlor epoxide			< 1	130	< 0.005
Hexachlorobenzene			< 1	122	< 0.005
Methoxychlor			< 1	91	< 0.005
Toxophene			< 1	89	< 0.01
Dibutylchloride (surr.)			-	98	101
Tetrachloro-m-xylene (surr.)			-	104	102

COMMENTS:

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Coffey Geotechnics Pty Ltd		Client Sample ID	WB3	WB3	WB3	WB3	WB3	Method blank
Unit 1 18 Hurley Dve		Lab Number	07-No09858	07-No09858	07-No09858	07-No09858	07-No09858	Batch
Coffs Harbour		QA Description		Duplicate	Duplicate % RPD	Spike % Recovery		
NSW 2450		Matrix	Water	Water	Water	Water	Water	Water
		Sample Date	Nov 30, 2007	Nov 30, 2007	Nov 30, 2007	Nov 30, 2007	Nov 30, 2007	Nov 30, 2007
Analysis Type		Units			% RPD	% Recovery		mg/L
Heavy Metals								
Arsenic			< 0.001	< 0.001	< 1	89	< 0.001	
Lead			< 0.001	< 0.001	< 1	93	< 0.001	

COMMENTS:

QA/QC DATA VALIDATION REPORT

Job No: GEOTCOFH02233AA Batch: 218321

I. SAMPLE HANDLING

1. Were the sample **holding times** met?
2. Were the samples in **proper custody** between the field and reaching the laboratory?
3. Were the samples **properly and adequately** preserved?
This includes keeping the samples chilled, where applicable.
4. Were the samples received by the laboratory in good condition?

Yes	No
☒	☐
☒	☐
☒	☐
☒	☐

Sample Handling was:

☒ Satisfactory

☐ Unsatisfactory

☐ Partially Satisfactory

II PRECISION / ACCURACY ASSESSMENT

1. Was a NATA registered laboratory used?
2. Did the laboratory perform the requested tests?
3. Were the laboratory methods adopted NATA endorsed?
4. Were the appropriate test procedures followed?
5. Were the reporting limits satisfactory?
6. Was the NATA Seal on the reports?
7. Were the reports signed by an authorised person?

Yes	No (Comment below)
☒	☐
☒	☐
☒	☐
☒	☐
☒	☐
☒	☐
☒	☐

Precision/Accuracy of the Laboratory Report

☒ Satisfactory

☐ Unsatisfactory

☐ Partially Satisfactory

III. FIELD QA/QC

1.	Number of Samples Analysed	Soil:	39
		Wash Blanks	1

2.	Number of Days of Sampling	Soil:	1

- 3. Number and Type of QA/QC Samples Collected:**

	SOIL	WATER
Field Duplicates	3	NA
Trip Spikes	0	NA
Wash Blanks	1	NA
Other (Field Blanks, Trip Blanks, etc.)	0	NA

- #### 4. Field Duplicates

- A. Were an Adequate Number of field duplicates collected?

- ### B. Were RPDs within Control Limits?

- a. Organics (< 50 %)

- b. Metals/Inorganics (< 50 %)

Yes	No
☒	☐
NA	☐
☒	☐

- ## 5. Trip Blanks

- A. Were an Adequate Number of trip blanks collected?

- B. Were the Trip Blanks free of contaminants?

Yes	No
☐	☒
NA	☐

6. Wash Blanks

A. Were an adequate number of Wash Blanks collected?

B. Were the Wash Blanks free of contaminants?

Yes	No
☒	☐
☒	☐

Comments:

Trip blanks and trip spikes were not used as the samples were not being analysed for volatile contaminants.

Field QA/QC was:

☒ Satisfactory

☐ Unsatisfactory

☐ Partially Satisfactory

IV LABORATORY INTERNAL QUALITY CONTROL PROCEDURES

1. Types and Number of QA/QC Samples

	SOIL	WATER
Method Blanks	1	1
Matrix Spikes	4	1
Laboratory Duplicates	4	1
Surrogates	18	2

2. Were the laboratory blanks/reagents blanks free of contamination?

3. Were the spike recoveries within laboratory control limits?

a. Organics (60% to 130%)

b. Metals/Inorganic (70% to 130%)

4. Were the RPDs of the laboratory duplicates within control limits?

5. Were the surrogate recoveries within control limits?

Yes	No
☒	☐
☒	☐
☒	☐
☒	☐
☒	☐

The laboratory internal QA/QC was:

☒ Satisfactory

☐ Unsatisfactory

☐ Partially Satisfactory

V. DATA USABILITY

1.	Data Directly Usable	☒
2.	Data Usable with the following corrections/modifications	☐
3.	Data Not Usable.	☐

QA/QC Report Prepared by

Emma Coleman

CERTIFICATE OF ANALYSIS

Coffey Geotechnics Pty Ltd
Unit 1 18 Hurley Dve
Coffs Harbour
NSW 2450
Site: GEOTCOFH02233AA

Report Number: 218322 Page 1 of 57
Order Number:
Date Received: Nov 29, 2007
Date Sampled: Nov 26, 2007
Date Reported: Dec 11, 2007
Contact: Emma Coleman

Methods

- USEPA 8081A Organochlorine Pesticides
- USEPA 6010B Heavy Metals & USEPA 7470/71 Mercury
- USEPA 6020 Heavy Metals
- Method 102 - ANZECC - % Moisture

Comments

Notes

1. The 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.

ABBREVIATIONS

mg/kg : milligrams per kilograms, mg/L : milligrams per litre, ppm : parts per million,

LOR : Limit of Reporting

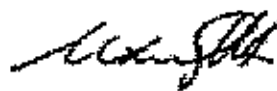
RPD : Relative Percent Difference

CRM : Certified Reference Material

LCS : Laboratory Control Sample

Authorised

Report Number: 218322



Michael Wright
Laboratory Manager
NATA Signatory



Onur Mehmet
Client Manager
NATA Signatory



Orlando Scalzo
Chief Organic Chemist
NATA Signatory



Tammy Lakeland
Chief Inorganic Chemist



WORLD RECOGNISED
ACCREDITATION

NATA Accredited
Laboratory Number 1261

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Member

Coffey Geotechnics Pty Ltd		Client Sample ID	A4 0-150MM	B4 0-150MM	B5 0-150MM	B6 0-150MM
Unit 1 18 Hurley Dve		Lab Number	07-No09859	07-No09860	07-No09861	07-No09862
Coffs Harbour		Matrix	Soil	Soil	Soil	Soil
NSW 2450		Sample Date	Nov 26, 2007	Nov 26, 2007	Nov 26, 2007	Nov 26, 2007
Analysis Type		LOR				
% Moisture		0.1	33	29	27	27
Heavy Metals						
Arsenic		2.0	34	38	47	56
Lead		5	21	12	15	8.4

Coffey Geotechnics Pty Ltd

Unit 116 Hurley Dve

Coffs Harbour

NSW 2450

Analysis Type

% Moisture

Heavy Metals

Arsenic

Lead

Client Sample ID	B7 0-150MM	C4 0-150MM	C5 0-150MM	C6 0-150MM
Lab Number	07-No09863	07-No09864	07-No09865	07-No09866
Matrix	Soil	Soil	Soil	Soil
Sample Date	Nov 26, 2007	Nov 26, 2007	Nov 26, 2007	Nov 26, 2007
LOR				
Units				
0.1	31	31	28	25
%				
2.0	140	8.7	54	64
mg/kg				
5	14	68	14	19
mg/kg				

COMMENTS:

Coffey Geotechnics Pty Ltd

**Unit 1 18 Hurley Dve
Coffs Harbour
NSW 2450**

Client Sample ID		C7 0-150MM	C8 0-150MM	D5 0-150MM	D6 0-150MM
Unit 1 18 Hurley Dve Coffs Harbour NSW 2450	Lab Number	07-No09867	07-No09868	07-No09869	07-No09870
	Matrix	Soil	Soil	Soil	Soil
	Sample Date	Nov 26, 2007	Nov 26, 2007	Nov 26, 2007	Nov 26, 2007
	Analysis Type				
	% Moisture	28	29	23	24
Heavy Metals	Arsenic	61	8.9	68	97
	Lead	11	18	23	28

COMMENTS:

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Coffey Geotechnics Pty Ltd

Unit 1/18 Hunley Dye
 Coffe Harbour
 NSW 2450

Client Sample ID	D7 0-150MM	D8 0-150MM	D9 0-150MM	D10 0-150MM
Lab Number	07-No09871	07-No09872	07-No09873	07-No09874
Matrix	Soil	Soil	Soil	Soil
Sample Date	Nov 26, 2007	Nov 26, 2007	Nov 26, 2007	Nov 26, 2007
LOR				
0.1	22	27	26	31
% Moisture				
Heavy Metals				
Arsenic	54	82	150	110
Lead	19	18	13	12

COMMENTS:

Coffey Geotechnics Pty Ltd

Unit 118 Hurley Dve Coffs Harbour NSW 2450	Client Sample ID	E4 0-150MM	E5 0-150MM	E6 0-150MM	E7 0-150MM
Analysis Type	Lab Number	07-No09875	07-No09876	07-No09877	07-No09878
% Moisture	Matrix	Soil	Soil	Soil	Soil
Heavy Metals	Sample Date	Nov 26, 2007	Nov 26, 2007	Nov 26, 2007	Nov 26, 2007
Arsenic	LOF				
Lead	0.1	18	22	22	17
	2.0	4.3	110	230	46
	5	16	21	45	10

COMMENTS:

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Coffey Geotechnics Pty Ltd

Unit 118 Hurley Dve Coffs Harbour NSW 2450	Client Sample ID	E8 0-150MM	E9 0-150MM	E10 0-150MM	E11 0-150MM
Analysis Type	Lab Number	07-No09879	07-No09880	07-No09881	07-No09882
% Moisture	Matrix	Soil	Soil	Soil	Soil
Heavy Metals	Sample Date	Nov 26, 2007	Nov 26, 2007	Nov 26, 2007	Nov 26, 2007
Arsenic	LOR	Units			
Lead	0.1	%	29	23	30
	2.0	mg/kg	56	83	19
	6	mg/kg	12	11	13

COMMENTS:

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Coffey Geotechnics Pty Ltd

Unit 118 Hurley Dye		F3 0-150MM	F4 0-150MM	F5 0-150MM	F6 0-150MM
Coffs Harbour		07-No09883	07-No09884	07-No09885	07-No09886
NSW 2450		Soil	Soil	Soil	Soil
Analysis Type		Nov 26, 2007	Nov 26, 2007	Nov 26, 2007	Nov 26, 2007
% Moisture		26	26	22	24
Heavy Metals					
Arsenic		110	<2	140	87
Lead		15	18	21	22

COMMENTS:

Coffey Geotechnics Pty Ltd

Unit 118 Hunley Dve
 Coffs Harbour
 NSW 2450

Client Sample ID		F7 0-150MM	F8 0-150MM	F9 0-150MM	F10 0-150MM
Lab Number		07-No09887	07-No09888	07-No09889	07-No09890
Matrix		Soil	Soil	Soil	Soil
Sample Date		Nov 26, 2007	Nov 26, 2007	Nov 26, 2007	Nov 26, 2007
Analysis Type	LOR				
% Moisture	0.1	21	25	17	21
Heavy Metals					
Arsenic	2.0	120	110	160	58
Lead	5	25	29	14	11

COMMENTS:

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Coffey Geotechnics Pty Ltd

Unit 1 18 Hurley Dye
 Coffs Harbour
 NSW 2450

Client Sample ID		G3 0-150MM	G4 0-150MM	G5 0-150MM	G6 0-150MM
Lab Number		07-No09891	07-No09892	07-No09893	07-No09894
Matrix		Soil	Soil	Soil	Soil
Sample Date		Nov 26, 2007	Nov 27, 2007	Nov 27, 2007	Nov 27, 2007
Analysis Type	LOR				
% Moisture	0.1	20	30	28	23
Heavy Metals					
Arsenic	2.0	28	110	170	71
Lead	5	16	36	31	26

COMMENTS:

Coffey Geotechnics Pty Ltd

Unit 118 Hunley Dve
 Coff's Harbour
 NSW 2450

Client Sample ID	G7 0-150MM	G8 0-150MM	G9 0-150MM	H1 0-150MM
Lab Number	07-No08895	07-No08896	07-No08897	07-No08898
Matrix	Soil	Soil	Soil	Soil
Sample Date	Nov 27, 2007	Nov 27, 2007	Nov 27, 2007	Nov 27, 2007
Analysis Type	Units			
% Moisture	0.1	26	32	22
Heavy Metals				
Arsenic	2.0	55	35	60
Lead	5	24	35	17
				8.0

COMMENTS:

Coffey Geotechnics Pty Ltd

Unit 1 18 Hurley Dve

Coffs Harbour

NSW 2450

Analysis Type

% Moisture

Heavy Metals

Arsenic

Lead

Client Sample ID	H2 0-150MM	H3 0-150MM	H4 0-150MM	H5 0-150MM
Lab Number	07-No09900	07-No09901	07-No09902	07-No09902
Matrix	Soil	Soil	Soil	Soil
Sample Date	Nov 27, 2007	Nov 27, 2007	Nov 27, 2007	Nov 27, 2007
LOR				
Units				
0.1	32	30	22	27
%				
2.0	100	90	58	89
mg/kg				
5	14	37	17	15
mg/kg				

COMMENTS:

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Coffey Geotechnics Pty Ltd

Unit 1 18 Hurley Dve

Coffs Harbour

NSW 2450

Analysis Type

% Moisture

Heavy Metals

Arsenic

Lead

Client Sample ID	H6 0-150MM	H7 0-150MM	H8 0-150MM	I1 0-150MM
Lab Number	07-No09903	07-No09904	07-No09905	07-No09906
Matrix	Soil	Soil	Soil	Soil
Sample Date	Nov 27, 2007	Nov 27, 2007	Nov 27, 2007	Nov 27, 2007
LOR	Units			
0.1	%	20	23	21
2.0	mg/kg	40	140	43
5	mg/kg	26	27	15

COMMENTS:

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Coffey Geotechnics Pty Ltd

Unit 118 Hurley Dve

Coffs Harbour

NSW 2450

Analysis Type

% Moisture

Heavy Metals

Arsenic

Lead

Client Sample ID	12 0-150MM	13 0-150MM	14 0-150MM	15 0-150MM
Lab Number	07-No09907	07-No09908	07-No09909	07-No09910
Matrix	Soil	Soil	Soil	Soil
Sample Date	Nov 27, 2007	Nov 27, 2007	Nov 27, 2007	Nov 27, 2007
LOR				
Units				
0.1	24	34	25	26
%				
2.0	43	52	44	38
mg/kg				
5	14	14	12	15
mg/kg				

