Annex E

Historical Land Title Search

ADVANCE LEGAL SEARCH PTY LIMITED

(ACN 077 067 068)
ABN 49 077 067 068

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Yagoona NSW 2199

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07 November 2007

Environmental Resources Management Australia Pty Ltd
PO Box 5711
PORT MACQUARIE NSW 2444

Attention: Rachael King

RE: **Ocean Drive,**
Bonny Hills

Note 1: **Lot 123 DP 1106943**
Note 2: **Lot 5 DP 25886**

Note 1:

Current Search

Folio Identifier 123/1106943 (attached)
DP 1106943 (plan attached)
Dated 25 September 2007
Registered Proprietor:
ST VINCENT'S FOUNDATION PTY LIMITED

Title Tree
Lot 123 DP 1106943

Folio Identifier 123/1106943

(a)

Folio Identifier 92/1078055

Folio Identifier 44/1064367

Folio Identifier 2/1057752

Folio Identifier 68/845590

Folio Identifier 2/702534

(b)

Folio Identifier Auto Consol 15514 - 245

CTVol 15514 Fol 245

CTVol 15232 Fol 195

*****

(ai)

CTVol 13717 Fol 207

CTVol 12052 Fol 153

CTVol 7161 Fol 110

CTVol 6605 Fol's 201 & 202

(aii)

F/I Auto Consol 14422 – 231

CTVol 14422 Fol 231

See Notes (aiia), (aiib), (aiic) & (aiid)

(aia)

CT 4486 – 222

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(aib)

CT 4969 – 206

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(aiia) **(aiib)** **(aiic)** **(aiid)**

CTVol 12208 – 235 CTVol 13593 – 43 CTVol 13606 – 151 CTVol 13717 – 119

CTVol 11135 – 67 / \ CTVol 11274 – 73 CTVol 7177 – 178

CTVol 8324 – 250 **(aiiba)** **(aiibb)** CTVol 11111 – 48 CTVol 6605 – 201 & 202

**** | | **** CTVol 6251 - 92

CT 11508 – 142 CT 12107 – 92 ****

**** CT 7161 – 110

CT 6605 – 201 & 202

/ \

CT 6670 – 114 CT 6650 – 191

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Summary of Proprietors
Lot 123 DP 1106943

Year	Proprietor
	(Lot 123 DP 1106943)
2007 – todate	St Vincent's Foundation Pty Limited

See Notes (a) & (b)

Note (a)

	(Lot 92 DP 1078055)
2005 – 2007	St Vincent's Foundation Pty Limited
	(Lot 44 DP 1064367)
2004 – 2005	St Vincent's Foundation Pty Limited
	(Lot 2 DP 1057752)
2004 – 2004	St Vincent's Foundation Pty Limited
	(Lot 63 DP 845590)
1999 – 2004	St Vincent's Foundation Pty Limited
1995 – 1999	John Abi – Saab Noeline Elizabeth Abi - Saab
	(Lot 2 DP 702534)
1986 – 1995	John Abi – Saab Noeline Elizabeth Abi – Saab
1984 – 1986	John Abi – Saab Noeline Elizabeth Abi – Saab George Assaf
1984 – 1984	John Abi – Saab Noeline Elizabeth Abi – Saab Monded Holdings Pty Limited George Assaf

See Notes (ai) & (aii)

Note (ai)

	(Lot 1 DP 594794 – CTVol 13717 Fol 207 A & B)
1983 – 1984	John Abi – Saab Noeline Elizabeth Abi – Saab Monded Holdings Pty Limited
	(Lot 1 DP 594794 – CTVol 13717 Fol 207)
1979 – 1983	John Abi – Saab Noeline Elizabeth Abi – Saab Monded Holdings Pty Limited
1978 – 1979	John Abi – Saab Noeline Elizabeth Abi – Saab
	(Lot 4 DP 244187 – CTVol 12052 Fol 153)
1976 – 1978	John Abi – Saab Noeline Elizabeth Abi – Saab
1973 – 1976	Peter Martin Merrotsy, public accountant
1973 – 1973	Edward John Cunning, market gardener
	(Lots 2 and 6 DP 25886 – Area 642 Acres 0 Roods 32 Perches – CTVol 7161 Fol 110)
1956 – 1973	Edward John Cunning, market gardener
	(Portions 42 & 45 Parish Queens Lake and other lands – Area 484 Acres 3 Roods 22 Perches – CTVol 6605 Fol's 201 & 202)
1952 – 1956	Walter Lyall McKenna, farmer Alan McKenna, farmer

See Notes (aia) & (aib)

Note (aia)

	(Portion 42 Parish Queens Lake – Area 100 Acres – CTVol 4486 Fol 222)
1935 – 1952	John Maher, labourer Edward Maher, labourer
1931 – 1935	William Charles Wentworth, grantee

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Note (aib)

	(Portion 45 Parish Queens Lake – Area 50 Acres 2 Roods – CTVol 4969 Fol 206)
1938 – 1952	John Maher, labourer / grantee Edward Maher, labourer / grantee

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Note (aii)

	(Lot 9 DP 615775 – CTVol 14422 Fol 231 A & B)
1983 – 1984	John Abi – Saab Noeline Elizabeth Abi – Saab George Assaf
1983 – 1983	George Assaf
1983 – 1983	John Abi – Saab Noeline Elizabeth Abi – Saab Monded Holdings Pty Limited
	(Lot 9 DP 615775 – CTVol 14422 Fol 231)
1981 – 1983	John Abi – Saab Noeline Elizabeth Abi – Saab Monded Holdings Pty Limited

See Notes (aiia), (aiib), (aiic) & (aiid)

Note (aiia)

	(Lot 3 DP 562353 – CTVol 12208 Fol 235)
1979 – 1981	John Abi – Saab Noeline Elizabeth Abi – Saab Monded Holdings Pty Limited
1973 – 1979	John Abi – Saab Noeline Elizabeth Abi – Saab
1973 – 1973	Isabel Matilda Dobson, married woman
	(Lot 2 DP 535732 – CTVol 11135 Fol 67)
1969 – 1973	Isabel Matilda Dobson, married woman
	(Portions 93 & 96 Parish Queens Lake – Area 180 Acres 3 Roods – CTVol 8324 Fol 250)
1961 – 1969	Isabel Matilda Dobson, married woman / grantee

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Note (aiib)

	(Lot 7 DP 594793 – CTVol 13593 Fol 43)
1979 – 1981	John Abi – Saab Noeline Elizabeth Abi – Saab Monded Holdings Pty Limited
1978 – 1979	John Abi – Saab Noeline Elizabeth Abi – Saab

See Notes (aiiba) & (aiibb)

Note (aiiba)

	(Unnecessary Road – Area 2 Roods 25 Perches – CTVol 11508 Fol 142)
1976 – 1978	John Abi – Saab Noeline Elizabeth Abi – Saab
1973 – 1976	Peter Martin Merrotsy, public accountant
1971 – 1973	Edward John Cunning, grantee

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Note (aiibb)

	(Lot 6 DP 25886 – CTVol 12107 Fol 92)
1976 – 1978	John Abi – Saab Noeline Elizabeth Abi – Saab
1973 – 1976	Peter Martin Merrotsy, public accountant
1973 – 1973	Edward John Cunning, grantee
	(Lots 2 and 6 DP 25886 – Area 642 Acres 0 Roods 32 Perches – CTVol 7161 Fol 110)
1956 – 1973	Edward John Cunning, market gardener

See (aiibb Portion 43) & (aiibb Portion 92)

Note (aiibb Portion 43)

	(Portion 43 Parish Queens Lake – Area 48 Acres 3 Roods – CTVol

	6670 Fol 114)
1956 – 1956	Edward John Cunning, grantee
1953 – 1956	Walter Lyall McKenna, grantee Alan McKenna, grantee

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Note (aiibb Portion 92)

	(Portion 92 Parish Queens Lake – Area 77 Acres 2 Roods 20 Perches – CTVol 6650 Fol 191)
1956 – 1956	Edward John Cunning, grantee
1953 – 1956	Walter Lyall McKenna, grantee Alan McKenna, grantee

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Note (aiic)

	(Lot 8 DP 594792 – CTVol 13606 Fol 151)
1979 – 1981	John Abi – Saab Noeline Elizabeth Abi – Saab Monded Holdings Pty Limited
1978 – 1979	John Abi – Saab Noeline Elizabeth Abi – Saab
	(Lot 2 DP 540608 – CTVol 11274 Fol 73)
1973 – 1978	John Abi – Saab Noeline Elizabeth Abi – Saab
1970 – 1973	Athol Ronald Stace
	(Portions 103 & 17 Parish Queens Lake – Area 875 Acres 2 Roods – CTVol 11111 Fol 48)
1969 – 1970	Athol Ronald Stace, grantee

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Note (aiid)

	(Lot 5 DP 255923 – CTVol 13717 Fol 119)
1979 – 1981	John Abi – Saab

	Noeline Elizabeth Abi – Saab Monded Holdings Pty Limited
1978 – 1979	John Abi – Saab Noeline Elizabeth Abi – Saab
	(Lot 4 DP 25886 – Area 189 Acres – CTVol 7177 Fol 178)
1976 – 1978	John Abi – Saab Noeline Elizabeth Abi – Saab
1973 – 1976	Peter Martin Merrotsy, public accountant
1956 – 1973	Valerie Doris Mary Caelli, married woman
	(Portions 44 & 55 Parish Queens Lake and other lands – Area 484 Acres 3 Roods 22 Perches – CTVol 6605 Fol's 201 & 202)
1952 – 1956	Walter Lyall McKenna, farmer Alan McKenna, farmer
	(Portions 44 & 55 Parish Queens Lake – Area 250 Acres – CTVol 6251 Fol 92)
1951 – 1952	John Maher, grantee Edward Maher, grantee

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Note (b)

	(Lots 1, 2, 3 & 4 DP 45956 – A/C 15514 – 245)
1998 – 2007	St Vincent's Foundation Pty Limited
1995 – 1998	John William Murphy

	Peter Bernard Allen
1988 – 1995	John Abi – Saab Noeline Elizabeth Abi – Saab
	(Lots 1, 2, 3 & 4 DP 45956 – CTVol 15514 Fol 245)
1988 – 1988	John Abi – Saab Noeline Elizabeth Abi – Saab
	(Lots 1, 2, 3 & 4 DP 45956 – CTVol 15232 Fol 195)
1987 – 1988	John Abi – Saab Noeline Elizabeth Abi – Saab
1984 – 1987	John Abi – Saab, grantee Noeline Elizabeth Abi – Saab, grantee George Assaf, grantee

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Note 2:

Current Search

Folio Identifier 5/25886 (attached)
DP 25886 (plan attached)
Dated 25 September 2007
Registered Proprietor:
ST VINCENT'S FOUNDATION PTY LIMITED

Title Tree
Lot 5 DP 25886

Folio Identifier 5/25886

Certificate of Title Volume 15054 Folio 233

Certificate of Title Volume 7104 Folio 218

Certificate of Title Volume 6605 Folio's 201 & 202

Certificate of Title Volume 6251 Folio 92

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Summary of Proprietors
Lot 5 DP 25886

	(Lot 5 DP 25886)

1004 – 2004	St Vincent's Foundation Pty Limited
1988 – 1999	John Abi – Saab Noeline Elizabeth Abi - Saab
	(Lot 5 DP 25886 – CTVol 15054 Fol 233 A, B & C)
1986 – 1988	John Abi – Saab Noeline Elizabeth Abi – Saab
1984 – 1986	John Abi – Saab Noeline Elizabeth Abi – Saab George Assaf
1983 – 1984	John Abi – Saab Noeline Elizabeth Abi – Saab Monded Holdings Pty Limited Paul Kelly
	(Lot 5 DP 25886 – CTVol 7104 Fol 218)
1981 – 1983	John Abi – Saab, company director Noeline Elizabeth Abi – Saab Monded Holdings Pty Limited Paul Kelly, company director
1980 – 1981	Paul Kelly, company director
1973 – 1980	J S Raymond Investments Pty Limited
1971 – 1973	Barry James Dargaville, managing company director
1956 – 1971	Luke Harold West, metal worker
	(Portions 44 & 55 Parish Queens Lake and other lands – Area 484 Acres 3 Roods 22 Perches – CTVol 6605 Fol's 201 & 202)
1952 – 1956	Walter Lyall McKenna, farmer Alan McKenna, farmer
	(Portions 44 & 55 Parish Queens Lake – Area 250 Acres – CTVol 6251 Fol 92)
1951 – 1952	John Maher, grantee Edward Maher, grantee