COMMENTS:

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Coffey Geotechnics Pty Ltd

Unit 118 Hurley Dye		Client Sample ID	I6 0-150MM	I7 0-150MM	J2 0-150MM	J3 0-150MM
Coffs Harbour		Lab Number	07-No09911	07-No09912	07-No09913	07-No09914
NSW 2450		Matrix	Soil	Soil	Soil	Soil
Analysis Type		Sample Date	Nov 27, 2007	Nov 27, 2007	Nov 27, 2007	Nov 27, 2007
% Moisture		LOR	Units			
Heavy Metals		0.1	%	27	23	28
Arsenic		2.0	mg/kg	58	14	85
Lead		5	mg/kg	16	11	14

COMMENTS:

Unit 118 Hurley Dve

Coffs Harbour

NSW 2450

Answer's To

10/10/2019

% Moisture

1990

Argenic

Lead

Client Sample ID		J4 0-150MM	K4 0-150MM	DUP 1	DUP 2
Unit 1 18 Hurley Dve Coffs Harbour NSW 2450	Lab Number	07-No09915	07-No09916	07-No09917	07-No09918
	Matrix	Soil	Soil	Soil	Soil
	Sample Date	Nov 27, 2007	Nov 27, 2007	Nov 27, 2007	Nov 27, 2007
	Analysis Type				
	% Moisture	27	20	36	22
Heavy Metals	Arsenic	44	18	39	67
	Lead	15	12	19	22

COMMENTS:

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Unit 118 Hurley Dve
 Coffs Harbour
 NSW 2450

Client Sample ID	DUP 3	DUP 4	DUP 5	DUP 6
Lab Number	07-No09919	07-No09920	07-No09921	07-No09922
Matrix	Soil	Soil	Soil	Soil
Sample Date	Nov 27, 2007	Nov 27, 2007	Nov 27, 2007	Nov 27, 2007
Analysis Type	Units			
% Moisture	%	27	22	23
Heavy Metals				
Arsenic	mg/kg	360	130	38
Lead	mg/kg	9.6	27	18

Coffey Geotechnics Pty Ltd

Client Sample ID		WB 1	L9 0-150MM	L10 0-150MM	L12 0-150MM
Lab Number	Matrix	07-No09924	07-No09925	07-No09926	07-No09927
Sample Date		Nov 27, 2007	Nov 27, 2007	Nov 27, 2007	Nov 27, 2007
Analysis Type	LOR	Units			
Organochlorine Pesticides					
4,4'-DDD	0.0001	mg/L	< 0.0001	-	-
4,4'-DDE	0.0001	mg/L	< 0.0001	-	-
4,4'-DDT	0.0001	mg/L	< 0.0001	-	-
a-BHC	0.0001	mg/L	< 0.0001	-	-
Aldrin	0.0001	mg/L	< 0.0001	-	-
b-BHC	0.0001	mg/L	< 0.0001	-	-
Chlordane	0.0005	mg/L	< 0.001	-	-
d-BHC	0.0001	mg/L	< 0.0001	-	-
Dieldrin	0.0001	mg/L	< 0.0001	-	-
Endosulfan I	0.0001	mg/L	< 0.0001	-	-
Endosulfan II	0.0001	mg/L	< 0.0001	-	-
Endosulfan sulphate	0.0001	mg/L	< 0.0001	-	-
Endrin	0.0001	mg/L	< 0.0001	-	-
Endrin aldehyde	0.0001	mg/L	< 0.0001	-	-
Endrin ketone	0.0001	mg/L	< 0.0001	-	-
g-BHC (Lindane)	0.0001	mg/L	< 0.0001	-	-
Heptachlor	0.0001	mg/L	< 0.0001	-	-
Heptachlor epoxide	0.0001	mg/L	< 0.0001	-	-
Hexachlorobenzene	0.0001	mg/L	< 0.0001	-	-
Methoxychlor	0.0001	mg/L	< 0.0001	-	-
Toxophene	0.0005	mg/L	< 0.001	-	-
Dibutylchlorobenzene (sur.)	1	%	70	-	-
Tetrachloro-m-xylene (sur.)	1	%	97	-	-
% Moisture	0.1	%	-	30	29
Heavy Metals					
Arsenic	0.001	mg/L	< 0.001	7.4	76
Lead	0.001	mg/L	< 0.001	11	11
					12

COMMENTS:

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Unit 1 18 Hurley Dye	Client Sample ID	M6 0-150MM	M7 0-150MM	M8 0-150MM	M9 0-150MM
Coffe Harbour	Lab Number	07-No09928	07-No09929	07-No09930	07-No09931
NSW 2450	Matrix	Soil	Soil	Soil	Soil
Analysis Type	Sample Date	Nov 27, 2007	Nov 27, 2007	Nov 27, 2007	Nov 27, 2007
% Moisture	LOR				
Heavy Metals	0.1	21	31	29	26
Arsenic	2.0	2.3	46	140	91
Lead	5	14	19	15	11

COMMENTS:

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Unit 1 18 Hunley Dve
 Coff's Harbour
 NSW 2450

Client Sample ID	M10 0-150MM	M11 0-150MM	N3 0-150MM	N7 0-150MM
Lab Number	07-No09932	07-No09933	07-No09934	07-No09935
Matrix	Soil	Soil	Soil	Soil
Sample Date	Nov 27, 2007	Nov 27, 2007	Nov 27, 2007	Nov 27, 2007
LOR	Units			
0.1	%	26	30	31
2.0	mg/kg	100	3.9	84
5	mg/kg	13	11	28

COMMENTS:

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Unit 118 Hurley Dve

Coffs Harbour

NSW 2450

Analysis Type

% Moisture

Heavy Metals

Arsenic

Lead

Client Sample ID	N3 0-150MM	N9 0-150MM	N10 0-150MM	N11 0-150MM
Lab Number	07-No09936	07-No09937	07-No09938	07-No09939
Matrix	Soil	Soil	Soil	Soil
Sample Date	Nov 27, 2007	Nov 27, 2007	Nov 27, 2007	Nov 27, 2007
LOR				
0.1	27	31	35	30
2.0	140	78	78	110
5	15	14	17	14
Units				
%				
mg/kg				
mg/kg				

COMMENTS:

Coffey Geotechnics Pty Ltd

Unit 118 Hurley Dve
 Coffs Harbour
 NSW 2450

Client Sample ID	02 0-150MM	03 0-150MM	04 0-150MM	07 0-150MM
Lab Number	07-No09940	07-No09941	07-No09942	07-No09943
Matrix	Soil	Soil	Soil	Soil
Sample Date	Nov 27, 2007	Nov 27, 2007	Nov 27, 2007	Nov 27, 2007
Analysis Type	Units			
% Moisture	%	27	39	29
Heavy Metals				
Arsenic	mg/kg	53	34	83
Lead	mg/kg	12	10	21

COMMENTS:

Coffey Geotechnics Pty Ltd

Unit 118 Hurley Dye
 Coffs Harbour
 NSW 2450

Client Sample ID	Q8 0-150MM	Q9 0-150MM	Q10 0-150MM	Q11 0-150MM
Lab Number	07-No08944	07-No08945	07-No08946	07-No08947
Matrix	Soil	Soil	Soil	Soil
Sample Date	Nov 27, 2007	Nov 27, 2007	Nov 27, 2007	Nov 27, 2007
Analysis Type	LOR	Units		
% Moisture	0.1	%	27	29
Heavy Metals				
Arsenic	2.0	mg/kg	63	14
Lead	5	mg/kg	14	9.0
				10

COMMENTS:

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Unit 118 Hurley Dye

Coffs Harbour

NSW 2450

Analysis Type

% Moisture

Heavy Metals

Arsenic

Lead

Client Sample ID	P2 0-150MM	P3 0-150MM	P4 0-150MM	P5 0-150MM
Lab Number	07-No09948	07-No09949	07-No09950	07-No09951
Matrix	Soil	Soil	Soil	Soil
Sample Date	Nov 27, 2007	Nov 27, 2007	Nov 27, 2007	Nov 27, 2007
LOR				
Units				
0.1	%	26	32	32
2.0	mg/kg	34	78	29
5	mg/kg	5.4	12	14

COMMENTS:

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Unit 118 Hurley Dve

Coffs Harbour

NSW 2450

Analysis Type

% Moisture

Heavy Metals

Arsenic

Lead

Client Sample ID	P6 0-150MM	P7 0-150MM	P8 0-150MM	P9 0-150MM
Lab Number	07-No09952	07-No09953	07-No09954	07-No09955
Matrix	Soil	Soil	Soil	Soil
Sample Date	Nov 27, 2007	Nov 27, 2007	Nov 27, 2007	Nov 27, 2007
Units				
0.1	26	16	25	29
2.0	68	55	51	59
5	20	20	13	10

COMMENTS:

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Unit 118 Hurley Dye
 Coff's Harbour
 NSW 2450

Client Sample ID	P10 0-150MM	P11 0-150MM	P12 0-150MM	Q1 0-150MM
Lab Number	07-No09956	07-No09957	07-No09958	07-No09959
Matrix	Soil	Soil	Soil	Soil
Sample Date	Nov 27, 2007	Nov 27, 2007	Nov 27, 2007	Nov 27, 2007
Analysis Type	Units			
% Moisture	%	26	22	26
Heavy Metals				
Arsenic	mg/kg	68	3.2	4.3
Lead	mg/kg	110	6.9	7.2

COMMENTS:

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Unit 11B Hurley Dve
 Coff's Harbour
 NSW 2450

Client Sample ID	Q2 0-150MM	Q3 0-150MM	Q4 0-150MM	Q5 0-150MM
Lab Number	07-No09960	07-No09961	07-No09962	07-No09963
Matrix	Soil	Soil	Soil	Soil
Sample Date	Nov 27, 2007	Nov 27, 2007	Nov 27, 2007	Nov 27, 2007
Analysis Type	Units			
% Moisture	%	37	29	26
Heavy Metals				
Arsenic	mg/kg	29	32	65
Lead	mg/kg	7.9	11	10

COMMENTS:

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Unit 1 18 Hurley Dve

Coffs Harbour

NSW 2450

Analysys Type

% Moisture

Heavy Metals

Arsenic

Lead

Client Sample ID	Q6 0-150MM	Q7 0-150MM	Q8 0-150MM	Q9 0-150MM
Lab Number	07-No09964	07-No09965	07-No09966	07-No09967
Matrix	Soil	Soil	Soil	Soil
Sample Date	Nov 27, 2007	Nov 27, 2007	Nov 27, 2007	Nov 27, 2007
LOR				
Units				
0.1	30	28	30	29
%				
2.0	71	63	89	110
mg/kg				
5	23	21	12	11
mg/kg				

COMMENTS:

Coffey Geotechnics Pty Ltd

Unit 118 Hurley Dva
 Coff's Harbour
 NSW 2450

Client Sample ID		Q10 0-150MM	R3 0-150MM	R4 0-150MM	R5 0-150MM
Lab Number		07-No09988	07-No09969	07-No09970	07-No09971
Matrix		Soil	Soil	Soil	Soil
Sample Date		Nov 27, 2007	Nov 27, 2007	Nov 27, 2007	Nov 27, 2007
LOR	Units				
% Moisture	%	25	31	26	23
Heavy Metals					
Arsenic	mg/kg	51	11	38	12
Lead	mg/kg	52	6.1	8.0	9.5

COMMENTS:

Coffey Geotechnics Pty Ltd

Unit 118 Hurley Dye
 Coffin Harbour
 NSW 2450

Client Sample ID		R6 0-150MM	R7 0-150MM	R8 0-150MM	R9 0-150MM
Lab Number		07-No09972	07-No09973	07-No09974	07-No09975
Matrix		Soil	Soil	Soil	Soil
Sample Date		Nov 27, 2007	Nov 27, 2007	Nov 27, 2007	Nov 27, 2007
Analysis Type	LOR				
% Moisture	0.1	30	23	28	30
Heavy Metals					
Arsenic	2.0	20	13	60	100
Lead	5	13	9.9	15	11

Coffey Geotechnics Pty Ltd

Unit 1 18 Hurley Dve
 Coffs Harbour
 NSW 2450

Client Sample ID		R10 0-150MM	S5 0-150MM	S6 0-150MM	S7 0-150MM
Lab Number		07-No09976	07-No09977	07-No09978	07-No09979
Matrix		Soil	Soil	Soil	Soil
Sample Date		Nov 27, 2007	Nov 27, 2007	Nov 27, 2007	Nov 27, 2007
LOR					
Analysis Type					
% Moisture	0.1	28	28	17	31
Heavy Metals					
Arsenic	2.0	33	19	55	33
Lead	5	8.8	6.5	11	9.1

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Unit 1 18 Hurley Dve
 Coffs Harbour
 NSW 2450

Client Sample ID	S8 0-150MM	S9 0-150MM	S10 0-150MM	DUP 7
Lab Number	07-No09980	07-No09981	07-No09982	07-No09983
Matrix	Soil	Soil	Soil	Soil
Sample Date	Nov 27, 2007	Nov 27, 2007	Nov 27, 2007	Nov 27, 2007
Analysis Type	Units			
% Moisture	0.1	23	29	32
Heavy Metals				
Arsenic	2.0	18	100	77
Lead	5	10	9.6	8.1
				12

COMMENTS:

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Client Sample ID		DUP 8	DUP 9	DUP 10	DUP 11
Lab Number	07-No09984	07-No09985	07-No09986	07-No09987	
Matrix	Soil	Soil	Soil	Soil	
Sample Date	Nov 27, 2007	Nov 27, 2007	Nov 27, 2007	Nov 27, 2007	
Analysis Type	Units				
% Moisture	0.1	28	31	25	
Heavy Metals					
Arsenic	2.0	mg/kg	25	25	2.9
Lead	5	mg/kg	15	12	6.2

COMMENTS:

Coffey Geotechnics Pty Ltd

Unit 1 18 Hurley Dve
 Cofts Harbour
 NSW 2450

Client Sample ID	WB2	COMP AA	COMP AB	COMP AC
Lab Number	07-No09988	07-No09989	07-No09990	07-No09991
Matrix	Water	Soil	Soil	Soil
Sample Date	Nov 27, 2007	Nov 27, 2007	Nov 27, 2007	Nov 27, 2007
LOR	Units			
Analysis Type				
Organochlorine Pesticides				
4,4'-DDD	0.0001	< 0.001	< 0.05	< 0.05
4,4'-DDE	0.0001	< 0.0001	< 0.05	< 0.05
4,4'-DDT	0.0001	< 0.0001	< 0.05	< 0.05
a-BHC	0.0001	< 0.0001	< 0.05	< 0.05
Aldrin	0.0001	< 0.0001	< 0.05	< 0.05
b-BHC	0.0001	< 0.0001	< 0.05	< 0.05
Chlordane	0.0005	< 0.001	< 0.1	< 0.1
d-BHC	0.0001	< 0.0001	< 0.05	< 0.05
Dieldrin	0.0001	< 0.0001	< 0.05	< 0.05
Endosulfan I	0.0001	< 0.0001	< 0.05	< 0.05
Endosulfan II	0.0001	< 0.0001	< 0.05	< 0.05
Endosulfan sulphate	0.0001	< 0.0001	< 0.05	< 0.05
Endrin	0.0001	< 0.0001	< 0.05	< 0.05
Endrin aldehyde	0.0001	< 0.0001	< 0.05	< 0.05
Endrin ketone	0.0001	< 0.0001	< 0.05	< 0.05
g-BHC (Lindane)	0.0001	< 0.0001	< 0.05	< 0.05
Heptachlor	0.0001	< 0.0001	< 0.05	< 0.05
Heptachlor epoxide	0.0001	< 0.0001	< 0.05	< 0.05
Hexachlorobenzene	0.0001	< 0.0001	< 0.05	< 0.05
Methoxychlor	0.0001	< 0.0001	< 0.05	< 0.05
Toxophene	0.0005	< 0.001	< 0.1	< 0.1
Dibutylchlorodate (sum.)	1	84	132	146
Tetrachloro-m-xylene (sum.)	1	73	109	127
% Moisture	0.1		28	23
Heavy Metals				
Arsenic	0.001	< 0.001		
Lead	0.001	0.004		

COMMENTS:



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Client Sample ID			COMP AD	COMP AE	COMP AF	COMP AG
Lab Number			07-No09992	07-No09993	07-No09994	07-No09995
Matrix			Soil	Soil	Soil	Soil
Sample Date			Nov 27, 2007	Nov 27, 2007	Nov 27, 2007	Nov 27, 2007
LOR		Units				
Analysis Type						
Organochlorine Pesticides						
4,4'-DDD		mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
4,4'-DDE		mg/kg	< 0.05	0.13	< 0.05	< 0.05
4,4'-DDT		mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
a-BHC		mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Aldrin		mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
b-BHC		mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Chlordane		mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
d-BHC		mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Dieldrin		mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan I		mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan II		mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan sulphate		mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin		mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin aldehyde		mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin ketone		mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
g-BHC (Lindane)		mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor		mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor epoxide		mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobenzene		mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Methoxychlor		mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Toxophene		mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Dibutylchloride (surr.)		%	137	148	124	141
Tetrachloro-m-xylene (surr.)		%	127	143	125	140
% Moisture		%	24	25	25	34

COMMENTS:

Coffey Geotechnics Pty Ltd

Client Sample ID		COMP AH	COMP AI	COMP AJ	COMP AK
Unit 118 Hurley Dve Coffs Harbour NSW 2450	Lab Number	07-No09996	07-No09997	07-No09998	07-No09999
	Matrix	Soil	Soil	Soil	Soil
	Sample Date	Nov 27, 2007	Nov 27, 2007	Nov 27, 2007	Nov 27, 2007
Analysis Type		Units			
Organochlorine Pesticides					
4,4'-DDD	0.05	mg/kg	< 0.05	< 0.05	< 0.05
4,4'-DDE	0.05	mg/kg	0.13	0.38	< 0.05
4,4'-DDT	0.05	mg/kg	0.08	0.36	< 0.05
a-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05
Aldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05
b-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05
Chlordane	0.1	mg/kg	< 0.1	< 0.1	< 0.1
d-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05
Dieldrin	0.05	mg/kg	0.55	< 0.05	< 0.05
Endosulfan I	0.05	mg/kg	< 0.05	< 0.05	< 0.05
Endosulfan II	0.05	mg/kg	< 0.05	< 0.05	< 0.05
Endosulfan sulphate	0.05	mg/kg	< 0.05	< 0.05	< 0.05
Endrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05
Endrin aldehyde	0.05	mg/kg	< 0.05	< 0.05	< 0.05
Endrin ketone	0.05	mg/kg	< 0.05	< 0.05	< 0.05
g-BHC (Lindane)	0.05	mg/kg	< 0.05	< 0.05	< 0.05
Heptachlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05
Heptachlor epoxide	0.05	mg/kg	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	0.05	mg/kg	< 0.05	< 0.05	< 0.05
Methoxychlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05
Toxophene	0.1	mg/kg	< 0.1	< 0.1	< 0.1
Dibutylchlorodate (sur.)	1	%	116	146	141
Tetrachloro-m-xylene (sur.)	1	%	118	142	145
% Moisture	0.1	%	24	23	27

COMMENTS:

Coffey Geotechnics Pty Ltd

Client Sample ID		COMP AL	COMP AM	COMP AN	COMP AO
Lab Number		07-No10000	07-No10001	07-No10002	07-No10003
Matrix		Soil	Soil	Soil	Soil
Sample Date		Nov 27, 2007	Nov 27, 2007	Nov 27, 2007	Nov 27, 2007
LOR	Units				
Analysis Type					
Organochlorine Pesticides					
4,4'-DDD	0.05	mg/kg	< 0.05	< 0.05	< 0.05
4,4'-DDE	0.05	mg/kg	< 0.05	< 0.05	< 0.05
4,4'-DDT	0.05	mg/kg	< 0.05	< 0.05	< 0.05
a-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05
Aldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05
b-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05
Chlordane	0.1	mg/kg	< 0.1	< 0.1	< 0.1
4-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05
Dieldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05
Endosulfan I	0.05	mg/kg	< 0.05	< 0.05	< 0.05
Endosulfan II	0.05	mg/kg	< 0.05	< 0.05	< 0.05
Endosulfan sulphate	0.05	mg/kg	< 0.05	< 0.05	< 0.05
Endrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05
Endrin aldehyde	0.05	mg/kg	< 0.05	< 0.05	< 0.05
Endrin ketone	0.05	mg/kg	< 0.05	< 0.05	< 0.05
g-BHC (lindane)	0.05	mg/kg	< 0.05	< 0.05	< 0.05
Heptachlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05
Heptachlor epoxide	0.05	mg/kg	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	0.05	mg/kg	< 0.05	< 0.05	< 0.05
Methoxychlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05
Toxophene	0.1	mg/kg	< 0.1	< 0.1	< 0.1
Dibutylchloride (surr.)	1	%	79	75	142
Tetrachloro-m-xylene (surr.)	1	%	73	87	139
% Moisture	0.1	%	25	30	27

COMMENTS:

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Coffey Geotechnics Pty Ltd

Unit 1 18 Hurley Dve Coffs Harbour NSW 2450	Lab Number		07-No10004	07-No10005	07-No10006	07-No10007	
	Matrix		Soil	Soil	Soil	Soil	
	Sample Date		Nov 27, 2007	Nov 27, 2007	Nov 27, 2007	Nov 27, 2007	
	LOR						
	Units						
	Analysis Type						
	Organochlorine Pesticides						
	4,4'-DDD	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
	4,4'-DDE	0.05	mg/kg	< 0.05	< 0.05	0.13	< 0.05
	4,4'-DDT	0.05	mg/kg	< 0.05	< 0.05	0.05	< 0.05
	a-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
	Aldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
	b-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
	Chlordane	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
	d-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
	Dieldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
	Endosulfan I	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
	Endosulfan II	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
	Endosulfan sulphate	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
	Endrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
	Endrin aldehyde	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
	Endrin ketone	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
	g-BHC (Lindane)	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
	Heptachlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
	Heptachlor epoxide	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
	Hexachlorobenzene	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
	Methoxychlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
	Toxophene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
	Dibutylchlorodate (surr.)	1	%	139	119	140	134
	Tetrachloro-m-xylene (surr.)	1	%	127	127	145	143
	% Moisture	0.1	%	32	25	31	35

COMMENTS:

Colley Geotechnics Pty Ltd

Unit 1 18 Hurley Dye
 Coffe Harbour
 NSW 2450

Client Sample ID	COMP BE	COMP BF	COMP BG	COMP BH
Lab Number	07-No10008	07-No10009	07-No10010	07-No10011
Matrix	Soil	Soil	Soil	Soil
Sample Date	Nov 27, 2007	Nov 27, 2007	Nov 27, 2007	Nov 27, 2007
LOR	Units			
Analysis Type				
Organochlorine Pesticides				
4,4'-DDD	mg/kg	< 0.05	< 0.05	< 0.05
4,4'-DDE	mg/kg	< 0.05	0.07	< 0.05
4,4'-DDT	mg/kg	< 0.05	< 0.05	< 0.05
a-BHC	mg/kg	< 0.05	< 0.05	< 0.05
Alrin	mg/kg	< 0.05	< 0.05	< 0.05
b-BHC	mg/kg	< 0.05	< 0.05	< 0.05
Chlordane	mg/kg	< 0.1	< 0.1	< 0.1
d-BHC	mg/kg	< 0.05	< 0.05	< 0.05
Dieldrin	mg/kg	5.8	< 0.05	< 0.05
Endosulfan I	mg/kg	< 0.05	< 0.05	< 0.05
Endosulfan II	mg/kg	< 0.05	< 0.05	< 0.05
Endosulfan sulphate	mg/kg	< 0.05	< 0.05	< 0.05
Endrin	mg/kg	< 0.05	< 0.05	< 0.05
Endrin aldehyde	mg/kg	< 0.05	< 0.05	< 0.05
Endrin ketone	mg/kg	< 0.05	< 0.05	< 0.05
g-BHC (Lindane)	mg/kg	< 0.05	< 0.05	< 0.05
Heptachlor	mg/kg	< 0.05	< 0.05	< 0.05
Heptachlor epoxide	mg/kg	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	mg/kg	< 0.05	< 0.05	< 0.05
Methoxychlor	mg/kg	< 0.05	< 0.05	< 0.05
Toxaphene	mg/kg	< 0.1	< 0.1	< 0.1
Dibutylchloride (sum.)	%	138	131	123
Tetrachloro-m-xylene (sum.)	%	136	148	126
% Moisture	%	33	32	28

COMMENTS:

Coffey Geotechnics Pty Ltd

Unit 1 18 Hunley Dve
 Coff's Harbour
 NSW 2450

Client Sample ID	COMP B1	COMP BK	COMP BL
Lab Number	07-No10012	07-No10014	07-No10015
Matrix	Soil	Soil	Soil
Sample Date	Nov 27, 2007	Nov 27, 2007	Nov 27, 2007
Analysis Type	Units		
Organochlorine Pesticides			
4,4'-DDD	mg/kg	< 0.05	< 0.05
4,4'-DDE	mg/kg	< 0.05	< 0.05
4,4'-DDT	mg/kg	< 0.05	< 0.05
a-BHC	mg/kg	< 0.05	< 0.05
Aldrin	mg/kg	< 0.05	< 0.05
b-BHC	mg/kg	< 0.05	< 0.05
Chlordane	mg/kg	< 0.05	< 0.05
d-BHC	mg/kg	< 0.1	< 0.1
Dieldrin	mg/kg	< 0.05	< 0.05
Endosulfan I	mg/kg	< 0.05	< 0.05
Endosulfan II	mg/kg	< 0.05	< 0.05
Endosulfan sulphate	mg/kg	< 0.05	< 0.05
Endrin	mg/kg	< 0.05	< 0.05
Endrin aldehyde	mg/kg	< 0.05	< 0.05
Endrin ketone	mg/kg	< 0.05	< 0.05
g-BHC (Lindane)	mg/kg	< 0.05	< 0.05
Heptachlor	mg/kg	< 0.05	< 0.05
Heptachlor epoxide	mg/kg	< 0.05	< 0.05
Hexachlorobenzene	mg/kg	< 0.05	< 0.05
Methoxychlor	mg/kg	< 0.05	< 0.05
Toxophene	mg/kg	< 0.1	< 0.1
Dibutylchloride (sum.)	%	121	91
Tetrachloro-m-xylene (sum.)	%	127	76
% Moisture	%	29	31
			32

COMMENTS:

Coffey Geotechnics Pty Ltd

Client Sample ID		COMP BM	COMP BN	COMP BO
Lab Number		07-No10016	07-No10017	07-No10022
Matrix		Soil	Soil	Soil
Sample Date		Nov 27, 2007	Nov 27, 2007	Nov 27, 2007
Analysis Type		Units		
Organochlorine Pesticides				
4,4'-DDD	0.05	mg/kg	< 0.05	< 0.05
4,4'-DDE	0.05	mg/kg	< 0.05	< 0.05
4,4'-DDT	0.05	mg/kg	< 0.05	< 0.05
a-BHC	0.05	mg/kg	< 0.05	< 0.05
Aldrin	0.05	mg/kg	< 0.05	< 0.05
b-BHC	0.05	mg/kg	< 0.05	< 0.05
Chlordane	0.1	mg/kg	< 0.1	< 0.1
d-BHC	0.05	mg/kg	< 0.05	< 0.05
Dieldrin	0.05	mg/kg	8.3	< 0.05
Endosulfan I	0.05	mg/kg	< 0.05	< 0.05
Endosulfan II	0.05	mg/kg	< 0.05	< 0.05
Endosulfan sulphate	0.05	mg/kg	< 0.05	< 0.05
Endrin	0.05	mg/kg	< 0.05	< 0.05
Endrin aldehyde	0.05	mg/kg	< 0.05	< 0.05
Endrin ketone	0.05	mg/kg	< 0.05	< 0.05
g-BHC (Lindane)	0.05	mg/kg	< 0.05	< 0.05
Heptachlor	0.05	mg/kg	< 0.05	< 0.05
Heptachlor epoxide	0.05	mg/kg	< 0.05	< 0.05
Hexachlorobenzene	0.05	mg/kg	< 0.05	< 0.05
Methoxychlor	0.05	mg/kg	< 0.05	< 0.05
Toxaphene	0.1	mg/kg	< 0.1	< 0.1
Dibutylchloride (sum.)	1	%	138	133
Tetrachloro-m-xylene (sum.)	1	%	149	135
% Moisture	0.1	%	30	27

COMMENTS:

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Coffey Geotechnics Pty Ltd		Client Sample	A4 0-150MM	A4 0-150MM	A4 0-150MM	A4 0-150MM
Unit 1 18 Hurley Dve		Lab Number	07-No09859	07-No09859	07-No09859	07-No09859
Coffs Harbour		QA		Duplicate	Duplicate	Spike %
NSW 2450		Description				Recovery
		Matrix	Soil	Soil	Soil	Soil
		Sample Date	Nov 26, 2007	Nov 26, 2007	Nov 26, 2007	Nov 26, 2007
Analysis Type		Units				% Recovery
Heavy Metals						
Arsenic			34	31	6.4	99
Lead			21	19	7.4	89

COMMENTS:

COMMENTS:

Coffey Geotechnics Pty Ltd Unit 1 18 Hurley Dve Coffs Harbour NSW 2450	Client Sample ID	E8 0-150MM	E8 0-150MM	E8 0-150MM
	Lab Number	07-No09879	07-No09879	07-No09879
	QA Description	Duplicate	Duplicate % RPD	Spike % Recovery
	Matrix	Soil	Soil	Soil
	Sample Date	Nov 26, 2007	Nov 26, 2007	Nov 26, 2007
	Units		% RPD	% Recovery
Analysis Type				
Heavy Metals				
Arsenic	130	160	20	104
Lead	12	13	8.1	88

COMMENTS:

Coffey Geotechnics Pty Ltd		Client Sample ID	H2 0-150MM	H2 0-150MM	H2 0-150MM	H2 0-150MM
Unit 1 18 Hurley Dve		Lab Number	07-No09899	07-No09899	07-No09899	07-No09899
Coffs Harbour		QA Description		Duplicate	Duplicate % RPD	Spike % Recovery
NSW 2450		Matrix	Soil	Soil	Soil	Soil
Analysis Type		Sample Date	Nov 27, 2007	Nov 27, 2007	Nov 27, 2007	Nov 27, 2007
Heavy Metals		Units			% RPD	% Recovery
Arsenic			100	93	7.9	93
Lead			14	16	17	80

Coffey Geotechnics Pty Ltd Unit 1 18 Hurley Dve Coffs Harbour NSW 2450	Client Sample ID	14 0-150MM	14 0-150MM	14 0-150MM	14 0-150MM
	Lab Number	07-No09909	07-No09909	07-No09909	07-No09909
	QA Description		Duplicate	Duplicate	Spike % Recovery
	Matrix	Soil	Soil	Soil	Soil
	Sample Date	Nov 27, 2007	Nov 27, 2007	Nov 27, 2007	Nov 27, 2007
Analysis Type	Units				% Recovery
Heavy Metals					
Arsenic		44	49	11	89
Lead		12	13	6.1	78

Coffey Geotechnics Pty Ltd Unit 1 18 Hurley Dve Coffs Harbour NSW 2450	Client Sample ID	DUP 3	DUP 3	DUP 3	DUP 3
	Lab Number	07-No09919	07-No09919	07-No09919	07-No09919
	QA Description		Duplicate	Duplicate % RPD	Spike % Recovery
	Matrix	Soil	Soil	Soil	Soil
	Sample Date	Nov 27, 2007	Nov 27, 2007	Nov 27, 2007	Nov 27, 2007
Analysis Type	Units			% RPD	% Recovery
Heavy Metals					
Lead		9.6	7.9	19	82

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Colley Geotechnics Pty Ltd		Client Sample ID	WB 1	WB 1	WB 1	WB 1
Unit 1 18 Hurley Dve		Lab Number	07-No09924	07-No09924	07-No09924	07-No09924
Coffs Harbour		QA Description	Duplicate	Duplicate % RPD	Duplicate % RPD	Spike % Recovery
NSW 2450		Matrix	Water	Water	Water	Water
		Sample Date	Nov 27, 2007	Nov 27, 2007	Nov 27, 2007	Nov 27, 2007
Analysis Type		Units		% RPD	% RPD	% Recovery
Heavy Metals						
Arsenic			< 0.001	< 0.001	< 1	92
Lead			< 0.001	< 0.001	< 1	92

COMMENTS:

Coffey Geotechnics Pty Ltd		M9 0-150MM	M9 0-150MM	M9 0-150MM	M9 0-150MM
Unit 1 18 Hurley Dve		07-No09931	07-No09931	07-No09931	07-No09931
Coffs Harbour		Duplicate	Duplicate %	Duplicate %	Spike %
NSW 2450		Soil	Soil	Soil	Recovery
Analysis Type		Nov 27, 2007	Nov 27, 2007	Nov 27, 2007	Nov 27, 2007
Heavy Metals			% RPD	% RPD	% Recovery
Arsenic		89	2.6		106
Lead		11	6.2		92

Coffey Geotechnics Pty Ltd		Client Sample ID	O3 0-150MM	O3 0-150MM	O3 0-150MM	O3 0-150MM
Unit 1 18 Hurley Dve		Lab Number	07-No09941	07-No09941	07-No09941	07-No09941
Coffs Harbour		QA Description	Duplicate	Duplicate	Duplicate	Spike % Recovery
NSW 2450		Matrix	Soil	Soil	Soil	Soil
Analysis Type		Sample Date	Nov 27, 2007	Nov 27, 2007	Nov 27, 2007	Nov 27, 2007
Heavy Metals		Units				% Recovery
Arsenic			53	64	20	121
Lead			12	13	14	117

Colley Geotechnics Pty Ltd		Client Sample ID	P5 0-150MM	P5 0-150MM	P5 0-150MM
Unit 1 18 Hurley Dve		Lab Number	07-No09951	07-No09951	07-No09951
Coffs Harbour		QA Description		Duplicate	Spike % Recovery
NSW 2450		Matrix	Soil	Soil	Soil
Analysis Type		Sample Date	Nov 27, 2007	Nov 27, 2007	Nov 27, 2007
Heavy Metals		Units		% RPD	% Recovery
Arsenic			29	3.2	83
Lead			14	2.8	75

Coffey Geotechnics Pty Ltd		Client Sample ID	Q3 0-150MM	Q3 0-150MM	Q3 0-150MM	Q3 0-150MM
Unit 1 18 Hurley Dve		Lab Number	07-No09961	07-No09961	07-No09961	07-No09961
Coffs Harbour		QA Description		Duplicate	Duplicate % RPD	Spike % Recovery
NSW 2450		Matrix	Soil	Soil	Soil	Soil
Analysis Type		Sample Date	Nov 27, 2007	Nov 27, 2007	Nov 27, 2007	Nov 27, 2007
Heavy Metals		Units			% RPD	% Recovery
Arsenic			29	35	20	96
Lead			7.9	9.5	18	90

Coffey Geotechnics Pty Ltd		Client Sample ID	R5 0-150MM	R5 0-150MM	R5 0-150MM	R5 0-150MM	Method Blank
Unit 1 18 Hurley Dve		Lab Number	07-No09971	07-No09971	07-No09971	07-No09971	Batch
Coffs Harbour		QA Description		Duplicate	Duplicate % RPD	Spike % Recovery	
NSW 2450		Matrix	Soil	Soil	Soil	Soil	Soil
Analysis Type		Sample Date	Nov 27, 2007	Nov 27, 2007	Nov 27, 2007	Nov 27, 2007	Nov 27, 2007
Heavy Metals		Units			% RPD	% Recovery	mg/L
Arsenic			12	11	14	87	< 0.05
Lead			9.5	8.2	16	81	< 0.2

COMMENTS:

Client Sample ID		COMP AA	COMP AA	COMP AA	COMP AA
Lab Number	07-No09989	07-No09989	07-No09989	07-No09989	07-No09989
QA Description		Duplicate	Duplicate %	Duplicate %	Spike % Recovery
Matrix	Soil	Soil	Soil	Soil	Soil
Sample Date	Nov 27, 2007	Nov 27, 2007	Nov 27, 2007	Nov 27, 2007	Nov 27, 2007
Units			% RPD	% RPD	% Recovery
Analysis Type					
Organochlorine Pesticides					
4,4'-DDD	< 0.05	< 0.05	< 1	< 1	-
4,4'-DDE	0.06	0.06	< 1	< 1	-
4,4'-DDT	< 0.05	< 0.05	< 1	< 1	129
a-BHC	< 0.05	< 0.05	< 1	< 1	-
Aldrin	< 0.05	< 0.05	< 1	< 1	-
b-BHC	< 0.05	< 0.05	< 1	< 1	-
Chlordane	< 0.1	< 0.1	< 1	< 1	98
d-BHC	< 0.05	< 0.05	< 1	< 1	127
Dieldrin	< 0.05	< 0.05	< 1	< 1	-
Endosulfan I	< 0.05	< 0.05	< 1	< 1	-
Endosulfan II	< 0.05	< 0.05	< 1	< 1	-
Endosulfan sulphate	< 0.05	< 0.05	< 1	< 1	-
Endrin	< 0.05	< 0.05	< 1	< 1	-
Endrin aldehyde	< 0.05	< 0.05	< 1	< 1	-
Endrin ketone	< 0.05	< 0.05	< 1	< 1	-
g-BHC (Lindane)	< 0.05	< 0.05	< 1	< 1	-
Heptachlor	< 0.05	< 0.05	< 1	< 1	-
Heptachlor epoxide	< 0.05	< 0.05	< 1	< 1	-
Hexachlorobenzene	< 0.05	< 0.05	< 1	< 1	-
Methoxychlor	< 0.05	< 0.05	< 1	< 1	125
Toxophane	< 0.1	< 0.1	< 1	< 1	89
Dibutylchloride (surr.)	132	148	-	-	98
Tetrachloro-m-xylene (surr.)	109	128	-	-	104

COMMENTS:

Colley Geotechnics Pty Ltd		Client Sample ID	COMP AK	COMP AK	COMP AK	COMP AK	COMP AK	Method blank
Unit 1 18 Hurley Ave Coffs Harbour NSW 2450		Lab Number	07-No09999	07-No09999	07-No09999	07-No09999	07-No09999	Batch
		QA Description		Duplicate	Duplicate % RPD	Spike % Recovery		
		Matrix	Soil	Soil	Soil	Soil	Soil	Soil
		Sample Date	Nov 27, 2007	Nov 27, 2007	Nov 27, 2007	Nov 27, 2007	Nov 27, 2007	Nov 27, 2007
		Units			% RPD	% Recovery		mg/L
Analysis Type								
Organochlorine Pesticides								
4,4'-DDD			< 0.05	< 0.05	< 1	128	< 0.005	
4,4'-DDE			< 0.05	< 0.05	< 1	129	< 0.005	
4,4'-DDT			< 0.05	< 0.05	< 1	-	< 0.005	
a-BHC			< 0.05	< 0.05	< 1	123	< 0.005	
Aldrin			< 0.05	< 0.05	< 1	125	< 0.005	
b-BHC			< 0.05	< 0.05	< 1	123	< 0.005	
Chlordane			< 0.1	< 0.1	< 1	-	< 0.01	
d-BHC			< 0.05	< 0.05	< 1	-	< 0.005	
Dieldrin			< 0.05	< 0.05	< 1	120	< 0.005	
Endosulfan I			< 0.05	< 0.05	< 1	129	< 0.005	
Endosulfan II			< 0.05	< 0.05	< 1	117	< 0.005	
Endosulfan sulphate			< 0.05	< 0.05	< 1	113	< 0.005	
Erdrin			< 0.05	< 0.05	< 1	128	< 0.005	
Erdrin aldehyde			< 0.05	< 0.05	< 1	91	< 0.005	
Erdrin ketone			< 0.05	< 0.05	< 1	107	< 0.005	
g-BHC (Lindane)			< 0.05	< 0.05	< 1	108	< 0.005	
Heptachlor			< 0.05	< 0.05	< 1	127	< 0.005	
Heptachlor epoxide			< 0.05	< 0.05	< 1	130	< 0.005	
Hexachlorobenzene			< 0.05	< 0.05	< 1	122	< 0.005	
Methoxychlor			< 0.05	< 0.05	< 1	-	< 0.005	
Toxophene			< 0.1	< 0.1	< 1	-	< 0.01	
Dibutylchloride (surr.)			141	140	-	-	110	
Tetrachloro-m-xylene (surr.)			145	139	-	-	96	

COMMENTS:

Client Sample ID		COMP BF	COMP BF	COMP BF	COMP BF
Lab Number		07-No10009	07-No10009	07-No10009	07-No10009
QA Description			Duplicate	Duplicate	Spike % Recovery
Matrix		Soil	Soil	Soil	Soil
Sample Date		Nov 27, 2007	Nov 27, 2007	Nov 27, 2007	Nov 27, 2007
Units				% RPD	% Recovery
Analysis Type					
Organochlorine Pesticides					
4,4'-DDD		< 0.05	< 0.05	< 0.05	< 1
4,4'-DDE		0.07	0.06	0.06	12
4,4'-DDT		< 0.05	< 0.05	< 0.05	< 1
a-BHC		< 0.05	< 0.05	< 0.05	< 1
Aldrin		< 0.05	< 0.05	< 0.05	< 1
b-BHC		< 0.05	< 0.05	< 0.05	< 1
Chlordane		< 0.1	< 0.1	< 0.1	< 1
d-BHC		< 0.05	< 0.05	< 0.05	< 1
Dieldrin		< 0.05	< 0.05	< 0.05	< 1
Endosulfan I		< 0.05	< 0.05	< 0.05	< 1
Endosulfan II		< 0.05	< 0.05	< 0.05	< 1
Endosulfan sulphate		< 0.05	< 0.05	< 0.05	< 1
Endrin		< 0.05	< 0.05	< 0.05	< 1
Endrin aldehyde		< 0.05	< 0.05	< 0.05	< 1
Endrin ketone		< 0.05	< 0.05	< 0.05	< 1
g-BHC (Lindane)		< 0.05	< 0.05	< 0.05	< 1
Heptachlor		< 0.05	< 0.05	< 0.05	< 1
Heptachlor epoxide		< 0.05	< 0.05	< 0.05	< 1
Hexachlorobenzene		< 0.05	< 0.05	< 0.05	< 1
Methoxychlor		< 0.05	< 0.05	< 0.05	< 1
Toxophene		< 0.1	< 0.1	< 0.1	< 1
Dibutylchloride (surr.)		138	119	119	-
Tetrachloro-m-xylene (surr.)		148	133	133	-

COMMENTS:

QA/QC DATA VALIDATION REPORT

Job No: GEOTCOFH02233AA Batch: 218322

I. SAMPLE HANDLING

1. Were the sample **holding times** met?
2. Were the samples in **proper custody** between the field and reaching the laboratory?
3. Were the samples **properly and adequately** preserved?
This includes keeping the samples chilled, where applicable.
4. Were the samples received by the laboratory in good condition?