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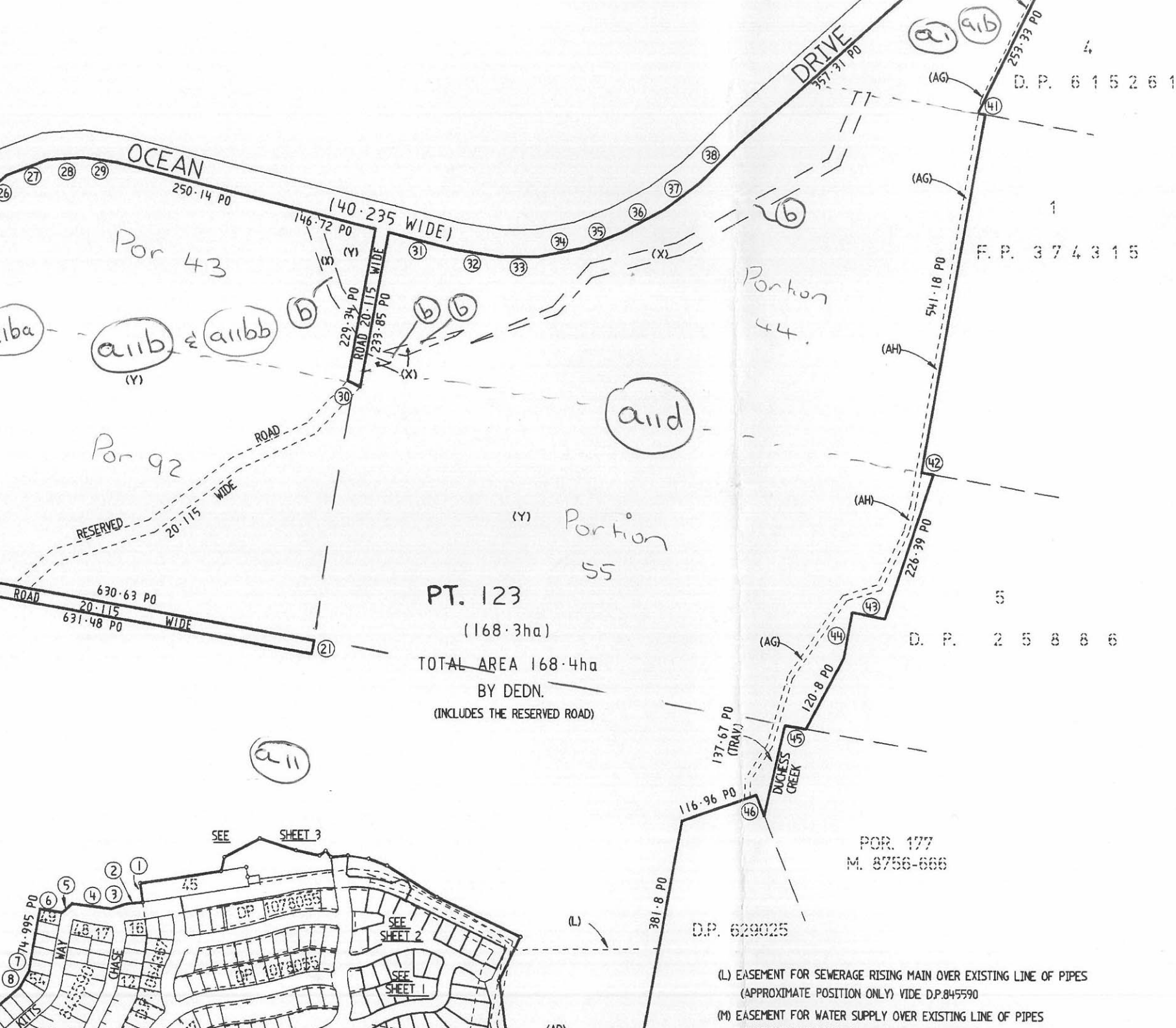


(L) EASEMENT FOR SEWERAGE RISING MAIN OVER EXISTING LINE OF PIPES (APPROXIMATE POSITION ONLY) VIDE D.P.845590

(M) EASEMENT FOR WATER SUPPLY OVER EXISTING LINE OF PIPES

SCHEDULE OF SHORT LINES

NO.	BEARING & DISTANCE
1	28·3 PO
2	25·33 PO
3	22·46 PO
4	58·64 PO
5	19·755 PO
6	33·525 PO
7	19·085 PO
8	27·645 PO
9	32 PO
10	32·415 PO
11	31·91 PO
12	57·32 PO
13	44·24 PO
14	48·03 PO
15	13·425 PO
16	80·52 PO
17	63·4 PO
18	52·11 PO
19	48·69 PO
20	50·16 PO
21	20·115 PO
22	48·38 PO
23	45·06 PO
24	54·21 PO
25	46·61 PO
26	47·095 PO
27	65·25 PO
28	53·82 PO
29	50·96 PO
30	21 PO
31	101·34 PO
32	67·36 PO
33	55·83 PO
34	68·73 PO
35	64·74 PO
36	71·14 PO
37	64·82 PO
38	81·11 PO
39	86·27 PO
40	14·295 PO
41	10·92 PO
42	17·62 PO
43	49·69 PO
44	69·16 PO
45	26·98 BK PO
45	31·6 TRAV PO
46	51 BK PO
46	33·1 TRAV PO

WARNING. CREASING OR FOLDING WILL LEAD TO REJECTION

DP1106943

Registered 6·3·2007

This is sheet 4 of my plan in 4 sheets dated

Surveyor registered under Surveyors Act 1929

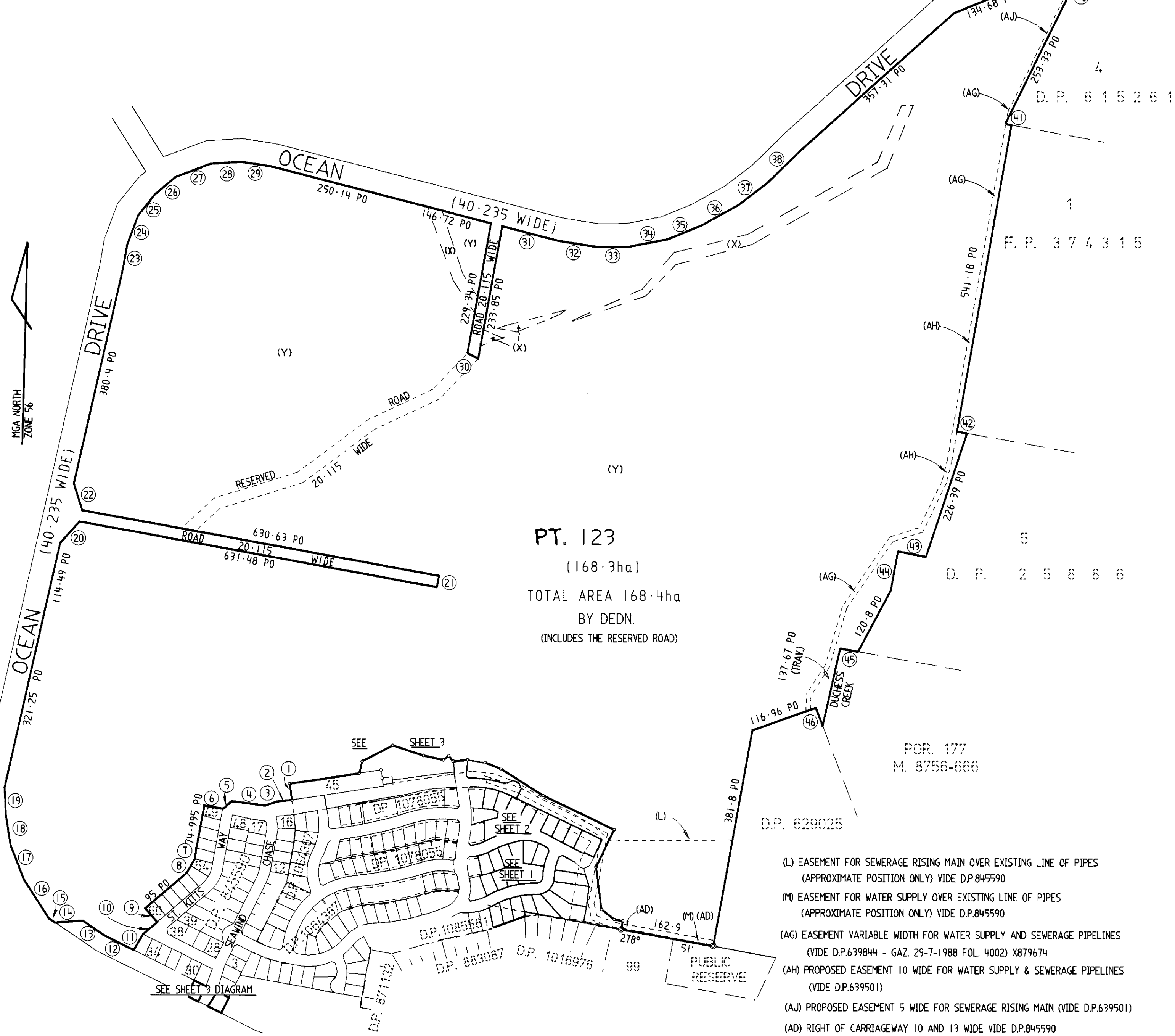
This is sheet 4 of the plan of 4 sheets covered by my certificate No. 13·1992·0065·03 of 20-12-06

Council Clerk

For use where space is insufficient in any panel on Plan Form 2

(X) LAND EXCLUDES MINERALS & IS SUBJECT TO RESERVATIONS & CONDITIONS IN FAVOUR OF THE CROWN - SEE MEMORANDUM S700000A

(Y) RESERVATIONS & CONDITIONS IN THE CROWN GRANT(S)
BENEFITED BY EASEMENT TO DRAIN WATER 1·5 WIDE - SEE DP1064367 & DP1078055



SCHEDULE OF SHORT LINES

NO.	BEARING & DISTANCE
1	28·3 PO
2	25·33 PO
3	22·46 PO
4	58·64 PO
5	19·755 PO
6	33·525 PO
7	19·085 PO
8	27·645 PO
9	32 PO
10	32·415 PO
11	31·91 PO
12	57·32 PO
13	44·24 PO
14	48·03 PO
15	13·425 PO
16	80·52 PO
17	63·4 PO
18	52·11 PO
19	48·69 PO
20	50·16 PO
21	20·115 PO
22	48·38 PO
23	45·06 PO
24	54·21 PO
25	46·61 PO
26	47·095 PO
27	65·25 PO
28	53·82 PO
29	50·96 PO
30	21 PO
31	101·34 PO
32	67·36 PO
33	55·83 PO
34	68·73 PO
35	64·74 PO
36	71·14 PO
37	64·82 PO
38	81·11 PO
39	86·27 PO
40	14·295 PO
41	10·92 PO
42	17·62 PO
43	49·69 PO
44	69·16 PO
45	26·98 BK PO
45	31·6 TRAV PO
46	51 BK PO
46	33·1 TRAV PO

(L) EASEMENT FOR SEWERAGE RISING MAIN OVER EXISTING LINE OF PIPES (APPROXIMATE POSITION ONLY) VIDE D.P.845590

(M) EASEMENT FOR WATER SUPPLY OVER EXISTING LINE OF PIPES (APPROXIMATE POSITION ONLY) VIDE D.P.845590

(AG) EASEMENT VARIABLE WIDTH FOR WATER SUPPLY AND SEWERAGE PIPELINES (VIDE D.P.639844 - GAZ. 29-7-1988 FOL. 4002) X879674

(AH) PROPOSED EASEMENT 10 WIDE FOR WATER SUPPLY & SEWERAGE PIPELINES (VIDE D.P.639501)

(AJ) PROPOSED EASEMENT 5 WIDE FOR SEWERAGE RISING MAIN (VIDE D.P.639501)

(AD) RIGHT OF CARRIAGEWAY 10 AND 13 WIDE VIDE D.P.845590

Reduction Ratio 1:5000

Plan Drawing only to appear in in this space

SURVEYOR'S REFERENCE.45093CL. DWG4509S

1

CONVERSION TABLE ADDED IN REGISTRAR GENERAL'S DEPARTMENT

DP 25886

LINKS	METRES
2.35	0.473
4	0.805
5	1.006
10	2.012
10.1	2.032
11.4	2.293
17.15	3.450
18.1	3.641
18.11	3.643
23	4.627
24	4.828
24.4	4.908
25	5.029
25.7	5.170
30.5	6.136
32	6.437
32.9	6.618
34.3	6.900
34.8	7.001
36.25	7.292
37	7.443
37.25	7.494
37.4	7.524
40.5	8.147
45.7	9.193
50	10.058
50.4	10.139
50.5	10.159
52	10.461
55.2	11.104
62.9	12.653
63.1	12.694
69	13.881
74	14.886
74.85	15.057
76.7	15.430
87.6	17.622
88.7	17.844
92.7	18.648
95.6	19.232
96	19.312
96.54	19.421
100	20.117
102.1	20.539
104.4	21.002
104.7	21.062
120	24.140
125.93	25.333
151	30.376
152.4	30.658
180	36.210
188	37.820
195.5	39.328
208	41.843
233.5	46.973
247	49.688
262.7	52.847
270	54.315
320.3	64.434
342	68.799
343.8	69.162
352	70.811
403	81.071
406	81.674
415	83.485
426	85.698
444	89.319
457	91.934
486.5	97.868
511	102.797
513	103.199
520.8	104.768
547	110.039
574.5	115.571
579.3	116.537
600.5	120.801
603.6	121.425

This is the plan numbered & registered as DEPOSITED PLAN No. 25886 on the 10th day of March 1955
REGISTRAR GENERAL.