Yes	No
☒	☐
☒	☐
☒	☐
☒	☐

Sample Handling was:

☒ Satisfactory

☐ Unsatisfactory

☐ Partially Satisfactory

II PRECISION / ACCURACY ASSESSMENT

1. Was a NATA registered laboratory used?
2. Did the laboratory perform the requested tests?
3. Were the laboratory methods adopted NATA endorsed?
4. Were the appropriate test procedures followed?
5. Were the reporting limits satisfactory?
6. Was the NATA Seal on the reports?
7. Were the reports signed by an authorised person?

Yes	No (Comment below)
☒	☐
☒	☐
☒	☐
☒	☐
☒	☐
☒	☐
☒	☐

Precision/Accuracy of the Laboratory Report

☒ Satisfactory

☐ Unsatisfactory

☐ Partially Satisfactory

III. FIELD QA/QC

1. Number of Samples Analysed	Soil:	159
	Wash Blanks	2

2. Number of Days of Sampling	Soil:	2

- 3. Number and Type of QA/QC Samples Collected:**

	SOIL	WATER
Field Duplicates	11	NA
Trip Spikes	0	NA
Wash Blanks	2	NA
Other (Field Blanks, Trip Blanks, etc.)	0	NA

- #### 4. Field Duplicates

- A. Were an Adequate Number of field duplicates collected?

- B. Were RPDs within Control Limits?

- a. Organics (< 50 %)

- b. Metals/Inorganics (< 50 %)

Yes	No
☒	☐
NA ☐	☐ ☒

- ## 5. Trip Blanks

- A. Were an Adequate Number of trip blanks collected?

- B. Were the Trip Blanks free of contaminants?

Yes	No
☐	☒
NA	☐

6. Wash Blanks

A. Were an adequate number of Wash Blanks collected?

Yes	No
☒	☐
☐	☒

B. Were the Wash Blanks free of contaminants?

Comments:

Three of the duplicate samples had RPDs exceeding the control limit of 50%. Duplicate pair I7 and DUP 3 had an RPD of 53% for arsenic, duplicate pair M7 and DUP 9 had an RPD of 59% for arsenic, and duplicate pair S5 and DUP 10 had an RPD of 59% for lead. These RPDs are close to the control limit, and taking into account the heterogeneous nature of the soil, it is considered that these RPDs are reasonable.

One of the wash blank samples, WB 2, had trace concentrations of lead. It is possible this was present in the wash blank water. The laboratory results show lead concentrations significantly below the adopted criteria, and as such it is considered that these concentrations of lead in the wash blank do not affect the usability of the data.

Trip blanks and trip spikes were not used as the samples were not being analysed for volatile contaminants.

Field QA/QC was:

☒ Satisfactory

☐ Unsatisfactory

☐ Partially Satisfactory

IV LABORATORY INTERNAL QUALITY CONTROL PROCEDURES

1. Types and Number of QA/QC Samples

	SOIL	WATER
Method Blanks	2	0
Matrix Spikes	15	1
Laboratory Duplicates	15	1
Surrogates	60	2

2. Were the laboratory blanks/reagents blanks free of contamination?

3. Were the spike recoveries within laboratory control limits?

a. Organics (60% to 130%)

b. Metals/Inorganic (70% to 130%)

4. Were the RPDs of the laboratory duplicates within control limits?

5. Were the surrogate recoveries within control limits?

Yes	No
☒	☐
☒	☐
☒	☐
☒	☐
☒	☐

The laboratory internal QA/QC was:

☒ Satisfactory

☐ Unsatisfactory

☐ Partially Satisfactory

V. DATA USABILITY

1.	Data Directly Usable	☒
2.	Data Usable with the following corrections/modifications	☐
3.	Data Not Usable.	☐

QA/QC Report Prepared by

Emma Coleman

CERTIFICATE OF ANALYSIS

Coffey Geotechnics Pty Ltd
Unit 1 18 Hurley Dve
Coffs Harbour
NSW 2450
Site: GEOTCOFH02233AA

Report Number: 218616 Page 1 of 8
Order Number:
Date Received: Dec 6, 2007
Date Sampled: Dec 5, 2007
Date Reported: Dec 17, 2007
Contact: Emma Coleman

Methods

- USEPA 6010B Heavy Metals & USEPA7470/71 Mercury
- USEPA 8141A Organophosphorus Pesticides
- USEPA 8081A Organochlorine Pesticides
- USEPA 6010B Heavy Metals & USEPA 7470/71 Mercury
- Method 102 - ANZECC - % Moisture

Comments

Asbestos = ASET Ref No 13884 / 17064 / 1-6 NATA Accreditation No. 14484

Notes

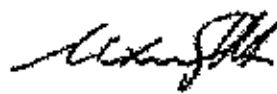
1. The results in this report supersede any previously corresponded results.
2. All Soil Results are reported on a dry basis.
3. Samples are analysed on an as received basis.

ABBREVIATIONS

mg/kg : milligrams per kilograms, mg/L : milligrams per litre, ppm : parts per million,
LOR : Limit of Reporting
RPD : Relative Percent Difference
CRM : Certified Reference Material
LCS : Laboratory Control Sample

Authorised

Report Number: 218616



Michael Wright
Laboratory Manager
NATA Signatory



Onur Mehmet
Client Manager
NATA Signatory



Orlando Scalzo
Chief Organic Chemist
NATA Signatory



Tammy Lakeland
Chief Inorganic Chemist



NATA Accredited
LABORATORY

NATA Accredited
Laboratory Number 1261

The tests, calibrations or measurements covered by this document have been performed in accordance with NATA requirements which include the requirements of ISO/IEC 17025 and are traceable to national standards of measurement. This document shall not be reproduced, except in full.



Member

Coffey Geotechnics Pty Ltd		Client Sample ID	Units	HOUSE 1	HOUSE 2	HOUSE 3	HOUSE 4
Unit 1 18 Hurley Dve		Lab Number		07-Dec02095	07-Dec02096	07-Dec02097	07-Dec02098
Coffs Harbour		Matrix		Soil	Soil	Soil	Soil
NSW 2450		Sample Date		Dec 5, 2007	Dec 5, 2007	Dec 5, 2007	Dec 5, 2007
Analysis Type		LOR	Units				
Organochlorine Pesticides							
4,4'-DDD		0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
4,4'-DDE		0.05	mg/kg	< 0.05	< 0.05	0.14	< 0.05
4,4'-DDT		0.05	mg/kg	< 0.05	< 0.05	0.10	0.07
a-BHC		0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Aldrin		0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
b-BHC		0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Chlordane		0.1	mg/kg	0.3	< 0.1	< 0.1	< 0.1
d-BHC		0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Dieldrin		0.05	mg/kg	< 0.05	< 0.05	0.31	0.05
Endosulfan I		0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan II		0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan sulphate		0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin		0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin aldehyde		0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin ketone		0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
g-BHC (lindane)		0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor		0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor epoxide		0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobenzene		0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Methoxychlor		0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Toxophene		0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Dibutylchloride (sum.)		1	%	114	123	120	115
Tetrachloro-m-xylene (sum.)		1	%	119	122	129	114
Organophosphorous Pesticides							
Bolstar		0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Chlorpyrifos		0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Coumaphos		0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Demeton-O		0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Diazinon		0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Dichlorvos		0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2

COMMENTS:

Coffey Geotechnics Pty Ltd		Client Sample ID	HOUSE 1	HOUSE 2	HOUSE 3	HOUSE 4
Unit 1 18 Hurley Dve		Lab Number	07-De02095	07-De02096	07-De02097	07-De02098
Coffs Harbour		Matrix	Soil	Soil	Soil	Soil
NSW 2450		Sample Date	Dec 5, 2007	Dec 5, 2007	Dec 5, 2007	Dec 5, 2007
Analysis Type		LOR				
Disulfoton		0.2	< 0.2	< 0.2	< 0.2	< 0.2
Ethion		0.2	< 0.2	< 0.2	< 0.2	< 0.2
Ethionprop		0.2	< 0.2	< 0.2	< 0.2	< 0.2
Fenitrothion		0.2	< 0.2	< 0.2	< 0.2	< 0.2
Fensulfotthion		0.2	< 0.2	< 0.2	< 0.2	< 0.2
Fenitrothion		0.2	< 0.2	< 0.2	< 0.2	< 0.2
Merphos		0.2	< 0.2	< 0.2	< 0.2	< 0.2
Methyl azinphos		0.2	< 0.2	< 0.2	< 0.2	< 0.2
Methyl parathion		0.2	< 0.2	< 0.2	< 0.2	< 0.2
Mevinphos		0.2	< 0.2	< 0.2	< 0.2	< 0.2
Naled		0.2	< 0.2	< 0.2	< 0.2	< 0.2
Phorate		0.2	< 0.2	< 0.2	< 0.2	< 0.2
Ronal		0.2	< 0.2	< 0.2	< 0.2	< 0.2
Toluthion		0.2	< 0.2	< 0.2	< 0.2	< 0.2
Trichloronate		0.2	< 0.2	< 0.2	< 0.2	< 0.2
Triphenylphosphate (sur.)		1	78	75	91	96
% Moisture						
Asbestos		0.1	27	19	26	22
Heavy Metals (7)			Not detected	Not detected	Not detected	Not detected
Arsenic		2.0	5.6	6.0	7.7	7.9
Cadmium		0.5	0.7	< 0.5	< 0.5	1.0
Chromium		5	11	11	12	17
Copper		5	26	15	20	44
Lead		5	160	52	140	140
Nickel		5	< 5	5.6	< 5	8.7
Zinc		5	1000	1400	260	770
Heavy Metals						
Mercury		0.1	0.4	< 0.1	< 0.1	< 0.1

COMMENTS:

3 Kingston Town Close, Oakleigh, Victoria 3166, Australia
 Postal address: P. O. Box 276, Oakleigh, Victoria 3166, Australia
 Telephone: (03) 9564 7055
 Fax: (03) 9564 7190
 Email: mg@mgtenv.com.au

Coffey Geotechnics Pty Ltd

Client Sample ID		HOUSE 5	HOUSE 6	DUP HOUSE
Lab Number		07-De02099	07-De02100	07-De02101
Matrix		Soil	Soil	Soil
Sample Date		Dec 5, 2007	Dec 5, 2007	Dec 5, 2007
Analysis Type	LOR	Units		
Organochlorine Pesticides				
4,4'-DDD	0.05	mg/kg	< 0.05	< 0.05
4,4'-DDE	0.05	mg/kg	0.11	< 0.05
4,4'-DDT	0.05	mg/kg	0.15	< 0.05
a-BHC	0.05	mg/kg	< 0.05	< 0.05
Aldrin	0.05	mg/kg	< 0.05	< 0.05
b-BHC	0.05	mg/kg	< 0.05	< 0.05
Chlordane	0.1	mg/kg	< 0.1	< 0.1
d-BHC	0.05	mg/kg	< 0.05	< 0.05
Dieldrin	0.05	mg/kg	< 0.05	< 0.05
Endosulfan I	0.05	mg/kg	< 0.05	< 0.05
Endosulfan II	0.05	mg/kg	< 0.05	< 0.05
Endosulfan sulphate	0.05	mg/kg	< 0.05	< 0.05
Endrin	0.05	mg/kg	< 0.05	< 0.05
Endrin aldehyde	0.05	mg/kg	< 0.05	< 0.05
Endrin ketone	0.05	mg/kg	< 0.05	< 0.05
g-BHC (Lindane)	0.05	mg/kg	< 0.05	< 0.05
Heptachlor	0.05	mg/kg	< 0.05	< 0.05
Heptachlor epoxide	0.05	mg/kg	< 0.05	< 0.05
Hexachlorobenzene	0.05	mg/kg	< 0.05	< 0.05
Methoxychlor	0.05	mg/kg	< 0.05	< 0.05
Toxophene	0.1	mg/kg	< 0.1	< 0.1
Dibutyltin diacetate (surr.)	1	%	98	99
Tetrachloro-m-xylene (surr.)	1	%	107	111
Organophosphorous Pesticides				
Bolstar	0.2	mg/kg	< 0.2	< 0.2
Chlorpyrifos	0.2	mg/kg	< 0.2	< 0.2
Coumaphos	0.2	mg/kg	< 0.2	< 0.2
Demeton-O	0.2	mg/kg	< 0.2	< 0.2
Diazinon	0.2	mg/kg	< 0.2	< 0.2
Dichlorvos	0.2	mg/kg	< 0.2	< 0.2

COMMENTS:

Coffey Geotechnics Pty Ltd		Client Sample ID	HOUSE 5	HOUSE 6	DUP HOUSE
Unit 1 18 Hurley Dve		Lab Number	07-De02099	07-De02100	07-De02101
Coffs Harbour		Matrix	Soil	Soil	Soil
NSW 2450		Sample Date	Dec 5, 2007	Dec 5, 2007	Dec 5, 2007
Analysis Type	Units				
Disulfoton	mg/kg	0.2	< 0.2	< 0.2	< 0.2
Ethion	mg/kg	0.2	< 0.2	< 0.2	< 0.2
Ethoprop	mg/kg	0.2	< 0.2	< 0.2	< 0.2
Fenitrothion	mg/kg	0.2	< 0.2	< 0.2	< 0.2
Fensulfotihon	mg/kg	0.2	< 0.2	< 0.2	< 0.2
Fenitihon	mg/kg	0.2	< 0.2	< 0.2	< 0.2
Merphos	mg/kg	0.2	< 0.2	< 0.2	< 0.2
Methyl azinphos	mg/kg	0.2	< 0.2	< 0.2	< 0.2
Methyl parathion	mg/kg	0.2	< 0.2	< 0.2	< 0.2
Mevinphos	mg/kg	0.2	< 0.2	< 0.2	< 0.2
Naled	mg/kg	0.2	< 0.2	< 0.2	< 0.2
Phorate	mg/kg	0.2	< 0.2	< 0.2	< 0.2
Ronnel	mg/kg	0.2	< 0.2	< 0.2	< 0.2
Tokuthion	mg/kg	0.2	< 0.2	< 0.2	< 0.2
Trichloronate	mg/kg	0.2	< 0.2	< 0.2	< 0.2
Triphenylphosphate (sur.)	%	1	86	124	94
% Moisture	%	0.1	34	28	21
Asbestos			Not detected	Not detected	
Heavy Metals (7)					
Arsenic	mg/kg	2.0	3.9	2.8	7.5
Cadmium	mg/kg	0.5	< 0.5	< 0.5	< 0.5
Chromium	mg/kg	5	11	11	11
Copper	mg/kg	5	7.9	29	12
Lead	mg/kg	5	67	47	43
Nickel	mg/kg	5	< 5	7.4	< 5
Zinc	mg/kg	5	1300	280	1200
Heavy Metals					
Mercury	mg/kg	0.1	< 0.1	< 0.1	< 0.1

COMMENTS:

Conley Geotechnics Pty Ltd		Client Sample ID	HOUSE 1	HOUSE 1	HOUSE 1	HOUSE 1	Method blank
Unit 1 18 Hurley Dve		Lab Number	07-De02095	07-De02095	07-De02095	07-De02095	Batch
Corfs Harbour		QA Description		Duplicate	Duplicate % RPD	Spike % Recovery	
NSW 2450		Matrix	Soil	Soil	Soil	Soil	Soil
Analysis Type		Sample Date	Dec 5, 2007	Dec 5, 2007	Dec 5, 2007	Dec 5, 2007	Dec 5, 2007
Heavy Metals (7)		Units			% RPD	% Recovery	mg/L
Arsenic			5.6	5.8	2.9	85	<0.05
Cadmium			0.7	0.8	7.4	85	<0.02
Chromium			11	12	12	95	<0.2
Copper			26	27	3.3	87	<0.2
Lead			160	160	1.3	77	<0.05
Nickel			<5	<5	<1	87	<0.2
Zinc			-	-	-	-	<0.2
Heavy Metals							
Mercury			0.4	0.4	3.5	71	<0.005

Client Sample		RPD	HOUSE 3	Method blank
Lab Number	QA Description			
Unit 1 18 Hurley Dve Coffs Harbour NSW 2450	Matrix	Soil	Dec 5, 2007	Soil
Analysis Type	Sample Date	Dec 5, 2007	Dec 5, 2007	Dec 5, 2007
Organochlorine Pesticides	Units	% Recovery	% Recovery	mg/L
4,4'-DDD		<1	112	<0.005
4,4'-DDE		<1	122	<0.005
4,4'-DDT		<1	115	<0.005
a-BHC		<1	107	<0.005
Aldrin		<1	101	<0.005
b-BHC		<1	124	<0.005
Chlordane		<1	81	<0.01
d-BHC		<1	105	<0.005
Dieldrin		<1	123	<0.005
Endosulfan I		<1	111	<0.005
Endosulfan II		<1	122	<0.005
Endosulfan sulphate		<1	106	<0.005
Endrin		<1	99	<0.005
Endrin aldehyde		<1	117	<0.005
Endrin ketone		<1	115	<0.005
g-BHC (Lindane)		<1	113	<0.005
Heptachlor		<1	101	<0.005
Heptachlor epoxide		<1	112	<0.005
Hexachlorobenzene		<1	97	<0.005
Methoxychlor		<1	112	<0.005
Toxophene		<1	79	<0.01
Dibutylchlorodate (sum.)		-	87	124
Tetrachloro-m-xylene (sum.)		-	85	120

COMMENTS:

Colley Geotechnics Pty Ltd		Client Sample ID	RPD	DUP HOUSE	Method blank
Unit 1 18 Hurley Dve		Lab Number	BATCH	07-Dec2101	Batch
Coffs Harbour		QA Description		Spike % Recovery	
NSW 2450		Matrix	Soil	Soil	Soil
Analysis Type		Sample Date	Dec 5, 2007	% Recovery	Dec 5, 2007
Organophosphorous Pesticides		Units			mg/L
Bolstar			<1	-	<0.002
Chlorpyrifos			<1	-	<0.002
Coumaphos			<1	110	<0.002
Demeton-O			<1	-	<0.002
Diazinon			<1	100	<0.002
Dichlorvos			<1	-	<0.002
Disulfoton			<1	-	<0.002
Ethion			<1	98	<0.002
Ethionprop			<1	-	<0.002
Fenitrothion			<1	111	<0.002
Fensulfotlithion			<1	100	<0.002
Fenitrothion			<1	-	<0.002
Merphos			<1	-	<0.002
Methyl azinphos			<1	-	<0.002
Methyl parathion			<1	99	<0.002
Mevinphos			<1	107	<0.002
Naled			<1	-	<0.002
Phorate			<1	-	<0.002
Ronnel			<1	-	<0.002
Tokuthion			<1	-	<0.002
Trichloronate			<1	-	<0.002
Triphenylphosphate (sum.)			-	81	87

COMMENTS:

QA/QC DATA VALIDATION REPORT

Job No: GEOTCOFH02233AA Batch: 218616

I. SAMPLE HANDLING

1. Were the sample **holding times** met?
2. Were the samples in **proper custody** between the field and reaching the laboratory?
3. Were the samples **properly and adequately** preserved?
This includes keeping the samples chilled, where applicable.
4. Were the samples received by the laboratory in good condition?

Yes	No
☒	☐
☒	☐
☒	☐
☒	☐

Sample Handling was:

☒ Satisfactory

☐ Unsatisfactory

☐ Partially Satisfactory

II PRECISION / ACCURACY ASSESSMENT

1. Was a NATA registered laboratory used?
2. Did the laboratory perform the requested tests?
3. Were the laboratory methods adopted NATA endorsed?
4. Were the appropriate test procedures followed?
5. Were the reporting limits satisfactory?
6. Was the NATA Seal on the reports?
7. Were the reports signed by an authorised person?

Yes	No (Comment below)
☒	☐
☒	☐
☒	☐
☒	☐
☒	☐
☒	☐
☒	☐

Precision/Accuracy of the Laboratory Report

☒ Satisfactory

☐ Unsatisfactory

☐ Partially Satisfactory

III. FIELD QA/QC

1. Number of Samples Analysed Soil: 6

2. Number of Days of Sampling Soil: 1

3. Number and Type of QA/QC Samples Collected:

	SOIL	WATER
Field Duplicates	1	NA
Trip Spikes	0	NA
Wash Blanks	0	NA
Other (Field Blanks, Trip Blanks, etc.)	0	NA

4. Field Duplicates

A. Were an Adequate Number of field duplicates collected?

B. Were RPDs within Control Limits?

a. Organics (< 50 %)

b. Metals/Inorganics (< 50 %)

Yes	No
☒	☐
☒	☐
☒	☐

5. Trip Blanks

A. Were an Adequate Number of trip blanks collected?

B. Were the Trip Blanks free of contaminants?

Yes	No
☐	☒
NA	☐

6. Wash Blanks

A. Were an adequate number of Wash Blanks collected?

B. Were the Wash Blanks free of contaminants?

Yes	No
☐	☒
☒	☐

Comments:

Trip blanks and trip spikes were not used as the samples were not being analysed for volatile contaminants.

A wash blank was not collected, however the same method of sampling and decontamination was used as the previous sampling on 26-27 November where the wash blanks showed analytes below the LOR.

Field QA/QC was:

☒ Satisfactory

☐ Unsatisfactory

☐ Partially Satisfactory

IV LABORATORY INTERNAL QUALITY CONTROL PROCEDURES

1. Types and Number of QA/QC Samples

	SOIL	WATER
Method Blanks	3	NA
Matrix Spikes	3	NA
Laboratory Duplicates	3	NA
Surrogates	21	NA

2. Were the laboratory blanks/reagents blanks free of contamination?

3. Were the spike recoveries within laboratory control limits?

a. Organics (60% to 130%)

b. Metals/Inorganic (70% to 130%)

4. Were the RPDs of the laboratory duplicates within control limits?

5. Were the surrogate recoveries within control limits?

Yes	No
☒	☐
☒	☐
☒	☐
☒	☐
☒	☐

The laboratory internal QA/QC was:

☒ Satisfactory

☐ Unsatisfactory

☐ Partially Satisfactory

V. DATA USABILITY

1.	Data Directly Usable	☒
2.	Data Usable with the following corrections/modifications	☐
3.	Data Not Usable.	☐

QA/QC Report Prepared by

Emma Coleman

CERTIFICATE OF ANALYSIS

Coffey Geotechnics Pty Ltd
Unit 1 18 Hurley Dve
Coffs Harbour
NSW 2450
Site: GEOTCOFH02233AA

Report Number: 220219 Page 1 of 4
Order Number:
Date Received: Jan 10, 2008
Date Sampled: Jan 10, 2008
Date Reported: Jan 22, 2008
Contact: Emma Coleman

Methods

- USEPA 8081A Organochlorine Pesticides
- Method 102 - ANZECC - % Moisture

Comments

Notes

1. The 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.
4. LOR's are matrix dependent. Stated LOR's may be raised where sample extracts are diluted due to interferences.

ABBREVIATIONS

mg/kg : milligrams per kilograms, mg/L : milligrams per litre, ppm : parts per million,

LOR : Limit of Reporting

RPD : Relative Percent Difference

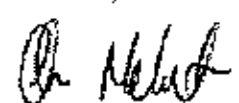
CRM : Certified Reference Material

LCS : Laboratory Control Sample

Authorised

Report Number: 220219


Michael Wright
Laboratory Manager
NATA Signatory


Onur Mehmet
Client Manager
NATA Signatory

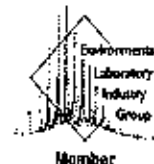

Orlando Scalzo
Chief Organic Chemist
NATA Signatory


Tammy Lakeland
Chief Inorganic Chemist



NATA Accredited
Laboratory Number 1261

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Coffey Geotechnics Pty Ltd		Client Sample ID	L9 0-75mm		M9 0-75mm		M9 0-75mm		M7 0-75mm	
Unit 1 18 Hurley Dve		Lab Number	08-JA02290		08-JA02291		08-JA02292		08-JA02293	
Coffs Harbour		Matrix	Soil		Soil		Soil		Soil	
NSW 2450		Sample Date	Jan 10, 2008		Jan 10, 2008		Jan 10, 2008		Jan 10, 2008	
Analysis Type		LOR	Units							
Organochlorine Pesticides										
4,4'-DDD		0.05	mg/kg		< 0.05		< 0.05		< 0.05	
4,4'-DDE		0.05	mg/kg		< 0.05		0.13		0.08	
4,4'-DDT		0.05	mg/kg		< 0.05		< 0.05		< 0.05	
a-BHC		0.05	mg/kg		< 0.05		< 0.05		< 0.05	
Aldrin		0.05	mg/kg		< 0.05		< 0.05		< 0.05	
b-BHC		0.05	mg/kg		< 0.05		< 0.05		< 0.05	
Chlordane		0.05	mg/kg		< 0.05		< 0.05		< 0.05	
d-BHC		0.1	mg/kg		< 0.1		< 0.1		< 0.1	
Dieldrin		0.05	mg/kg		< 0.05		< 0.05		< 0.05	
Endosulfan I		0.05	mg/kg		< 0.05		< 0.05		29	
Endosulfan II		0.05	mg/kg		< 0.05		< 0.05		< 0.05	
Endosulfan sulphate		0.05	mg/kg		< 0.05		< 0.05		< 0.05	
Endrin		0.05	mg/kg		< 0.05		< 0.05		< 0.05	
Endrin aldehyde		0.05	mg/kg		< 0.05		< 0.05		0.14	
Endrin ketone		0.05	mg/kg		< 0.05		< 0.05		< 0.05	
g-BHC (Lindane)		0.05	mg/kg		< 0.05		< 0.05		< 0.05	
Heptachlor		0.05	mg/kg		< 0.05		< 0.05		< 0.05	
Heptachlor epoxide		0.05	mg/kg		< 0.05		< 0.05		< 0.05	
Hexachlorobenzene		0.05	mg/kg		< 0.05		< 0.05		< 0.05	
Methoxychlor		0.05	mg/kg		< 0.05		< 0.05		< 0.05	
Toxophene		0.1	mg/kg		< 0.1		< 0.1		< 0.1	
Dibutylchlorodale (sur.)		1	%		118		126		128	
Tetrachloro-m-xylene (sur.)		1	%		106		140		123	
% Moisture		0.1	%		33		34		31	

Coffey Geotechnics Pty Ltd

Unit 118 Hurley Dve

Coffs Harbour

NSW 2450

Client Sample ID	P4 0-75mm	Q3 0-75mm	Q4 0-75mm	R3 0-75mm
Lab Number	08-JA02284	08-JA02285	08-JA02296	08-JA02297
Matrix	Soil	Soil	Soil	Soil
Sample Date	Jan 10, 2008	Jan 10, 2008	Jan 10, 2008	Jan 10, 2008
Analysis Type	LOR			
Organochlorine Pesticides				
4,4'-DDD	0.05	< 0.05	< 0.05	< 0.05
4,4'-DDE	0.05	< 0.05	< 0.05	< 0.05
4,4'-DDT	0.05	< 0.05	< 0.05	< 0.05
a-BHC	0.05	< 0.05	< 0.05	< 0.05
Aldrin	0.05	< 0.05	< 0.05	< 0.05
b-BHC	0.05	< 0.05	< 0.05	< 0.05
Chlordane	0.1	< 0.1	< 0.1	< 0.1
d-BHC	0.05	< 0.05	< 0.05	< 0.05
Dieldrin	0.05	39	< 0.05	< 0.05
Endosulfan I	0.05	< 0.05	< 0.05	< 0.05
Endosulfan II	0.05	< 0.05	< 0.05	< 0.05
Endosulfan sulphate	0.05	< 0.05	< 0.05	< 0.05
Endrin	0.05	< 0.05	< 0.05	< 0.05
Endrin aldehyde	0.05	< 0.05	< 0.05	< 0.05
Endrin ketone	0.05	< 0.05	< 0.05	< 0.05
g-BHC (Lindane)	0.05	< 0.05	< 0.05	< 0.05
Heptachlor	0.05	< 0.05	< 0.05	< 0.05
Heptachlor epoxide	0.05	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	0.05	< 0.05	< 0.05	< 0.05
Methoxychlor	0.05	< 0.05	< 0.05	< 0.05
Toxophane	0.1	< 0.1	< 0.1	< 0.1
Dibutylchloridate (surr.)	1	116	96	125
Tetrachloro-m-xylene (surr.)	1	95	108	144
% Moisture	0.1	25	37	31