F981735 3.12.53

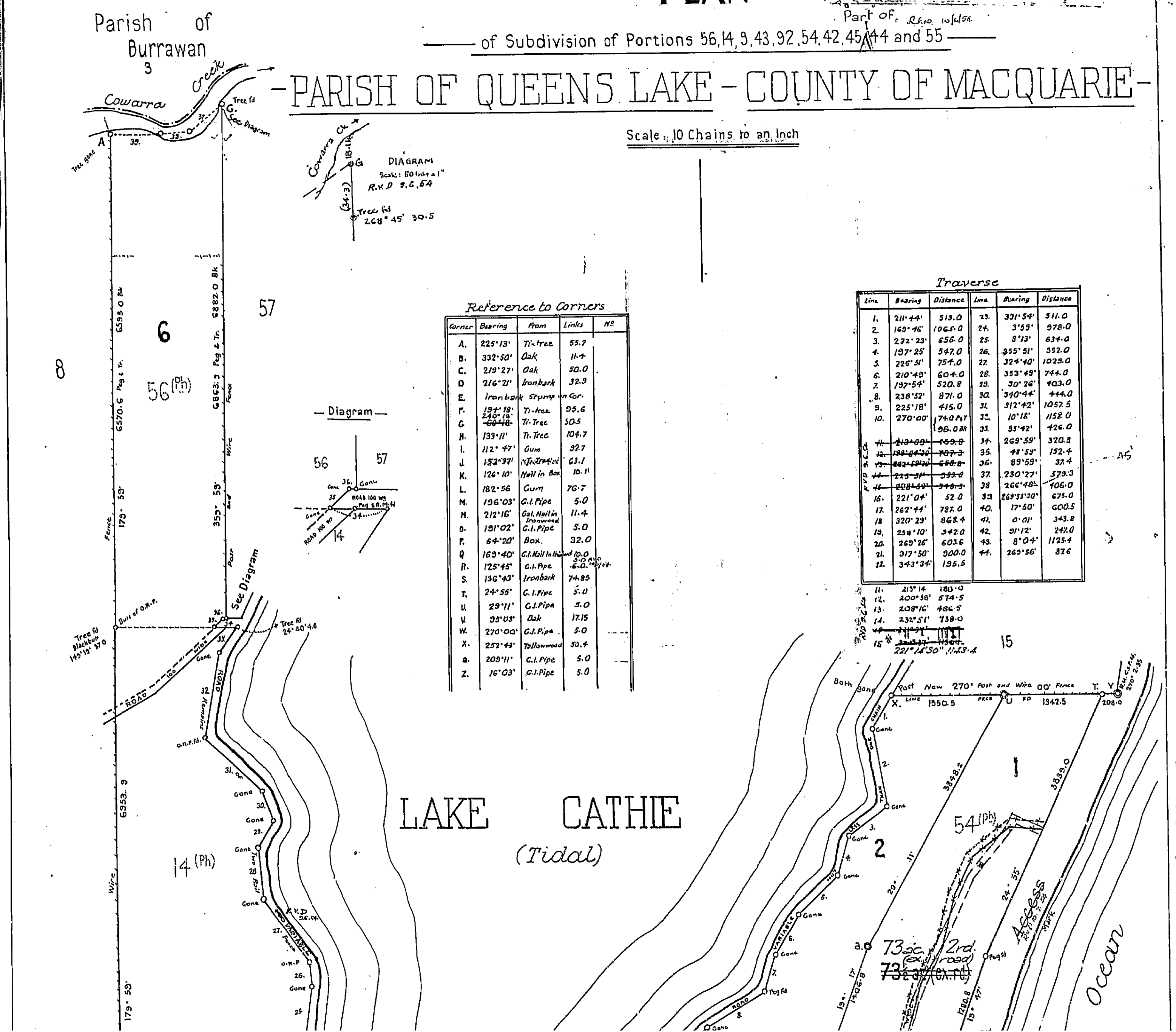
PLAN

Part of, R.H.D. 10/6/54.

of Subdivision of Portions 56, 14, 9, 43, 92, 54, 42, 45, 44 and 55

PARISH OF QUEENS LAKE – COUNTY OF MACQUARIE

Scale: 10 Chains to an Inch



Reference to Corners

Corner	Bearing	From	Links	No.
A.	225°13'	Ti-tree	55.7	
B.	332°50'	Oak	11.4	
C.	219°27'	Oak	50.0	
D	216°21'	Ironbark	32.9	
E	Ironbark Stump on Cor.			
F.	194°18'	Ti-tree	95.6	
G	~~60°18'~~ 240°18'	Ti-Tree	30.5	
H.	133°11'	Ti. Tree	104.7	
I.	112° 47'	Gum	92.7	
J.	152°37'	[illegible]	63.1	
K.	126°10'	Nail in Box	10.11	
L.	182°56	Gum	76.7	
M.	196°03'	G.I. Pipe	5.0	
N.	212°16'	Gal. Nail in Ironwood	11.4	
O.	191°02'	G.I. Pipe	5.0	
P.	64°20'	Box.	32.0	
Q	169°40'	G.I. Nail in Ironwood	10.0	
R.	125°45'	G.I. Pipe	~~6.0~~ 5.0	
S.	136°43'	Ironbark	74.85	
T.	24°55'	G.I. Pipe	5.0	
U.	29°11'	G.I. Pipe	5.0	
V.	95°03'	Oak	17.15	
W.	270°00'	G.I. Pipe	5.0	
X.	252°43'	Tallowwood	50.4	
a.	209°11'	G.I. Pipe	5.0	
Z.	16°03'	G.I. Pipe	5.0	

Traverse

Line	Bearing	Distance	Line	Bearing	Distance
1.	211°44'	513.0	23.	331°54'	511.0
2.	169°46'	1065.0	24.	3°59'	978.0
3.	232°23'	656.0	25.	8°13'	634.0
4.	197°25'	547.0	26.	355°51'	352.0
5.	225°51'	754.0	27.	324°40'	1029.0
6.	210°49'	604.0	28.	353°49'	744.0
7.	197°54'	520.8	29.	30°26'	403.0
8.	238°52'	871.0	30.	340°44'	444.0
9.	225°18'	415.0	31.	312°42'	1057.5
10.	270°00'	740.0 P&T / 96.0 Bk	32.	10°18'	1158.0
			33.	35°42'	426.0
~~11.~~	~~[illegible]~~	~~[illegible]~~	34.	269°59'	320.3
~~12.~~	~~[illegible]~~	~~[illegible]~~	35.	48°59'	152.4
~~13.~~	~~[illegible]~~	~~[illegible]~~	36.	89°59'	37.4
~~14.~~	~~[illegible]~~	~~[illegible]~~	37.	230°27'	579.3
~~15.~~	~~[illegible]~~	~~[illegible]~~	38.	266°40'	406.0
16.	221°04'	52.0	39.	269°55'30"	675.0
17.	262°44'	787.0	40.	17°50'	600.5
18.	320°29'	868.4	41.	0°01'	343.8
19.	258°10'	342.0	42.	91°12'	247.0
20.	269°26'	603.6	43.	8°04'	1125.4
21.	317°50'	900.0	44.	269°56'	876
22.	343°34'	196.5			

R.H.D. 9.6.54

Line	Bearing	Distance
11.	213°14	180.0
12.	200°38'	674.5
13.	208°16'	486.5
14.	232°51'	738.0
15.	221°14'30"	1143.4

Definition of road approved in D.P. G 45855. Line 15 should read 221°14'30" 1143.4 Vide sh. 17 of pps.
Area should read 1463a.2r.32p. vide min 21 pps.

CONVERSION TABLE ADDED IN REGISTRAR GENERAL'S DEPARTMENT

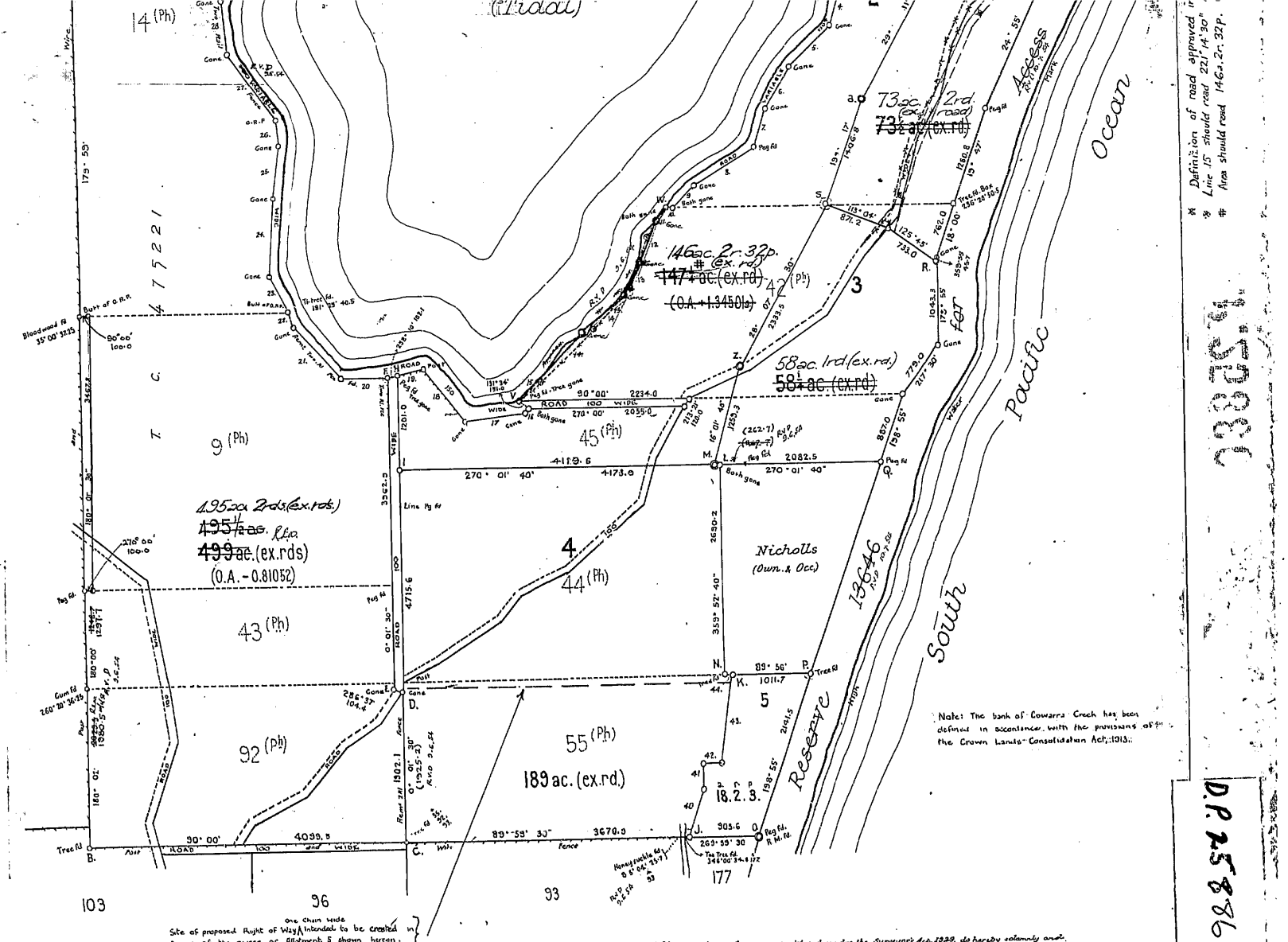
DP 25886 CONTINUED

LINKS	METRES
604	121.505
634	127.541
656	131.966
675	135.788
733	147.456
738	148.462
744	149.669
754	151.681
762	153.290
779	156.710
787	158.319
868.4	174.694
871	175.217
871.2	175.258
887	178.436
900	181.051
905.6	182.178
978	196.742
1011.7	203.522
1029	207.002
1043.3	209.879
1057.5	212.735
1065	214.244
1125.4	226.394
1143.4	230.015
1158	232.953
1201	241.603
1259.3	253.331
1280.8	257.656
1297.7	261.056
1342.5	270.068
1406.8	283.003
1550.5	311.911
1902.1	382.642
1925.2	387.289
1980.5	398.413
2055	413.400
2082.5	418.932
2141.5	430.801
2234	449.409
2333.5	469.426
2690.2	541.182
3467.8	697.610
3679.9	740.278
3839	772.284
3848.2	774.135
3962.9	797.209
4099.5	824.688
4119.6	828.732
4173.9	839.655
4715.6	948.628
6570.6	1321.794
6593	1326.301
6863.9	1380.797
6882	1384.436
6953.9	1398.902

AC	RD	P	HA
18	2	3	7.494
58	1	-	23.57
73	2	-	29.74
146	2	-	59.29
146	2	32	59.37
189	-	-	76.49
495	2	-	200.5

I, Bruce Richard Davies, Registrar General for New South Wales, certify that this negative is a photograph made as a permanent record of a document in my custody this 10th day of January, 1980.

2



PLAN FORM 2

Plan Drawing only to appear in this space

SIGNATURE AND SEALS ONLY.