COMMENTS:

Coffey Geotechnics Pty Ltd Unit 1 18 Hurley Dve Cofts Harbour NSW 2450	Client Sample ID	RPO	Lab 0.75mm	Method blank
	Lab Number	BATCH	08-JA02290	Batch
	QA Description		Spike % Recovery	
	Matrix	Soil	Soil	Soil
	Sample Date	Jan 10, 2008	Jan 10, 2008	Jan 10, 2008
	Units		% Recovery	mg/L
	Analysis Type			
	Organochlorine Pesticides			
	4,4'-DDD	< 1	110	< 0.005
	4,4'-DDE	< 1	117	< 0.005
4,4'-DDT	< 1	126	< 0.005	
a-BHC	< 1	116	< 0.005	
Aldrin	< 1	113	< 0.005	
b-BHC	< 1	118	< 0.005	
Chlordane	< 1	98	< 0.01	
d-BHC	< 1	128	< 0.005	
Dieldrin	< 1	123	< 0.005	
Endosulfan I	< 1	115	< 0.005	
Endosulfan II	< 1	118	< 0.005	
Endosulfan sulphate	< 1	116	< 0.005	
Endrin	< 1	123	< 0.005	
Endrin aldehyde	< 1	114	< 0.005	
Endrin ketone	< 1	111	< 0.005	
g-BHC (Lindane)	< 1	122	< 0.005	
Heptachlor	< 1	125	< 0.005	
Heptachlor epoxide	< 1	116	< 0.005	
Hexachlorobenzene	< 1	120	< 0.005	
Methoxychlor	< 1	123	< 0.005	
Toxophene	< 1	89	< 0.01	
Dibutylchloridate (surr.)	-	98	95	
Tetrachloro-m-xylene (surr.)	-	104	98	

COMMENTS:

From: Emma Coleman [mailto:Emma_Coleman@coffey.com]
Sent: Thursday, 10 January 2008 1:34 PM
To: Onur Mehmet
Subject: additional testing from batch 218322

Hi Onur,

I want to test eight samples from batch 218322 for OCPs.

The samples are

~ L9 0-75mm, - From Comp BE
~ M9 0-75mm, - From Comp BE
~ M8 0-75mm, - From Comp BE
~ M7 0-75mm, - From Comp BE

} No 10008
Box 297 E4

P4 0-75mm,
Q3 0-75mm,
Q4 0-75mm, and
R3 0-75mm.

} From Comp BM - No 10016
Box 715 D2 ?

These samples made up composites BE and BM in batch 218322.

Please call me if you need any clarification. Also, I know the samples are out of date for OCPs.

Thanks

Emma Coleman

Environmental Scientist

Coffey Geotechnics Pty Ltd

1/18 Hurley Drive Coffs Harbour NSW 2450 Australia

T (+61) (2) 6651 3213 F (+61) (2) 6651 5194 M 0429 359 411

Diana 10/1/08
230219



Sample Receipt Advice

Company name: Coffey Geotechnics Pty Ltd COFFS
Contact name: Adam Speers-SHELL
Client job number: GEOTCOFH02233AA
COC number: Not provided
Turn around time: Five day
Date received: Jan 14, 2008
MGT lab reference: 220219

Sample information

- ☒ All samples have been received as described on the above COC.
- ☒ COC has been completed correctly.
- ☒ All samples were provided chilled.
- ☒ Appropriately preserved sample containers have been used.
- ☒ All samples were received in good condition.
- ☒ Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.

Contact notes

If you have any questions with respect to these samples please contact:

Onur Mehmet on the above number or by e.mail: mehmeto@mgtenv.com.au

Results will be delivered electronically via e.mail to Adam Speers-SHELL -
adam.speers@shell.com.

mgt Sample Receipt

QA/QC DATA VALIDATION REPORT

Job No: GEOTCOFH02233AA Batch: 220219

I. SAMPLE HANDLING

1. Were the sample holding times met?
2. Were the samples in **proper custody** between the field and reaching the laboratory?
3. Were the samples **properly and adequately** preserved?
This includes keeping the samples chilled, where applicable.
4. Were the samples received by the laboratory in good condition?

Yes	No
☐	☒
☒	☐
☒	☐
☒	☐

Comments:

The samples were out of date for the analysis, however it is noted that the samples were collected from the top 150mm of the soil profile, and the contaminants had likely been exposed for at least 10 years. Based on this, it is considered that the contaminants would not have been affected by the holding times.

Sample Handling was:

☐ Satisfactory

☐ Unsatisfactory

☒ Partially Satisfactory

II PRECISION / ACCURACY ASSESSMENT

1. Was a NATA registered laboratory used?
2. Did the laboratory perform the requested tests?
3. Were the laboratory methods adopted NATA endorsed?
4. Were the appropriate test procedures followed?
5. Were the reporting limits satisfactory?
6. Was the NATA Seal on the reports?
7. Were the reports signed by an authorised person?

Yes	No (Comment below)
☒	☐
☒	☐
☒	☐
☒	☐
☒	☐
☒	☐
☒	☐

**Precision/Accuracy of the Laboratory
Report**

☒ Satisfactory

☐ Unsatisfactory

☐ Partially Satisfactory

III. FIELD QA/QC

1. Number of Samples Analysed Soil: 8

2. Number of Days of Sampling Soil: 1

3. Number and Type of QA/QC Samples Collected:

	SOIL	WATER
Field Duplicates	0	NA
Trip Spikes	0	NA
Wash Blanks	0	NA
Other (Field Blanks, Trip Blanks, etc.)	0	NA

4. Field Duplicates

A. Were an Adequate Number of field duplicates collected?

B. Were RPDs within Control Limits?

a. Organics (< 50 %)

b. Metals/Inorganics (< 50 %)

Yes	No
☐	☒
☐ NA	☐ ☐

5. Trip Blanks

A. Were an Adequate Number of trip blanks collected?

B. Were the Trip Blanks free of contaminants?

Yes	No
☐	☒
NA	☐

6. Wash Blanks

A. Were an adequate number of Wash Blanks collected?

B. Were the Wash Blanks free of contaminants?

Yes	No
☐	☒
NA	☐

Comments:

Field duplicates, and wash blanks were not analysed, as the collection of these samples was undertaken in conjunction with the samples in batch no. 218322. Adequate duplicates and wash blanks were analysed for batch 218322.

Trip spikes and trip blanks were not analysed as the samples were not being analysed for volatile contaminants.

Field QA/QC was:

☐ Satisfactory

☐ Unsatisfactory

☒ Partially Satisfactory

IV LABORATORY INTERNAL QUALITY CONTROL PROCEDURES

1. Types and Number of QA/QC Samples

	SOIL	WATER
Method Blanks	1	NA
Matrix Spikes	1	NA
Laboratory Duplicates	1	NA
Surrogates	16	C

2. Were the laboratory blanks/reagents blanks free of contamination?

3. Were the spike recoveries within laboratory control limits?

a. Organics (60% to 130%)

b. Metals/Inorganic (70% to 130%)

4. Were the RPDs of the laboratory duplicates within control limits?

5. Were the surrogate recoveries within control limits?

Yes	No
☒	☐
☒ NA	☐ ☐
☒	☐
☒	☐

The laboratory internal QA/QC was:

☒ Satisfactory

☐ Unsatisfactory

☐ Partially Satisfactory

V. DATA USABILITY

1.	Data Directly Usable	☒
2.	Data Usable with the following corrections/modifications	☐
3.	Data Not Usable.	☐

QA/QC Report Prepared by

Appendix D

Acid Sulfate Soil Laboratory Test Reports

A.S.S. FIELD SCREEN ANALYSIS REPORT

CERTIFICATE OF ANALYSIS



Analysis By: **Bio-Track Pty Ltd** ABN 91 056 237 275 781 Mt. Glorious Road Highvale, Brisbane, Australia, 4520 Ph. 07 3289 7179 EMAIL pe@biotrack.com.au

DATE OF REPORT 16 JANUARY 2008 Page 1 of 1 Report Pages.
CLIENT NAME MS EMMA COLEMAN
CLIENT FIRM COFFEY GEOTECHNICS PTY LTD YOUR PROJECT/JOB REFERENCE GEOTCOFH02233AA
CLIENT ADDRESS PO BOX 704 COFFS HARBOUR NSW 2450
PROJECT NAME GEOTCOFH02233AA SAMPLING DATE 30/11/2007
NUMBER OF SAMPLES 33 SAMPLE TYPE SOIL SAMPLE FOR ACID SULFATE STUDY
PACKAGING SAMPLES LABELLED - INTACT - BAGGED - CHILLED IN INSULATED PACKAGING
SAMPLES DISPOSED ON 1/4/2008
LOG-IN DATE 06 DECEMBER 2007 LAB REF. LR06127.544B

TEST METHODOLOGY FOR pH_f AND pH_{fox} AS PER QASSIT 2004 Laboratory Methods. Indications based on pH data only.
RATE: 0=none 1=slight 2=moderate 3=high 4=very high (steam evolved) visual observation at 0-5 minutes.
TEMP: Surface temperature rise (°C) oxidised sample at 5 minutes.

SAMPLE ID	Upper	Lower (m)	pH_f	pH_fox	change	RATE	TEMP	INDICATION
ASTP 1	0.5	0.8	4.4	2.9	-1.5	1	3	moderate TPA
ASTP 1	1.5	1.7	5.5	5.2	-0.3	1	6	low TAA & low TPA & low sulphide
ASTP 1	2.8	3.0	6.5	6.5	0.0	2	10	low TAA & low TPA & low sulphide
ASTP 2	0.2	0.4	4.9	3.1	-1.8	4	7	low TAA & moderate TPA
ASTP 2	1.5	1.7	5.5	4.3	-1.2	3	10	low TAA
ASTP 2	3.0	3.2	5.6	5.4	-0.2	1	1	low TAA & low TPA & low sulphide
ASTP 3	0.5	0.7	4.4	2.9	-1.5	1	0	moderate TPA
ASTP 3	1.5	1.7	4.8	3.2	-1.6	1	1	low TAA & moderate TPA
ASTP 4	1.1	1.3	5.0	3.9	-1.1	1	0	low TAA
ASTP 4	2.0	2.2	5.2	3.8	-1.4	1	10	low TAA
ASTP 4	3.0	3.2	5.2	4.6	-0.6	1	2	low TAA & low TPA & low sulphide
ASTP 5	0.5	0.7	5.2	3.3	-1.9	4	3	low TAA & moderate TPA
ASTP 5	1.3	1.5	4.8	3.8	-1.0	1	1	low TAA
ASTP 6	0.0	0.2	5.0	2.7	-2.3	1	2	low TAA & moderate TPA & sulphide possible
ASTP 6	1.0	1.2	5.5	3.7	-1.8	4	10	low TAA
ASTP 6	2.9	3.1	5.6	3.9	-1.7	2	11	low TAA
ASTP 7	0.6	0.8	4.7	3.0	-1.7	1	2	low TAA & moderate TPA
ASTP 7	1.5	1.7	5.5	3.8	-1.7	3	2	low TAA
ASTP 7	2.8	3.0	5.4	4.1	-1.3	2	4	low TAA
ASTP 8	0.6	0.8	5.0	3.8	-1.2	1	1	low TAA
ASTP 8	1.0	1.3	4.6	2.9	-1.7	1	2	low TAA & moderate TPA
ASTP 8	2.2	2.5	4.3	3.1	-1.2	2	1	moderate TPA
ASTP 8	3.2	3.4	4.6	3.8	-0.8	1	3	low TAA & low sulphide
ASTP 9	0.4	0.6	4.5	3.2	-1.3	1	2	low TAA & moderate TPA
ASTP 9	1.2	1.4	4.2	3.5	-0.7	1	2	low sulphide
ASTP 9	2.0	2.2	4.6	3.3	-1.3	1	2	low TAA & moderate TPA
ASTP 10	1.1	1.3	4.7	3.2	-1.5	1	2	low TAA & moderate TPA
ASTP10	1.3	4.5	3.0	-1.5	1	0	low TAA & moderate TPA	
ASTP 10	1.8	2.0	4.8	3.8	-1.0	1	4	low TAA
ASTP 10	2.8	3.0	5.6	4.5	-1.1	1	6	low TAA
ASTP 11	1.0	1.3	4.6	2.9	-1.7	1	2	low TAA & moderate TPA
ASTP 11	2.5	2.8	4.3	3.3	-1.0	2	6	moderate TPA
ASTP 11	3.3	3.6	4.6	3.5	-1.1	1	3	low TAA

 Signatory For and behalf of Bio-Track Pty Ltd

DETERMINATION OF ACID SULFATE SOIL PROPERTIES



CERTIFICATE OF ANALYSIS

Analysis By: Bio-Track Pty Ltd ABN 91 056 237 275

781 Mc. Clellan Road Hipokaw, Brisbane, Australia, 4509 Ph. 07 5339 7179 Fax. 07 5339 7155

LAB REFERENCE: LR16018.662 DATE OF REPORT: 31 JANUARY 2008 0913-03:20
 CLIENT NAME: MS ENMA COLEMAN C/O COFFEY GEOTECHNICS PTY LTD PO BOX 704 COFFEY HARBOUR NSW 2450
 PROJECT NAME: GEOTECHNICAL/JOH REFERENCE: GEOTECHNICAL/233AA
 SAMPLING DATE: 30/11/2007 NUMBER OF SAMPLES: 22 Samples supplied by client SAMPLE TYPE: SOIL SAMPLE FOR ACID SULFATE STUDY
 DATE RECEIVED: 16 JANUARY 2008 PACKAGING: SAMPLES LABELLED - INTACT - BAGGED - CHILLED IN INSULATED PACKAGING Ground Over Dry Samples DISPOSED ON 1/10/2008

Page 1 of 1 Report Pages.

Sample 10 as received. METHODOLOGY: As per (DNR QASST May 2004), oven dried (85°C), >1000 um shells removed, fine grind. All reported values gravimetric, dry mass. LIME1 rates calculated to neutralise TPA (or TAA if >TPA) as AS_RAS -ANC_E/1.5 LIME2 rates calculated to neutralise TAA + AS_POS or S_Cr + AS_RAS -ANC_E/1.5 NB. LIME rates assume 97% lime neutralisation but DO NOT include any safety factors. Suggested factor=1.5-2. Rates are kg/ton. Multiply by bulk density to convert to kg/m3. Fineness Factor=1.5 CBM POS= moles carbonate alkalinity released by oxidation assuming (Ca POS - Ca KCL) + (Mg POS - Mg KCL) is due to carbonate solution. Blanks represent unmeasured values, zeros <0.2 represent measured values. If pH KCL >4.5 then s-RAS calculated from acid extract) may be zero for undisturbed soil. Ca/ar is the acid reactive calcium calculated as the difference between 1 M KCL and 4 M HCL soluble Ca.

ID.	DEPTH	pH	pH	TPA	TSA	S KCL	S POS	S CR	S-RAS	%	%	Ca P	Mg KCL	Mg P	POS	LIME1	LIME2	ANC_E	Ca/ar
Analytical Method Codes		23A	23B	23F	23G	23H	23Ce	23De	23Ee	22B	s23Re	%	Mg/kg	23Wh	235m	kg/t	kg/t	%	mg/kg
ASTP 1 0.5-0.8		4.32	5.69	44	41	0	<0.01	0.02	0.02	0.02	0.02	0.02	164	180	97	102	19	20	62
ASTP 2 0.2-0.4		4.35	5.62	49	22	0	0.01	0.02	0.01	0.01	0.01	0.01	99	108	88	92	1	5	36
ASTP 3 0.5-0.7		4.19	5.47	51	25	0	<0.01	0.02	0.01	0.01	0.01	0.01	104	103	54	58	0	4	30
ASTP 4 1.1-1.3		4.26	5.94	52	8	0	0.02	0.04	0.02	0.02	0.02	0.02	128	154	134	136	1	3	81
ASTP 5 0.5-0.7		4.39	6.56	18	0	0	<0.01	0.01	<0.01	<0.01	<0.01	<0.01	55	69	113	117	1	1	39
ASTP 6 1.0-1.2		4.35	6.22	14	2	0	<0.01	0.02	0.01	0.01	0.01	0.01	79	104	364	396	4	1	50
ASTP 7 0.6-0.8		4.47	6.03	40	103	62	<0.01	0.04	0.04	0.04	0.04	0.04	192	275	101	130	7	5	158
ASTP 8 0.5-0.7		4.39	5.99	30	9	0	<0.01	0.01	<0.01	<0.01	<0.01	<0.01	32	52	68	79	2	2	40
ASTP 9 0.2-0.2		4.80	6.96	6	0	0	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	92	106	177	182	1	0	34
ASTP 10 1.0-1.3		4.33	6.34	11	<1	0	<0.01	0.03	0.03	0.03	0.03	0.03	56	99	409	499	10	1	47
ASTP 11 0.5-0.7		4.19	6.22	30	<1	0	<0.01	0.01	<0.01	<0.01	<0.01	<0.01	43	179	159	175	8	2	161
ASTP 12 0.5-0.7		4.43	6.37	7	0	0	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	51	77	212	237	3	0	36
ASTP 13 0.5-0.7		4.57	6.29	6	2	0	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	39	45	182	196	2	0	33
ASTP 14 0.5-0.7		4.21	7.35	68	0	0	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	49	62	88	92	2	2	33
ASTP 15 0.5-0.7		4.00	5.95	54	9	0	0.02	0.02	0.02	0.02	0.02	0.02	21	39	142	114	3	3	29
ASTP 16 0.5-0.7		4.29	5.87	43	5	0	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	25	45	50	53	2	2	35
ASTP 17 0.5-0.7		4.17	6.14	40	3	0	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	13	27	131	130	2	2	21
ASTP 18 0.5-0.7		4.23	6.11	39	2	0	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	42	61	179	182	1	2	29
ASTP 19 0.5-0.7		4.09	6.14	33	4	0	<0.01	0.01	<0.01	<0.01	<0.01	<0.01	32	60	245	253	2	2	33
ASTP 20 0.5-0.7		4.52	6.82	4	0	0	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	69	93	337	355	3	-2	36
ASTP 21 0.5-0.7		4.13	5.54	46	11	0	0.02	0.01	<0.01	<0.01	<0.01	<0.01	73	91	113	116	1	4	28
ASTP 22 0.5-0.7		4.13	6.19	43	<1	0	0.02	0.01	<0.01	<0.01	<0.01	<0.01	40	59	161	165	1	3	23

For and on behalf of Bio-Track Pty Ltd

Signature: *P. Colston*

DETERMINATION OF ACID SULFATE SOIL PROPERTIES



CERTIFICATE OF ANALYSIS

Analysis By: Bio-Track Pty Ltd ABN 91 056 237 275

781 Mt. Glorious Road Highvale, Brisbane, Australia, 4520 Ph. 07 3189 7170 Fax. 07 3189 7155

LAB REFERENCE: L16A018.683 DATE OF REPORT: 31 JANUARY 2008 013:06:35
 CLIENT NAME: MS BOWA COLEMAN C/O COFFEY GEOTECHNICS PTY LTD PO BOX 704 COFFS HARBOUR NSW 2450
 PROJECT NAME: GEOTCO#H02233AA YOUR PROJECT/JOB REFERENCE: GEOTCO#H02233AA
 SAMPLING DATE: 30/11/2007 NUMBER OF SAMPLES: 22 Samples supplied by client SAMPLE TYPE: SOIL SAMPLE FOR ACID SULFATE STUDY
 DATE RECEIVED: 16 JANUARY 2008 PACKAGING: SAMPLES LABELLED: INTACT - BAGGED - CHILLED IN INSULATED PACKAGING Ground Oven Dry Samples DISPOSED ON 1/10/2008

Page 1 of 1 Report Pages.

Sample ID as received, METROLOGY: As per (DNR QASSET May 2004), oven dried (85°C), >1000 um shell removed, fine grind. All reported values gravimetric, dry mass.
 LINE1 rates calculated to neutralise TPA (or TAA if >TPA) + AS_RAS -ANC_E/1.5 LINE2 rates calculated to neutralise TAA + AS_POS or S_Cr + AS_RAS -ANC_BT/1.5
 NB. Line rates assume 97% line neutralisation but DO NOT include any safety factors. Suggested factor 1.5-2. Rates are kg/ton. Multiply by bulk density to convert to kg/m³.
 Fineness factor 1.5 DBM POS: moles carbonate alkalinity released by oxidation assuming (Ca POS - Ca KCl) + (Mg POS - Mg KCl) is due to carbonate solution.
 Blanks represent unmeasured values, zeros & <0.x represent measured values. If pH KCl < 4.5 then S-RAS (calculated from acid extract) may be zero for undisturbed soil. Ca/ar is the acid reactive calcium calculated as the difference between 1 M KCl and 4 M HCl soluble Ca.

ID.	DEPTH m	pH KCL	pH ox	TPA m/t	TAA m/t	TSA m/t	S KCL %	S POS %	S CR %	± %	Ca KCl mg/kg	Ca P mg/kg	Mg KCl mg/kg	Mg P DBM mg/kg	POS m/t	LINE1 kg/t	LINE2 kg/t	SANC_BT %	Ca/ar mg/kg
Analytical Method Codes																			
ASTP 1	0.5-0.8								<0.01	0.001								0	
ASTP 2	0.2-0.4								<0.01	0.000								0	
ASTP 3	0.5-0.7								<0.01	0.001								0	
ASTP 3	1.5-1.7								<0.01	0.001								0	
ASTP 4	1.1-1.3								<0.01	0.000								0	
ASTP 4	2.0-2.2								<0.01	0.000								0	
ASTP 5	0.5-0.7								<0.01	0.002								0	
ASTP 6	0.0-0.2								<0.01	0.000								0	
ASTP 6	1.0-1.2								<0.01	0.000								0	
ASTP 6	2.0-3.1								<0.01	0.000								0	
ASTP 7	0.6-0.8								<0.01	0.000								0	
ASTP 7	1.5-1.7								<0.01	0.000								0	
ASTP 8	0.6-0.8								<0.01	0.000								0	
ASTP 8	1.0-1.3								<0.01	0.003								0	
ASTP 8	2.2-2.5								<0.01	0.000								0	
ASTP 9	0.4-0.6								<0.01	0.001								0	
ASTP 9	2.0-2.2								<0.01	0.000								0	
ASTP 10	1.1-1.3								<0.01	0.002								0	
ASTP 10	1.8-2.0								<0.01	0.000								0	
ASTP 10	2.8-3.0								<0.01	0.000								0	
ASTP 11	1.0-1.3								<0.01	0.001								0	
ASTP 11	3.3-3.6								<0.01	0.000								0	

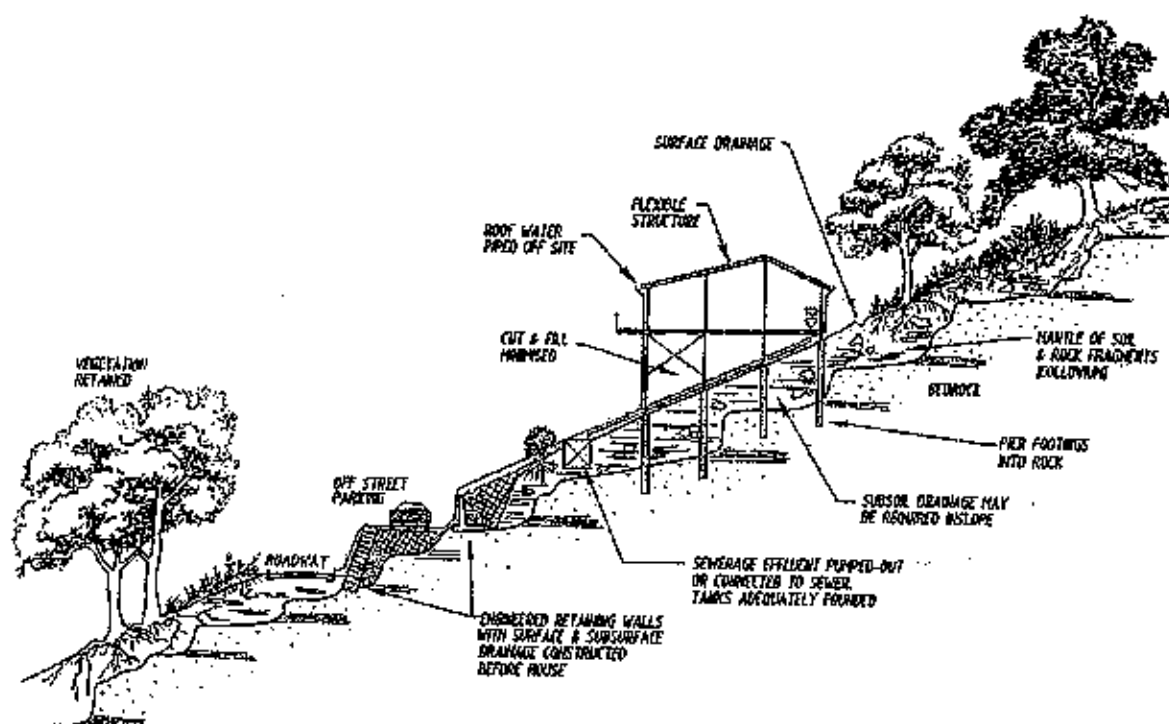
Signature: *P. Coleman*

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Appendix E

Examples of Good Hillside Practice

EXAMPLES OF GOOD HILLSIDE PRACTICE



EXAMPLES OF POOR HILLSIDE PRACTICE

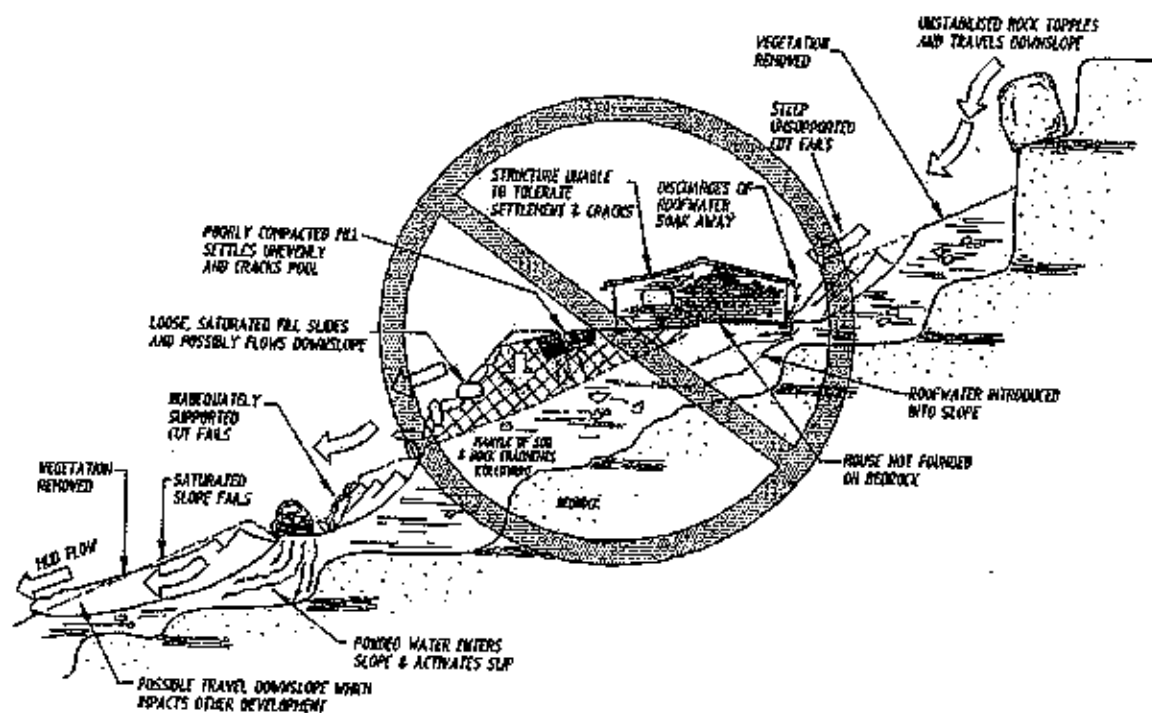


FIGURE 2: ILLUSTRATIONS OF GOOD AND POOR HILLSIDE PRACTICE

This figure is an extract from LANDSLIDE RISK MANAGEMENT CONCEPTS AND GUIDELINES as presented in *Australian Geomechanics*, Vol 35, No 1, 2000 which discusses the matter more fully.