FOR SIGNATURES, SEALS & CERTIFICATES

SEE SIGNATURES FORM

SCHEDULE OF SHORT LINES

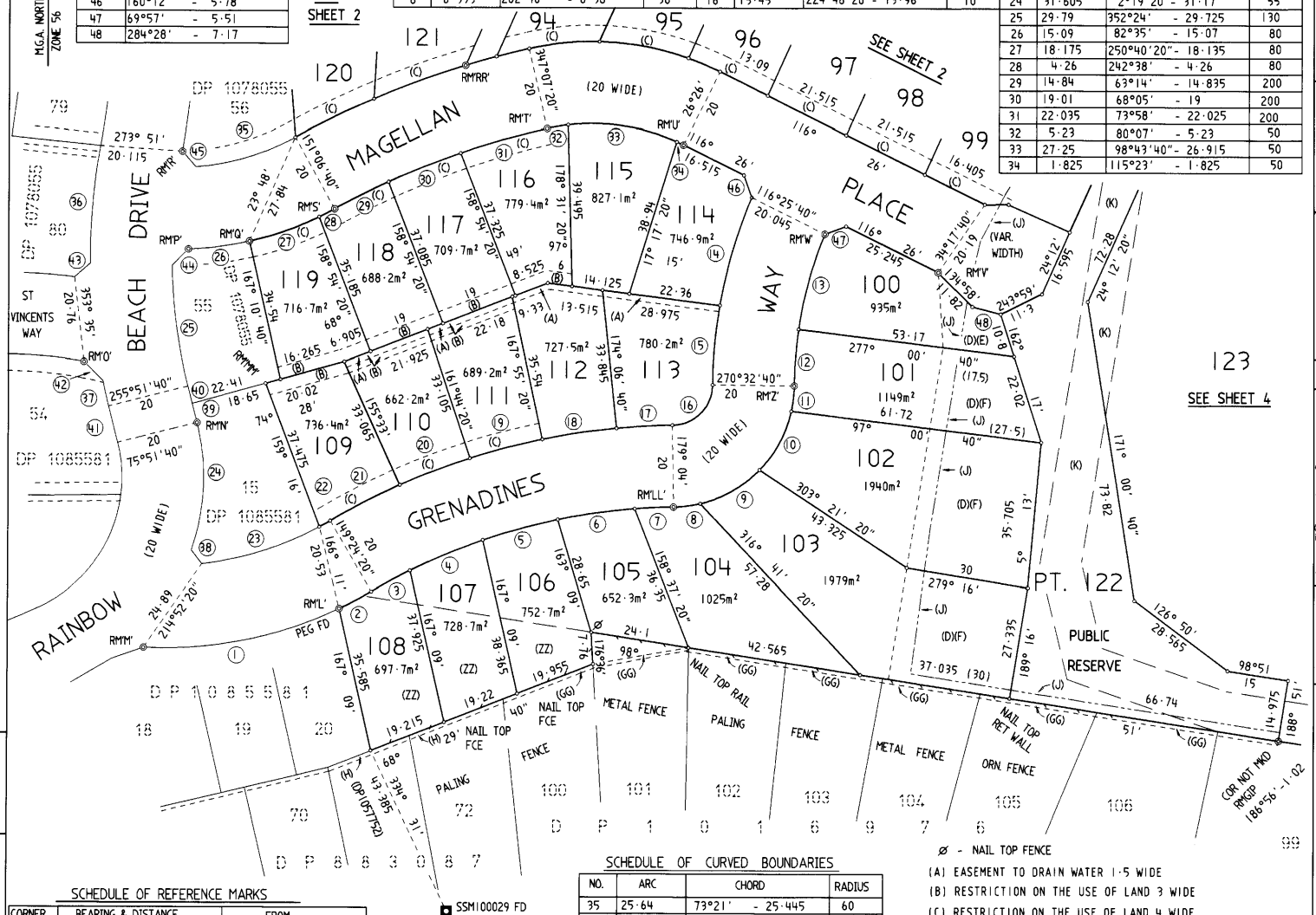
NO.	BEARING & DISTANCE
38	322°49' - 4·23
39	345°51'40"- 4·785
40	345°51'40"- 4·365
41	165°51'40"- 9·15
42	135°23' - 6·665
43	228°36' - 5·135
44	44°38' - 5·68
45	318°45' - 5·005
46	160°12' - 5·78
47	69°57' - 5·51
48	284°28' - 7·17

M.G.A. NORTH ZONE 56

SEE SHEET 2

SCHEDULE OF CURVED BOUNDARIES

NO.	ARC	CHORD	RADIUS
1	49·355	78°41' - 48·86	100
2	8·965	62°06' - 8·96	100
3	10·745	61°27'20"- 10·745	150
4	19·305	67°11'40"- 19·29	150
5	19·035	74°31' - 19·02	150
6	19·08	81°47'40"- 19·065	150
7	9·5	87°15' - 9·5	150
8	6·595	262°46' - 6·58	30
9	16·905	240°20'20" - 16·68	30
10	16·61	208°20' - 16·4	30
11	6·245	186°30' - 6·235	30
12	13·79	4°29'40" - 13·78	100
13	24·215	15°22'40" - 24·155	100
14	27·61	16°24'40"- 27·55	120
15	19·43	5°11' - 19·41	120
16	15·45	224°48'20"- 13·96	10
17	13·705	86°45'40"- 13·7	170
18	18·36	81°21'20"- 18·35	170
19	18·36	75°10' - 18·35	170
20	18·36	68°58'40"- 18·35	170
21	19·23	62°38'40"- 19·22	170
22	3·025	240°51' - 3·025	80
23	30·36	252°27' - 30·18	80
24	31·605	2°19'20"- 31·17	55
25	29·79	352°24' - 29·725	130
26	15·09	82°35' - 15·07	80
27	18·175	250°40'20"- 18·135	80
28	4·26	242°38' - 4·26	80
29	14·84	63°14' - 14·835	200
30	19·01	68°05' - 19	200
31	22·035	73°58' - 22·025	200
32	5·23	80°07' - 5·23	50
33	27·25	98°43'40"- 26·915	50
34	1·825	115°23' - 1·825	50



SCHEDULE OF REFERENCE MARKS

CORNER	BEARING & DISTANCE	FROM
L	166°11' - 6·295, 13·665	D.H&W's FD.(DP1063227)
M	224°34'20"- 13·005, 20·27	D.H&W's FD.(DP1063227)
N	75°51'40" - 5·8, 14·285	D.H&W's FD.(DP1063227)
O	173°11' - 6·88	SSM 137952 FD.(DP1078055)
P	185°06'40"- 6·325, 13·775	D.H&W's FD.(DP1078055)
Q	203°48' - 7·99, 17·635	D.H&W's FD.(DP1078055)
R	93°41' - 5·235	D.H&W FD.(DP1078055)
R	93°47' - 14·38	D.H&W FD.(DP1078055)
S	151°03' - 6·215	D.H&W IN KERB
S	151°07' - 13·2	D.H&W IN KERB
T	167°07'20"- 6·23, 13·275	D.H&W's IN KERB & GUTTER
U	206°26' - 6·25, 13·295	D.H&WS IN KERB & GUTTER
V	214°17'40"-4·68, 15·91	D.H&W's IN KERB & GUTTER
W	206°47'30"- 17·435	SSM139659 PLD RL 5.815
Z	90°35' - 6·425	D.H&W IN KERB
Z	90°32'40" - 13·725	D.H&W IN KERB
RR	0°01'20"- 6·875	SSM139660 PLD RL 5.73
LL	180°29' - 13·475	SSM139661 PLD IN GUTTER
MM		RM GONE (DP 1057752)

SCHEDULE OF CURVED BOUNDARIES

NO.	ARC	CHORD	RADIUS
35	25·64	73°21' - 25·445	60
36	28·95	184°48'40"- 28·905	150
37	6·215	166°57' - 6·215	150

Ø - NAIL TOP FENCE

(A) EASEMENT TO DRAIN WATER 1·5 WIDE

(B) RESTRICTION ON THE USE OF LAND 3 WIDE

(C) RESTRICTION ON THE USE OF LAND 4 WIDE

(D) RESTRICTION ON THE USE OF LAND

(E) RESTRICTION ON THE USE OF LAND

(F) RESTRICTION ON THE USE OF LAND

(GG) EASEMENT TO DRAIN WATER 1 WIDE (DP1016976)

(H) EASEMENT TO DRAIN WATER 1 WIDE (DP883087)

(J) PART OF EASEMENT FOR WATER SUPPLY OVER EXISTING LINE OF PIPES (APPROXIMATE POSITION ONLY) VIDE DP 845590 TO BE RELEASED.

(K) PART OF RIGHT OF CARRIAGEWAY 10 AND 13 WIDE VIDE DP 845590 TO BE RELEASED.

(ZZ) POSITIVE COVENANT (DP 1016976)

Crown Lands Office Approval

PLAN APPROVED _____ Authorised Officer

Land District _____

Paper No. _____

Field Book _____ pages _____

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')

SEE SIGNATURES FORM

* Authorised Person/~~General Manager~~/~~Accredited Certifier~~

Consent Authority PORT MACQUARIE-HASTINGS COUNCIL

Date of endorsement 20-12-2006

Accreditation no

Subdivision Certificate no 13·1992·0665·03

File no DA1992/0665

Note

When the plan is to be lodged electronically in the Land Titles Office, it should include a signature in an electronic or digital format approved by the Registrar-General.

* Delete whichever is inapplicable.

DP1106943

Registered 6·3·2007

C.A. SEE CERTIFICATE

Title System. TORRENS

Purpose. SUBDIVISION

Ref.Map. PARISH

Last Plan. DP1078055, DP45956 (DP845590*)

PLAN OF SUBDIVISION OF LOT 92 DP1078055 AND LOTS 1,2,3 AND 4 DP45956

Lengths are in metres. Reduction Ratio 1.800

Local Govt PORT MACQUARIE - HASTINGS Area.

Locality. BONNY HILLS

Parish. QUEENS LAKE

County. MACQUARIE

This is sheet 1 of my plan in 4 sheets. (Delete if inapplicable).

Surveying Regulation 2006

I, PHILIP ALFRED LUKE

of LUKE & CO. PORT MACQUARIE

a surveyor registered under the Surveying Act 2002, hereby certify that the survey represented in this plan is accurate, has been made in accordance with the Surveying Regulation 2006 and was completed on 3th NOVEMBER 2006

The survey relates to LOTS 91 TO 122 INCL. AND LOT 123 PARTLY COMPILED.

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

Datum Line 'X' - 'Y' (Signature) SIGNATURES FORM

Type: Urban / ~~Rural~~ Surveyor registered under the Surveying Act 2002

Plans used in preparation of survey/compilation.

DP 1078055, DP 1064367, DP 1063227
DP 845590, DP 1057752, DP 871132
DP 883087, DP 1016976, DP 634929
DP 1085581

PANEL FOR USE ONLY for statements of intention to dedicate public roads, to create public reserves, drainage reserves, easements, restrictions on the use of land or positive covenants.

IT IS INTENDED :

1. TO CREATE PURSUANT TO SEC. 88B OF THE CONVEYANCING ACT 1919;

i) EASEMENT TO DRAIN WATER 1.5 WIDE.
ii) RESTRICTION ON THE USE OF LAND
iii) RESTRICTION ON THE USE OF LAND 3 WIDE.
iv) RESTRICTION ON THE USE OF LAND 4 WIDE.
v) RESTRICTION ON THE USE OF LAND.
vi) RESTRICTION ON THE USE OF LAND.
vii) RESTRICTION ON THE USE OF LAND.
viii) RESTRICTION ON THE USE OF LAND.
ix) POSITIVE COVENANT

TO RELEASE :

i) PART OF EASEMENT FOR WATER SUPPLY OVER EXISTING LINE OF PIPES (APPROXIMATE POSITION ONLY) VIDE D.P.845590 (J)

ii) PART OF RIGHT OF CARRIAGEWAY 10 & 13 WIDE VIDE D.P.845590 (K)

FOR DEDICATIONS SEE SHEET 2

10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170 Table of mm 210 220 230 240 250 260 270 280 290 300 310 320 330 340 350 360 370 380 390

SURVEYOR'S REFERENCE 45093 CL. (DWG.4509N) File'2006M7100(330)Comp'

WARNING. CREASING OR FOLDING WILL LEAD TO REJECTION

PLAN FORM 3 | To be used in conjunction with Plan Form 2 | WARNING. CREASING OR FOLDING WILL LEAD TO REJECTION

(A) EASEMENT TO DRAIN WATER 1·5 WIDE
(B) RESTRICTION ON THE USE OF LAND 3 WIDE
(C) RESTRICTION ON THE USE OF LAND 4 WIDE
(D) RESTRICTION ON THE USE OF LAND.
(E) RESTRICTION ON THE USE OF LAND.
(FF) PATHWAY 6 WIDE.
(G) POSITIVE COVENANT
(J) PART OF EASEMENT FOR WATER SUPPLY OVER EXISTING LINE OF PIPES (APPROXIMATE POSITION ONLY) VIDE DP 845590 TO BE RELEASED.
(K) PART OF CARRIAGEWAY 10 AND 13 WIDE VIDE DP 845590 TO BE RELEASED.
(L) EASEMENT FOR SEWERAGE RISING MAIN OVER EXISTING LINE OF PIPES (APPROXIMATE POSITION ONLY) VIDE DP 845590
(M) EASEMENT FOR WATER SUPPLY OVER EXISTING LINE OF PIPES (APPROXIMATE POSITION ONLY) VIDE DP 845590
(AD) RIGHT OF CARRIAGEWAY 10 AND 13 WIDE VIDE DP 845590

SCHEDULE OF REFERENCE MARKS

CORNER	BEARING & DISTANCE	FROM
R	93°41' - 5·235	DH&W FD.(DP 1078055)
R	93°47' - 14·38	DH&W FD.(DP 1078055)
AN	176°41'40" - 6·8, 13·845	D.H&W's FD.(DP 1078055)
BN	11°17'30" - 16·25	SSM 137968 FD.(DP 1078055)
CN	96°34'20" - 5·345, 15	DH&W FD.(D.P.1078055)
DN	187°18' - 3·765, 9·34	D.H&Ws FD.(D.P.1078055)
EN	78°57'20" - 5·3, 14·29	DH&Ws FD.(DP 1078055)
FN	49°43'20" - 11·055	DH&W IN KERB
FN	61°04'20" - 19·685	DH&W IN KERB
GN	216°20' - 4·06, 10·605	DH&Ws IN KERB
RR	0°01'20" - 6·875	SSM 139660 PLD RL 5.73
SS	204°12' - 1	RMGIP

SCHEDULE OF CURVED BOUNDARIES

NO.	ARC	CHORD	RADIUS
1	8·425	112°59' - 8·42	70
2	22·23	100°26'20" - 22·135	70
3	17·375	84°14' - 17·33	70
4	8·25	76°02'40" - 8·25	220
5	7·86	253°57' - 7·86	220
6	23·885	69°48'40" - 23·875	220
7	21·475	63°54'20" - 21·465	220
8	25·64	73°21' - 25·445	60
9	32·46	5°31'20" - 32·43	220
10	28·94	177°31'40" - 28·92	220
11	15·785	171°42'20" - 15·78	220
12	26·63	92°13' - 26·595	150
13	24·1	101°54'20" - 24·075	150
14	20·155	110°21'20" - 20·14	150
15	31·885	282°50'20" - 31·835	165
16	31·255	271°52'40" - 31·21	165
17	12·74	352°58' - 12·73	10
18	10·54	171°09' - 10·54	200
19	33·345	5°34' - 33·305	200

SCHEDULE OF SHORT LINES

NO.	BEARING & DISTANCE
20	89°41' - 5·835
21	114°12'20" - 6
22	114°12'20" - 4·865
23	114°12'20" - 8·07
24	307°42' - 5·95
25	38° - 5·315
26	318°45' - 5·005
27	224°42' - 4·985
28	138°41' - 5·99

DP1106943

Registered 6·3·2007

This is sheet 2 of my plan in 4 sheets dated

Surveyor registered under the Surveying Act 2002

This is sheet 2 of the plan of 4 sheets covered by my certificate No. 13·1992·0065·03 of 20-12-06

Council Clerk

For use where space is insufficient in any panel on Plan Form 2

IT IS INTENDED :

1. TO DEDICATE TO THE PUBLIC AS PUBLIC ROAD.
   i) THE EXTENSION OF RAINBOW BEACH DRIVE 20 WIDE & VARIABLE WIDTH.
   ii) THE EXTENSION OF GRENADINES WAY 20 WIDE.
   iii) THE EXTENSION OF SEAFARERS CLOSE 15 WIDE AND VARIABLE WIDTH SUBJECT TO EASEMENT FOR SEWERAGE RISING MAIN OVER EXISTING LINE OF PIPES (APPROXIMATE POSITION ONLY) VIDE DP845590.
   iv) EXTENSION OF MAGELLAN PLACE 20 WIDE AND VARIABLE WIDTH.
   v) THE PATHWAY 6 WIDE.
2. TO CREATE LOT 122 AS A PUBLIC RESERVE SUBJECT TO AN EASEMENT FOR SEWERAGE RISING MAIN OVER EXISTING LINE OF PIPES (APPROXIMATE POSITION ONLY) VIDE DP 845590.

Reduction Ratio 1.800

Plan Drawing only to appear in in this space

SURVEYOR'S REFERENCE. 45093CL(DWG4509P)

DP1106943

Registered 6·3·2007

This is sheet 3 of my plan in 4 sheets dated

Surveyor registered under the Surveying Act 2002

This is sheet 3 of the plan of 4 sheets covered by my certificate No. 13·1992·0065·03 of 20·12·06

Council Clerk

For use where space is insufficient in any panel on Plan Form 2

SURVEYING REGULATION 2006 CLAUSE 61 (2)					
MARK	M.G.A. CO-ORDINATES		ZONE	CLASS	ORDER
	EASTING	NORTHING			
S.S.M.100021	484 095·293	6 506 187·250	56	C	3
S.S.M.100029	484 253·968	6 506 229·960	56	C	3
S.S.M.100020	484 051·034	6 506 130·425	56	C	3
S.S.M.80763	483 876·220	6 506 478·770	56	C	U

SOURCE: M.G.A. CO-ORDINATES ADOPTED FROM SCIMS ON 19th OCTOBER 2006
COMBINED SEA LEVEL AND SCALE FACTOR 0·999601

SURVEYING REGULATION 2006 CLAUSE 35 (1)(b)			
MARK	M.G.A. CO-ORDINATES		
	EASTING	NORTHING	
SSM.137963 FD	483 934·813	6 506 465·066	BY SURVEY
SSM.137954 FD	484 083·980	6 506 459·064	BY SURVEY
SSM.137968 FD	484 185·172	6 506 476·174	BY SURVEY
SSM.137952 FD	484 163·920	6 506 370·719	BY SURVEY
SSM.139660 PLD	484 258·089	6 506 429·670	BY SURVEY
SSM.139659 PLD	484 354·031	6 506 411·099	BY SURVEY
SSM.139661 PLD	484 309·307	6 506 342·300	BY SURVEY

SCHEDULE OF REFERENCE MARKS

CORNER	BEARING & DISTANCE	FROM
AK	41°04' - 4·03	SSM80763 FD.(DP845590)
AL	57°52'40"- 5·84	SSM137963 FD(DP1064367)
AM	259°58'20" - 0·5	RMGIP FD(DP845590)(0.5DEEP)
AN	74°43' - 0·46	RMGIP FD(DP1064367)(0.3DEEP)

SCHEDULE OF SHORT LINES

NO.	BEARING & DISTANCE
1	192°21'20" - 21·575
2	101°05' - 35·49
3	50°58' - 11·57
4	136°33' - 12·37
5	172°58' - 16·525
6	349°58'20" - 5·625
7	259°58'20" - 17·145
8	349°58'20" - 14·3
9	259°58'20" - 38·51
10	349°58'20" - 28·3
11	79°58'20" - 56·795
12	168°03'40" - 24·075

STATE CO-ORDINATION MARK CONNECTIONS

FROM	TO	BEARING	DISTANCE	
SSM 100021	SSM 100020	217°54'49"	72·057	BY ME
SSM 100021	SSM 100020	217°54'50"	72·056	BY M.G.A.(GRD.)
SSM 100020	SSM 80763	333°21'09"	389·922	BY ME
SSM 100020	SSM 80763	333°21'02"	389·905	BY M.G.A.(GRD.)
SSM 80763	SSM 137963	103°11'03"	60·2	BY ME
SSM 137963	SSM 137954	92°18'15"	149·348	BY ME
SSM 137954	SSM 137968	80°24'11"	102·669	BY ME
SSM 137968	SSM 137952	191°23'38"	107·618	BY ME
SSM 137952	SSM 139660	57°57'09"	111·143	BY ME
SSM 139660	SSM 139659	100°57'18"	97·762	BY ME
SSM 139659	SSM 139661	213°01'35"	82·092	BY ME
SSM 139661	SSM 100029	206°13'30"	125·279	BY ME

DIAGRAM
NOT TO SCALE

Reduction Ratio 1.2000

PLAN FORM 6

CERTIFICATES, SIGNATURES AND SEALS

PLAN OF
SUBDIVISION OF LOT 92 DP 1078055
AND LOTS 1, 2, 3 & 4 DP 45956

*

DP1106943

*

Registered: 6·3·2007

* OFFICE USE ONLY

Surveying Regulation, 2006

I, PHILIP ALFRED LUKE
of LUKE AND COMPANY PTY. LTD.
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: 3rd NOVEMBER 2006

The survey relates to
LOTS 91 – 122 INCL.
LOT 123 PARTLY COMPILED
(specify the land actually surveyed or specify any land shown in the plan that is not the subject of the survey)

Signature .....*Dated: 3/11/2006*
Surveyor registered under the Surveying Act, 2002

Datum Line: X - Y
Type: Urban/Rural

Crown Lands NSW/Western Lands Office Approval

I.....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:.....
File Number:.....
Office:.....

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')

DEVELOPMENT ENGINEER WITNESS

* Authorised Person/~~General Manager~~/~~Accredited Certifier~~

Consent Authority: PORT MACQUARIE-HASTINGS COUNCIL
Date of Endorsement: 20-12-2006
Accreditation no:
Subdivision Certificate no: 13·1992·0065·03
File no: DA 1992/0065

* Delete whichever is inapplicable.

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

IT IS INTENDED:

1. TO DEDICATE TO THE PUBLIC AS PUBLIC ROAD:

   i.) THE EXTENSION OF RAINBOW BEACH DRIVE 20 WIDE AND VARIABLE WIDTH.

   ii.) THE EXTENSION OF GRENADINES WAY 20 WIDE.

   iii.) THE EXTENSION OF SEAFARERS CLOSE 15 WIDE AND VARIABLE WIDTH SUBJECT TO AN EASEMENT FOR SEWERAGE RISING MAIN OVER EXISTING LINE OF PIPES (APPROXIMATE POSITION ONLY) VIDE DP 845590.

   iv.) THE EXTENSION OF MAGELLAN PLACE 20 WIDE AND VARIABLE WIDTH.

   v.) THE PATHWAY 6 WIDE.

2. TO CREATE LOT 122 AS A PUBLIC RESERVE SUBJECT TO AN EASEMENT FOR SEWERAGE RISING MAIN OVER EXISTING LINE OF PIPES (APPROXIMATE POSITION ONLY) VIDE DP 845590.

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

SURVEYOR'S REFERENCE: 45093 C.L.

CERTIFICATES, SIGNATURES AND SEALS

PLAN OF
SUBDIVISION OF LOT 92 D.P.1078055 AND LOTS 1,2,3 & 4 DP 45956

DP1106943

Registered: 6·3·2007

* OFFICE USE ONLY

Subdivision Certificate No: 13·1992·0065·03 Date of Endorsement:: 20-12-2006.

ST VINCENT'S FOUNDATION PTY LIMITED Common Seal A.C.N. 083 730 778

The Common Seal of ST. VINCENT'S FOUNDATION PTY LIMITED ACN 083 730 778 was hereunto affixed by authority of the Board of Directors and in the presence of:-

Director

Peter Francis Liddy

Secretary

Gregory Bernard Isaac

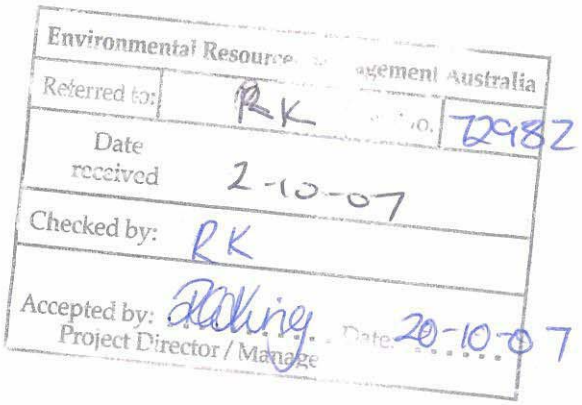
SURVEYOR'S REFERENCE: 45093 C.L.

Annex F

WorkCover NSW Dangerous Goods Search

WorkCover
NEW SOUTH WALES

Our Ref: D07/096514
Your Ref: Rachael King



26 September 2007

Attention: Rachael King
Environmental Resources Management
PO Box 5711
PORT MACQUARIE NSW 2446

Dear Rachael

RE SITE: Ocean Drive, Bonny Hills

I refer to your search request and acknowledge receipt on 26 September 2007 requesting information on licenses to Keep Dangerous Goods for the above site.

A search of the Stored Chemical Information Database (SCID) and the microfiche records held by WorkCover will be conducted and any records pertaining to the above-mentioned premises will be forwarded to you. Please note there may be a delay if the file needs to be requested from our storage warehouse, which is located offsite.

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

KBrearley.

Kim Brearley
A/Licensing Officer
Dangerous Goods

WorkCover
NEW SOUTH WALES

Our Ref: D07/096514
Your Ref: Rachael King

Environmental Resources Management Australia
Referred to: RK Ref No. 72982
Date received 3-10-07
Checked by: RK
Accepted by: RKing Date: 20-10-07
Project Director / Manager

27 September 2007

Attention: Rachael King
Environmental Resources Management
PO Box 5711
PORT MACQUARIE NSW 2446

Dear Rachael

RE SITE: Ocean Drive, Bonny Hills

I refer to your search request of 26 September 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.

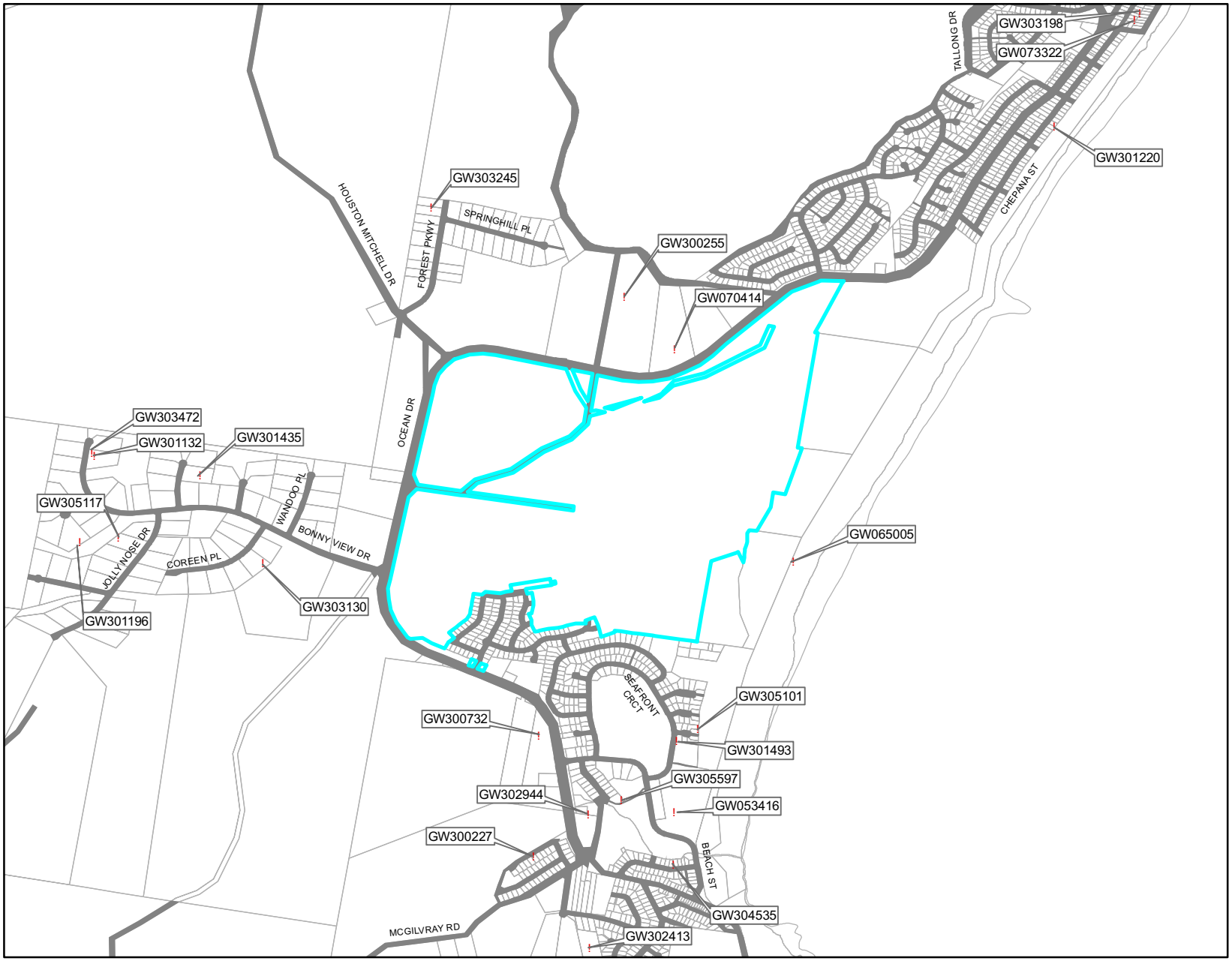
If you have any further queries, please contact Dangerous Goods Licensing staff on (02) 4321 5500.

Kim Brearley
A/Licensing Officer
Dangerous Goods

Annex G

Groundwater Bore Search

Groundwater Bores in the Area



Legend

- Cadastre Parcels
- Road Parcels
- Groundwater Bores

0 0.5 1 2 3 4 Kilometers

NSW Government
Department of Water & Energy

Produced by the Department of Water and Energy
Science and Information Branch, Orange
Date: September 2007 Project Number: PN00799 WR2007-227
Projection : [Geographic] Datum : [GDA94]

SOURCES
This map has been compiled from data supplied by the:
Department of Water and Energy, NSW
© Base cadastre/topographic/orthorectified imagery data supplied by NSW Department of Lands

Bore data has been supplied to the Department by drillers, licensees and other sources and the Department does not verify the accuracy of this data.

DISCLAIMER
This map has been compiled from various sources and the publisher and/or contributors accept no responsibility for any injury, loss or damage arising from its use, or errors, or omissions therein. While care is taken to ensure a high degree of accuracy, users are invited to notify the Science and Information Branch, Department of Water and Energy of any map discrepancies.

Date/Time :26-Sep-2007 3:44 PM
User :VMARTIN
Report :RMGW001D.QRP
Executable :S:\G5\PROD32\Ground.exe
Exe Date :13-Sep-2007
System :Groundwater
Database :Edbp

DEPARTMENT OF WATER AND ENERGY
Work Summary

GW053416

Converted From HYDSYS

Licence :30BL117894

Licence Status Active

Work Type : Bore
Work Status :(Unknown)
Construct. Method : Cable Tool
Owner Type : Private

Authorised Purpose(s)	Intended Purpose(s)
DOMESTIC	IRRIGATION
IRRIGATION	
STOCK	

Commenced Date :
Completion Date :01-Sep-1981
Final Depth : 6.90 m
Drilled Depth : 6.90 m

Contractor Name :
Driller :
Assistant Driller's Name :

Property : - N/A
GWMA : -
GW Zone : -

Standing Water Level :
Salinity : 501-1000 ppm
Yield :

Site Details

Site Chosen By

County	Parish	Portion/Lot DP
Form A :MACQUARIE	QUEENS LAKE	L1 DP611709 (110)
Licensed :MACQUARIE	QUEENS LAKE	1 853711

Region :30 - NORTH COAST
River Basin :207 - HASTINGS RIVER
Area / District :

CMA Map :9434-1N GRANTS HEAD
Grid Zone :56/2 **Scale :**1:25,000

Elevation :
Elevation Source :(Unknown)

Northing :6505450 **Latitude (S) :**31° 35' 9"
Easting :484529 **Longitude (E) :**152° 50' 13"

GS Map :0031D3 **MGA Zone :**56 **Coordinate Source :**GD.,ACC.MAP

Construction

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;PL-Placement of Gravel Pack;PC-Pressure Cemented;S-Sump;CE-Centralisers

H	P	Component	Type	From (m)	To (m)	OD (mm)	ID (mm)	Interval	Details
1	1	Casing	Threaded Steel	-0.30	4.60	152			Suspended in Clamps
1	1	Opening	Screen	4.90	6.90	120		1	Stainless Steel; SL: 0mm; A: 2.5mm

Water Bearing Zones

From (m)	To (m)	Thickness (m)	WBZ Type	S.W.L. (m)	D.D.L. (m)	Yield (L/s)	Hole Depth (m)	Duration (hr)	Salinity (mg/L)
2.10	6.90	4.80	Unconsolidated	2.10		1.26			(Unknown)

Drillers Log

From (m)	To (m)	Thickness(m)	Drillers Description	Geological Material	Comments
0.00	0.50	0.50	Sand Grey	Sand	
0.50	5.00	4.50	Sand Black Gravel Water Supply	Sand	
5.00	6.88	1.88	Sand White Water Supply	Sand	
6.88	6.89	0.01	Clay	Clay	

Remarks

***** End of GW053416 *****

DEPARTMENT OF WATER AND ENERGY
Work Summary

GW065005

Converted From HYDSYS

Licence :30BL139182 **Licence Status** Active

Work Type : Other **Authorised Purpose(s)** WASTE DISPOSAL **Intended Purpose(s)** WASTE DISPOSAL

Work Status :(Unknown)

Construct. Method :

Owner Type : Private

Commenced Date : **Final Depth :** 6.00 m

Completion Date :01-Jan-1990 **Drilled Depth :** 0.00

Contractor Name :

Driller :1550 ROSE, John

Assistant Driller's Name :

Property : - HASTINGS COUNCIL **Standing Water Level :**

GWMA : - **Salinity :**

GW Zone : - **Yield :**

Site Details

Site Chosen By

	County	Parish	Portion/Lot DP
Form A :	MACQUARIE	QUEENS LAKE	LOT 11 DP629025
Licensed :	MACQUARIE	QUEENS LAKE	11 629025

Region :30 - NORTH COAST **CMA Map :**9434-1N GRANTS HEAD

River Basin :207 - HASTINGS RIVER **Grid Zone :**56/2 **Scale :**1:25,000

Area / District :

Elevation : 0.00 **Northing :**6506621 **Latitude (S) :**31° 34' 31"

Elevation Source : **Easting :**485001 **Longitude (E) :**152° 50' 31"

GS Map :0031D3 **MGA Zone :**56 **Coordinate Source :**

Construction

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;PL-Placement of Gravel Pack;PC-Pressure Cemented;S-Sump;CE-Centralisers

H	P	Component	Type	From (m)	To (m)	OD (mm)	ID (mm)	Interval	Details
1	1	Casing	P.V.C.	0.00	0.00	100			
1	1	Opening	Slots	0.00	6.00	100		1	PVC; SL: 0mm; A: 0mm

Water Bearing Zones

From (m)	To (m)	Thickness (m)	WBZ Type	S.W.L. (m)	D.D.L. (m)	Yield (L/s)	Hole Depth (m)	Duration (hr)	Salinity (mg/L)

(No Water Bearing Zone Details Found)

Drillers Log

From (m)	To (m)	Thickness(m)	Drillers Description	Geological Material	Comments

Remarks

***** End of GW065005 *****

DEPARTMENT OF WATER AND ENERGY
Work Summary

GW070414

Licence : 30BL150782
Licence Status Active
Authorised Purpose(s) DOMESTIC
Intended Purpose(s) DOMESTIC

Work Type : Bore
Work Status : (Unknown)
Construct. Method : Rotary
Owner Type :

Commenced Date :
Completion Date : 01-Oct-1992
Final Depth : 8.00 m
Drilled Depth : 8.00 m

Contractor Name : H-2-0 DRILLER
Driller : 1591 HIBBERT, Allan James
Assistant Driller's Name :

Property : - N/A
GWMA : -
GW Zone : -
Standing Water Level : 6.00 m
Salinity :
Yield : 1.26 L/s

Site Details

Site Chosen By

	County	Parish	Portion/Lot DP
Form A :	MACQUARIE	QUEENS LAKE	LOT 3 DP706357
Licensed :	MACQUARIE	QUEENS LAKE	3 706357

Region : 30 - NORTH COAST
River Basin :
Area / District :
CMA Map :
Grid Zone :
Scale :

Elevation :
Elevation Source :
Northing : 6507610
Easting : 484526
Latitude (S) : 31° 33' 59"
Longitude (E) : 152° 50' 13"

GS Map :
MGA Zone : 56
Coordinate Source :

Construction

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;PL-Placement of Gravel Pack;PC-Pressure Cemented;S-Sump;CE-Centralisers

H	P	Component	Type	From (m)	To (m)	OD (mm)	ID (mm)	Interval	Details
1		Hole	Hole	0.00	8.00	100			Rotary
1	1	Casing	P.V.C.	0.00	8.00	112			Driven into Hole
1	1	Opening	Slots	0.00	1.00	112			PVC; SL: 3mm; A: 3mm

Water Bearing Zones

From (m)	To (m)	Thickness (m)	WBZ Type	S.W.L. (m)	D.D.L. (m)	Yield (L/s)	Hole Depth (m)	Duration (hr)	Salinity (mg/L)
0.00	2.00	2.00		2.00		1.26	8.00		
2.00	8.00	6.00		6.00					

Drillers Log

From (m)	To (m)	Thickness(m)	Drillers Description	Geological Material	Comments
0.00	2.00	2.00	CLAY		
2.00	8.00	6.00	ROCK		

Remarks

***** End of GW070414 *****

DEPARTMENT OF WATER AND ENERGY
Work Summary

GW073322

Licence :30BL176491 **Licence Status** Active

	Authorised Purpose(s)	Intended Purpose(s)
Work Type :	DOMESTIC	DOMESTIC

Work Status :(Unknown)
Construct. Method :
Owner Type :

Commenced Date : **Final Depth :** 3.00 m
Completion Date :12-Nov-1994 **Drilled Depth :**

Contractor Name :
Driller : Law, Mick
Assistant Driller's Name :

Property : - COUSINS' **Standing Water Level :**
GWMA : - **Salinity :**
GW Zone : - **Yield :**

Site Details

Site Chosen By

	County	Parish	Portion/Lot DP
Form A :	MACQUARIE	QUEENS LAKE	LOT 14 DP241740
Licensed :	MACQUARIE	QUEENS LAKE	14 241740

Region :30 - NORTH COAST **CMA Map :**
River Basin : **Grid Zone :** **Scale :**
Area / District :

Elevation : **Northing :**6509147 **Latitude (S) :**31° 33' 9"
Elevation Source : **Easting :**486359 **Longitude (E) :**152° 51' 23"

GS Map : **MGA Zone :**56 **Coordinate Source :**Map Interpretation

Construction

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;PL-Placement of Gravel Pack;PC-Pressure Cemented;S-Sump;CE-Centralisers

H	P	Component Type	From (m)	To (m)	OD (mm)	ID (mm)	Interval	Details
1		Hole Hole	0.00	3.00				

Water Bearing Zones

From (m)	To (m)	Thickness (m)	WBZ Type	S.W.L. (m)	D.D.L. (m)	Yield (L/s)	Hole Depth (m)	Duration (hr)	Salinity (mg/L)

(No Water Bearing Zone Details Found)

Drillers Log

From (m)	To (m)	Thickness(m)	Drillers Description	Geological Material	Comments

Remarks

***** End of GW073322 *****

DEPARTMENT OF WATER AND ENERGY
Work Summary

GW300227

Licence : 30BL144781

Licence Status Active

	Authorised Purpose(s)	Intended Purpose(s)
	DOMESTIC	DOMESTIC
	STOCK	STOCK

Work Type : Bore
Work Status : (Unknown)
Construct. Method : Rotary
Owner Type : Private

Commenced Date :
Completion Date : 03-Dec-1991
Final Depth : 20.00 m
Drilled Depth : 20.00 m

Contractor Name : D.C. JACKWITZ
Driller : 1424 JACKWITZ, Douglas Charles
Assistant Driller's Name :

Property : - N/A
GWMA : -
GW Zone : -

Standing Water Level : 2.40 m
Salinity : Good
Yield : 1.00 L/s

Site Details

Site Chosen By	County	Parish	Portion/Lot DP
Driller	**Form A :** MACQUARIE	QUEENS LAKE	LOT 42 DP872362
	Licensed : MACQUARIE	QUEENS LAKE	LT6 DP255418

Region : 30 - NORTH COAST
River Basin : 207 - HASTINGS RIVER
Area / District :

CMA Map :
Grid Zone :
Scale :

Elevation :
Elevation Source :

Northing : 6505245
Easting : 483968

Latitude (S) : 31° 35' 16"
Longitude (E) : 152° 49' 52"

GS Map :
MGA Zone : 56
Coordinate Source : Map Interpretation

Construction

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;PL-Placement of Gravel Pack;PC-Pressure Cemented;S-Sump;CE-Centralisers

H	P	Component	Type	From (m)	To (m)	OD (mm)	ID (mm)	Interval	Details
1		Hole	Hole	0.00	20.00	168			Rotary Air
1	1	Casing	PVC Class 9	-0.30	0.00	160			
1	1	Opening	Slots - Vertical	9.00	20.00	160		1	PVC Class 9; Sawn; SL: 150mm; A: 3mm

Water Bearing Zones

From (m)	To (m)	Thickness (m)	WBZ Type	S.W.L. (m)	D.D.L. (m)	Yield (L/s)	Hole Depth (m)	Duration (hr)	Salinity (mg/L)
4.00	10.00	6.00				0.50			
12.00	20.00	8.00		2.40		0.50		1.00	Good

Drillers Log

From (m)	To (m)	Thickness(m)	Drillers Description	Geological Material	Comments
0.00	2.00	2.00	LANDFILL		
2.00	4.00	2.00	CLAY		
4.00	10.00	6.00	SOILBOUND GRAVEL WATER @ 10		
10.00	12.00	2.00	FLAKY SHALE		
12.00	20.00	8.00	HARD GREY SHALE (W)		

Remarks

***** End of GW300227 *****

DEPARTMENT OF WATER AND ENERGY
Work Summary

GW300255

Licence :30BL145069

Licence Status Active

Work Type : Bore
Work Status :(Unknown)
Construct. Method : Rotary Air
Owner Type : Private

Authorised Purpose(s)	Intended Purpose(s)
DOMESTIC	DOMESTIC
	STOCK

Commenced Date : **Final Depth :** 30.50 m
Completion Date :20-Dec-1991 **Drilled Depth :** 30.50 m

Contractor Name :WATERMIN DRILLERS
Driller :1574 NORRIE, Kevin Harold
Assistant Driller's Name :

Property : - N/A
GWMA : -
GW Zone : -

Standing Water Level : 10.40 m
Salinity : Good
Yield : 0.40 L/s

Site Details

Site Chosen By	County	Parish	Portion/Lot DP
Diviner	**Form A :**MACQUARIE	QUEENS LAKE	LOT 4 DP255923
	Licensed :MACQUARIE	QUEENS LAKE	4 255923

Region :30 - NORTH COAST
River Basin :207 - HASTINGS RIVER
Area / District :

CMA Map :
Grid Zone : **Scale :**

Elevation :
Elevation Source :

Northing :6507853 **Latitude (S) :**31° 33' 51"
Easting :484326 **Longitude (E) :**152° 50' 5"

GS Map : **MGA Zone :**56 **Coordinate Source :**Map Interpretation

Construction

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;PL-Placement of Gravel Pack;PC-Pressure Cemented;S-Sump;CE-Centralisers

H	P	Component	Type	From (m)	To (m)	OD (mm)	ID (mm)	Interval	Details
1		Hole	Hole	0.00	0.60	165			Rotary Air
1		Hole	Hole	0.60	30.50	165			Percussion
1	1	Casing	Steel	-0.30	0.90	165	160.2		Welded; Driven into Hole

Water Bearing Zones

From (m)	To (m)	Thickness (m)	WBZ Type	S.W.L. (m)	D.D.L. (m)	Yield (L/s)	Hole Depth (m)	Duration (hr)	Salinity (mg/L)
12.20	12.20	0.00	Fractured	10.40		0.15			Good
26.20	26.20	0.00	Fractured	10.40		0.25			Good

Drillers Log

From (m)	To (m)	Thickness(m)	Drillers Description	Geological Material	Comments
0.00	0.60	0.60	CLAY		
0.60	3.00	2.40	BLUE METAL		
3.00	22.60	19.60	DYARITE		
22.60	26.20	3.60	SHALE		
26.20	28.70	2.50	DYARITE		
28.70	30.50	1.80	GREEN BASALT		

Remarks

Form A Remarks:
WATER FLOW NOTHING LIKE DIVINER SUGGESTED

***** End of GW300255 *****

DEPARTMENT OF WATER AND ENERGY
Work Summary

GW300732

Licence : 30BL177493
Licence Status Active
Authorised Purpose(s) DOMESTIC
Intended Purpose(s) DOMESTIC

Work Type : Bore
Work Status : (Unknown)
Construct. Method : Rotary Air
Owner Type :

Commenced Date :
Completion Date : 07-Nov-1996
Final Depth : 28.50 m
Drilled Depth : 28.50 m

Contractor Name : Country to Coast Drilling
Driller : 1606 HOOK, Leon Frederick
Assistant Driller's Name :

Property : - HOGAN'S
GWMA : -
GW Zone : -

Standing Water Level : 10.00 m
Salinity : 1,000.00 mg/L Good
Yield : 0.50 L/s

Site Details

Site Chosen By
Diviner

County
Form A : MACQUARIE
Licensed : MACQUARIE

Parish
QUEENS LAKE
QUEENS LAKE

Portion/Lot DP
LOT 1 DP851959
LOT 3 D P 787638

Region : 30 - NORTH COAST
River Basin :
Area / District :

CMA Map :
Grid Zone :
Scale :

Elevation :
Elevation Source :

Northing : 6505808
Easting : 483987

Latitude (S) : 31° 34' 58"
Longitude (E) : 152° 49' 52"

GS Map :
MGA Zone : 56
Coordinate Source :

Construction

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;PL-Placement of Gravel Pack;PC-Pressure Cemented;S-Sump;CE-Centralisers

H	P	Component	Type	From (m)	To (m)	OD (mm)	ID (mm)	Interval	Details
1		Hole	Hole	0.00	23.00	195			Rotary Air
1		Hole	Hole	23.00	23.00	28.5			Down Hole Hammer
1	1	Casing	PVC Class 9	-0.50	23.00	140			C: 0-6m; Glued; Driven into Hole; (Unknown); (Unknown)
1	1	Casing	PVC Class 9	-0.50	28.00	120	102		C: 0-10m; Glued; Seated on Bottom; (Unknown); (Unknown)
1	1	Opening	Slots - Vertical	23.00	28.00	120			PVC Class 9; Sawn; SL: 100mm; A: 1.5mm
1		Annulus	(Unknown)	10.00	28.00				Graded; GS: 7-10mm; .2m³

Water Bearing Zones

From (m)	To (m)	Thickness (m)	WBZ Type	S.W.L. (m)	D.D.L. (m)	Yield (L/s)	Hole Depth (m)	Duration (hr)	Salinity (mg/L)
23.50	28.00	4.50		10.00		0.50	23.00	2.00	Good

Drillers Log

From (m)	To (m)	Thickness(m)	Drillers Description	Geological Material	Comments
0.00	1.00	1.00	Top soil		
1.00	4.00	3.00	Red clay		
4.00	21.00	17.00	Yellow clay with white soft bands of clay		
21.00	23.00	2.00	Decomposed basalt		
23.00	28.50	5.50	Very hard basalt		

Remarks

***** End of GW300732 *****

DEPARTMENT OF WATER AND ENERGY
Work Summary

GW301132

Licence : 30BL180459
Licence Status Active
Authorised Purpose(s) DOMESTIC
Intended Purpose(s) DOMESTIC

Work Type : Bore
Work Status : (Unknown)
Construct. Method : Rotary Air
Owner Type :

Commenced Date :
Completion Date : 17-Oct-2002
Final Depth : 42.00 m
Drilled Depth : 42.00 m

Contractor Name : COASTAL DRILLING P/ L
Driller : 1701 TANNER, Robert Leslie
Assistant Driller's Name :

Property : - JESSUP'S
GWMA : -
GW Zone : -
Standing Water Level : 12.00 m
Salinity : 180.00 mg/L
Yield : 1.89 L/s

Site Details

Site Chosen By Diviner
County **Form A :** RALEIGH **Licensed :** RALEIGH
Parish BONVILLE BONVILLE
Portion/Lot DP LT 24 DP 732535 24 732535

Region : 30 - NORTH COAST
River Basin :
Area / District :
CMA Map :
Grid Zone :
Scale :

Elevation :
Elevation Source :
Northing : 6507110
Easting : 482213
Latitude (S) : 31° 34' 15"
Longitude (E) : 152° 48' 45"

GS Map :
MGA Zone : 56
Coordinate Source :

Construction

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;PL-Placement of Gravel Pack;PC-Pressure Cemented;S-Sump;CE-Centralisers

H	P	Component	Type	From (m)	To (m)	OD (mm)	ID (mm)	Interval	Details
1		Hole	Hole	0.00	4.00	165			Rotary Air
1		Hole	Hole	4.00	42.00	165			Down Hole Hammer
1	1	Casing	PVC Class 9	-0.30	42.00	152	136		C: 0-0m; Glued
1	1	Opening	Slots - Vertical	25.00	29.00	152			PVC Class 9; Sawn; SL: 100mm; A: 2.6mm
1	1	Opening	Slots - Vertical	36.00	40.00	152			SL: 100mm; A: 2.6mm

Water Bearing Zones

From (m)	To (m)	Thickness (m)	WBZ Type	S.W.L. (m)	D.D.L. (m)	Yield (L/s)	Hole Depth (m)	Duration (hr)	Salinity (mg/L)
25.00	29.00	4.00		12.00		0.38	0.00	1.00	500.00
36.00	40.00	4.00		12.00		1.52	42.00	1.50	

Drillers Log

From (m)	To (m)	Thickness(m)	Drillers Description	Geological Material	Comments
0.00	1.00	1.00	fill clay	Fill	
1.00	3.00	2.00	brown clay	Brown Clay Bands	
3.00	4.00	1.00	brown clay / basalt hobbies	Brown Clay Bands	
4.00	25.00	21.00	basalt	Basalt	
25.00	29.00	4.00	cracky basalt	Cracked	
29.00	36.00	7.00	basalt	Basalt	
36.00	40.00	4.00	broken basalt	Broken	
40.00	42.00	2.00	basalt	Basalt	

Remarks

***** End of GW301132 *****

DEPARTMENT OF WATER AND ENERGY
Work Summary

GW301196

Licence : 30BL176915

Licence Status Active

Authorised Purpose(s): DOMESTIC

Intended Purpose(s): DOMESTIC, STOCK

Work Type : Bore
Work Status : (Unknown)
Construct. Method : Rot. Rev. Circ. Air
Owner Type :

Commenced Date :
Completion Date : 25-Aug-1995
Final Depth : 16.50 m
Drilled Depth : 16.50 m

Contractor Name : Tamworth Drilling Co.
Driller : 1417 STRUDWICK, Garry Stanley
Assistant Driller's Name :

Property : - THORNCRAFT'S
GWMA : -
GW Zone : -

Standing Water Level : 6.10 m
Salinity : 1,400.00 mg/L
Yield : 1.00 L/s

Site Details

Site Chosen By: Diviner

	County	Parish	Portion/Lot DP
Form A :	MACQUARIE	QUEENS LAKE	LOT 36 DP262973
Licensed :	MACQUARIE	QUEENS LAKE	36 262973

Region : 30 - NORTH COAST
River Basin :
Area / District :

CMA Map :
Grid Zone :
Scale :

Elevation :
Elevation Source :

Northing : 6506706
Easting : 482155

Latitude (S) : 31° 34' 28"
Longitude (E) : 152° 48' 43"

GS Map :
MGA Zone : 56
Coordinate Source :

Construction

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;PL-Placement of Gravel Pack;PC-Pressure Cemented;S-Sump;CE-Centralisers

H	P	Component	Type	From (m)	To (m)	OD (mm)	ID (mm)	Interval	Details
1		Hole	Hole	0.00	16.50	155			Rotary Air
1	1	Casing	Steel	-0.50	1.50	168			Welded; Driven into Hole
1	1	Casing	P.V.C.	-0.50	16.50	135			Glued; Seated on Bottom
1	1	Opening	Slots - Vertical	4.30	16.50	135			PVC; Sawn; SL: 100mm; A: 2mm

Water Bearing Zones

From (m)	To (m)	Thickness (m)	WBZ Type	S.W.L. (m)	D.D.L. (m)	Yield (L/s)	Hole Depth (m)	Duration (hr)	Salinity (mg/L)
7.30	7.90	0.60							
13.70	14.60	0.90		6.10		1.00	14.60	1.00	1400.00

Drillers Log

From (m)	To (m)	Thickness(m)	Drillers Description	Geological Material	Comments
0.00	0.30	0.30	TOPSOIL		
0.30	7.30	7.00	CLAY		
7.30	8.80	1.50	FRACTURED SHALE		
8.80	16.50	7.70	SHALE		

Remarks

***** End of GW301196 *****

DEPARTMENT OF WATER AND ENERGY
Work Summary

GW301220

Licence : 30BL176733
Licence Status Active
Authorised Purpose(s) DOMESTIC
Intended Purpose(s) DOMESTIC

Work Type : Bore
Work Status : (Unknown)
Construct. Method : Hand Auger
Owner Type : Private

Commenced Date :
Completion Date : 03-Jun-1994
Final Depth : 5.00 m
Drilled Depth :

Contractor Name :
Driller : Avery, Vicky
Assistant Driller's Name :

Property : - AVERY'S
GWMA : -
GW Zone : -
Standing Water Level : 4.00 m
Salinity :
Yield :

Site Details

Site Chosen By

	County	Parish	Portion/Lot DP
Form A :	MACQUARIE	QUEENS LAKE	LOT 7 SEC C DP 25923
Licensed :	MACQUARIE	QUEENS LAKE	7 25923

Region : 30 - NORTH COAST
River Basin :
Area / District :
CMA Map :
Grid Zone :
Scale :

Elevation :
Elevation Source :
Northing : 6508651
Easting : 486040
Latitude (S) : 31° 33' 25"
Longitude (E) : 152° 51' 10"

GS Map :
MGA Zone : 56
Coordinate Source : Map Interpretation

Construction

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;PL-Placement of Gravel Pack;PC-Pressure Cemented;S-Sump;CE-Centralisers

H	P	Component	Type	From (m)	To (m)	OD (mm)	ID (mm)	Interval	Details
1		Hole	Hole	0.00	5.00				Hand Auger
1	1	Casing	(Unknown)	0.00	4.00	100			

Water Bearing Zones

From (m)	To (m)	Thickness (m)	WBZ Type	S.W.L. (m)	D.D.L. (m)	Yield (L/s)	Hole Depth (m)	Duration (hr)	Salinity (mg/L)

(No Water Bearing Zone Details Found)

Drillers Log

From (m)	To (m)	Thickness(m)	Drillers Description	Geological Material	Comments

Remarks

***** End of GW301220 *****

DEPARTMENT OF WATER AND ENERGY
Work Summary

GW301435

Licence : 30BL177254
Licence Status Active
Authorised Purpose(s) DOMESTIC
Intended Purpose(s) DOMESTIC

Work Type : Bore
Work Status : (Unknown)
Construct. Method : Auger
Owner Type :

Commenced Date :
Completion Date : 04-Nov-1995
Final Depth : 18.00 m
Drilled Depth : 18.00 m

Contractor Name : H.2.O. DRILLERS
Driller : 1591 HIBBERT, Allan James
Assistant Driller's Name :

Property : - BURGESS
GWMA : -
GW Zone : -
Standing Water Level : 2.00 m
Salinity : 250.00 mg/L
Yield : 0.13 L/s

Site Details

Site Chosen By
Driller

County
Form A : MACQUARIE
Licensed : MACQUARIE

Parish
QUEENS LAKE
QUEENS LAKE

Portion/Lot DP
LOT 19 DP262973
19 262973

Region : 30 - NORTH COAST
River Basin :
Area / District :

CMA Map :
Grid Zone :
Scale :

Elevation :
Elevation Source :

Northing : 6507019
Easting : 482634

Latitude (S) : 31° 34' 18"
Longitude (E) : 152° 49' 1"

GS Map :
MGA Zone : 56
Coordinate Source : Map Interpretation

Construction

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;PL-Placement of Gravel Pack;PC-Pressure Cemented;S-Sump;CE-Centralisers

H	P	Component	Type	From (m)	To (m)	OD (mm)	ID (mm)	Interval	Details
1		Hole	Hole	0.00	18.00	125			Auger
1	1	Casing	P.V.C.	0.00	0.00	125			Glued; Seated on Bottom

Water Bearing Zones

From (m)	To (m)	Thickness (m)	WBZ Type	S.W.L. (m)	D.D.L. (m)	Yield (L/s)	Hole Depth (m)	Duration (hr)	Salinity (mg/L)
15.00	18.00	3.00		2.00	15.00	0.13	18.00	2.00	250.00

Drillers Log

From (m)	To (m)	Thickness(m)	Drillers Description	Geological Material	Comments
0.00	3.00	3.00	SHALE		
3.00	18.00	15.00	REDISH CLAY		

Remarks

***** End of GW301435 *****

DEPARTMENT OF WATER AND ENERGY
Work Summary

GW301493

Licence :30BL178007 **Licence Status** Active

Authorised Purpose(s) DOMESTIC **Intended Purpose(s)** DOMESTIC

Work Type : Bore
Work Status :(Unknown)
Construct. Method : Rotary Air
Owner Type :

Commenced Date : **Final Depth :** 9.00 m
Completion Date :20-Mar-1998 **Drilled Depth :** 9.00 m

Contractor Name :A.llan James HIBBERT
Driller :1591 HIBBERT, Allan James
Assistant Driller's Name :

Property : - " EASEY'S " **Standing Water Level :** 1.00 m
GWMA : - **Salinity :**
GW Zone : - **Yield :** 0.37 L/s

Site Details

Site Chosen By

	County	**Parish**	**Portion/Lot DP**
Form A :	MACQUARIE	QUEENS LAKE	LOT 1 DP848067
Licensed :	MACQUARIE	QUEENS LAKE	1 848067

Region :30 - NORTH COAST **CMA Map :**
River Basin : **Grid Zone :** **Scale :**
Area / District :

Elevation : **Northing :**6505783 **Latitude (S) :**31° 34' 58"
Elevation Source : **Easting :**484538 **Longitude (E) :**152° 50' 13"

GS Map : **MGA Zone :**56 **Coordinate Source :**Map Interpretation

Construction

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;PL-Placement of Gravel Pack;PC-Pressure Cemented;S-Sump;CE-Centralisers

H	P	Component	Type	From (m)	To (m)	OD (mm)	ID (mm)	Interval	Details
1		Hole	Hole	0.00	9.00	165			Rotary Air
1	1	Casing	P.V.C.	-0.30	9.00	140			Glued

Water Bearing Zones

From (m)	To (m)	Thickness (m)	WBZ Type	S.W.L. (m)	D.D.L. (m)	Yield (L/s)	Hole Depth (m)	Duration (hr)	Salinity (mg/L)
5.00	9.00	4.00		1.00	5.00	0.37	7.00	2.00	Good

Drillers Log

From (m)	To (m)	Thickness(m)	Drillers Description	Geological Material	Comments
0.00	0.50	0.50	Topsoil	Topsoil	
0.50	5.00	4.50	Sand	Sand	
5.00	9.00	4.00	Yellow sandy clay	Clayey Sand	

Remarks

***** End of GW301493 *****

DEPARTMENT OF WATER AND ENERGY
Work Summary

GW302413

Licence : 30BL177492
Licence Status Cancelled
Authorised Purpose(s) DOMESTIC
Intended Purpose(s) DOMESTIC

Work Type : Bore
Work Status : (Unknown)
Construct. Method : Rotary Air
Owner Type :

Commenced Date :
Completion Date : 12-Nov-1996
Final Depth : 65.00 m
Drilled Depth : 65.00 m

Contractor Name : COUNTRY COAST
Driller : 1606 HOOK, Leon Frederick
Assistant Driller's Name :

Property : - HOGAN'S
GWMA : -
GW Zone : -
Standing Water Level :
Salinity :
Yield :

Site Details

Site Chosen By

	County	Parish	Portion/Lot DP
Form A :	MACQUARIE	QUEENS LAKE	LOT 4 DP718125
Licensed :	MACQUARIE	QUEENS LAKE	LOT 4 DP 718125

Region : 30 - NORTH COAST
River Basin :
Area / District :
CMA Map :
Grid Zone :
Scale :

Elevation :
Elevation Source :
Northing : 6504819
Easting : 484192
Latitude (S) : 31° 35' 30"
Longitude (E) : 152° 50' 0"

GS Map :
MGA Zone : 56
Coordinate Source :

Construction

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;PL-Placement of Gravel Pack;PC-Pressure Cemented;S-Sump;CE-Centralisers

H	P	Component Type	From (m)	To (m)	OD (mm)	ID (mm)	Interval	Details
1		Hole Hole	0.00	23.00	195			Rotary Air
1		Hole Hole	23.00	65.00	165			Down Hole Hammer

Water Bearing Zones

From (m)	To (m)	Thickness (m)	WBZ Type	S.W.L. (m)	D.D.L. (m)	Yield (L/s)	Hole Depth (m)	Duration (hr)	Salinity (mg/L)

(No Water Bearing Zone Details Found)

Drillers Log

From (m)	To (m)	Thickness(m)	Drillers Description	Geological Material	Comments
0.00	1.00	1.00	TOPSOIL		
1.00	2.00	1.00	RED CLAY		
2.00	23.00	21.00	RED CLAY-WHITE BANDS OF CLAY		
23.00	65.00	42.00	DECOMPOSED RED BASALT WITH QUARTZ BANDS		

Remarks

***** End of GW302413 *****

DEPARTMENT OF WATER AND ENERGY
Work Summary

GW302944

Licence : 30BL179105
Licence Status Active
Authorised Purpose(s) DOMESTIC
Intended Purpose(s) DOMESTIC

Work Type : Bore
Work Status :
Construct. Method :
Owner Type :

Commenced Date :
Completion Date :
Final Depth : 3.00 m
Drilled Depth :

Contractor Name :
Driller :
Assistant Driller's Name :

Property : - " MALZARD'S "
GWMA : -
GW Zone : -
Standing Water Level :
Salinity :
Yield :

Site Details

Site Chosen By

	County	Parish	Portion/Lot DP
Form A :	MACQUARIE	QUEENS LAKE	LT 92 DP 1019247
Licensed :	MACQUARIE	QUEENS LAKE	92 1019247

Region : 30 - NORTH COAST
River Basin :
Area / District :
CMA Map :
Grid Zone :
Scale :

Elevation :
Elevation Source :
Northing : 6505441
Easting : 484186
Latitude (S) : 31° 35' 10"
Longitude (E) : 152° 49' 60"

GS Map :
MGA Zone : 56
Coordinate Source :

Construction

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;PL-Placement of Gravel Pack;PC-Pressure Cemented;S-Sump;CE-Centralisers

H	P	Component Type	From (m)	To (m)	OD (mm)	ID (mm)	Interval	Details

(No Construction Details Found)

Water Bearing Zones

From (m)	To (m)	Thickness (m)	WBZ Type	S.W.L. (m)	D.D.L. (m)	Yield (L/s)	Hole Depth (m)	Duration (hr)	Salinity (mg/L)

(No Water Bearing Zone Details Found)

Drillers Log

From (m)	To (m)	Thickness(m)	Drillers Description	Geological Material	Comments

Remarks

Form A Remarks:
Spearpoint was self sunk by attaching a hose and working spearpoint down to a depth of 3 metres

***** End of GW302944 *****

DEPARTMENT OF WATER AND ENERGY
Work Summary

GW303130

Licence : 30BL179668
Licence Status Active
Authorised Purpose(s) DOMESTIC
Intended Purpose(s) DOMESTIC

Work Type : Bore
Work Status :
Construct. Method :
Owner Type :

Commenced Date :
Completion Date : 07-Dec-2001
Final Depth : 28.50 m
Drilled Depth : 28.50 m

Contractor Name : Country to Coast
Driller : 1606 HOOK, Leon Frederick
Assistant Driller's Name :

Property : - GENNAOUI'S
GWMA : -
GW Zone : -
Standing Water Level :
Salinity :
Yield :

Site Details

Site Chosen By Diviner
County **Form A :** MACQUARIE **Licensed :** MACQUARIE
Parish QUEENS LAKE QUEENS LAKE
Portion/Lot DP LT 42 DP 700284 42 700284

Region : 30 - NORTH COAST
River Basin :
Area / District :
CMA Map :
Grid Zone :
Scale :

Elevation :
Elevation Source :
Northing : 6506609
Easting : 482887
Latitude (S) : 31° 34' 32"
Longitude (E) : 152° 49' 11"

GS Map :
MGA Zone : 56
Coordinate Source : Map Interpretation

Construction

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;PL-Placement of Gravel Pack;PC-Pressure Cemented;S-Sump;CE-Centralisers

H	P	Component	Type	From (m)	To (m)	OD (mm)	ID (mm)	Interval	Details
1		Hole	Hole	0.00	14.00	195			Rotary Air
1		Hole	Hole	14.00	28.50	165			Down Hole Hammer
1	1	Casing	PVC Class 9	-0.03	16.50	140	130		Glued; Seated on Bottom
1	1	Opening	Slots - Vertical	16.50	28.50	140			PVC Class 9; Mechanically Slotted; SL: 200mm; A: 2mm
1		Annulus	Waterworn/Rounded	4.00	28.50				Graded; GS: 7-10mm; .25m³

Water Bearing Zones

From (m)	To (m)	Thickness (m)	WBZ Type	S.W.L. (m)	D.D.L. (m)	Yield (L/s)	Hole Depth (m)	Duration (hr)	Salinity (mg/L)
14.00	14.20	0.20				0.13	28.50	0.50	2600.00
20.00	20.20	0.20				0.62	28.50	0.50	2600.00
27.00	27.30	0.30		3.50		0.19	28.50	1.00	2650.00

Drillers Log

From (m)	To (m)	Thickness(m)	Drillers Description	Geological Material	Comments
0.00	0.05	0.05	Topsoil	Topsoil	
0.05	1.00	0.95	Orange Brown Dry Clay	Orange	
1.00	2.00	1.00	Tan Dry Clay	Dry	
2.00	12.00	10.00	Weathered Silt Stone	Weathered	
12.00	14.00	2.00	Weathered Basalt Soft	Weathered	
14.00	14.20	0.20	Water Cut	Water Bearing	
14.20	20.00	5.80	Basalt Soft	Basalt	
20.00	20.20	0.20	Water Cut	Water Bearing	
20.20	27.00	6.80	Hard Basalt	Hard Bands	
27.00	27.30	0.30	Water Cut	Water Bearing	
27.30	28.50	1.20	Hard Basalt	Hard Bands	

Remarks

***** End of GW303130 *****

DEPARTMENT OF WATER AND ENERGY
Work Summary

GW303198

Licence :30BL179936 **Licence Status** Active

	Authorised Purpose(s)	Intended Purpose(s)
Work Type : Bore	DOMESTIC	DOMESTIC

Work Status :
Construct. Method :
Owner Type :

Commenced Date : **Final Depth :**
Completion Date : **Drilled Depth :**

Contractor Name :
Driller :
Assistant Driller's Name :

Property : - " CAIRNS' " **Standing Water Level :**
GWMA : - **Salinity :**
GW Zone : - **Yield :**

Site Details

Site Chosen By	County	Parish	Portion/Lot DP
	Form A :MACQUARIE	QUEENS LAKE	LT 17 DP 241740
	Licensed :MACQUARIE	QUEENS LAKE	17 241740

Region :30 - NORTH COAST **CMA Map :**
River Basin : **Grid Zone :** **Scale :**
Area / District :

Elevation : **Northing :**6509180 **Latitude (S) :**31° 33' 8"
Elevation Source : **Easting :**486380 **Longitude (E) :**152° 51' 23"

GS Map : **MGA Zone :**56 **Coordinate Source :**Map Interpretation

Construction

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;PL-Placement of Gravel Pack;PC-Pressure Cemented;S-Sump;CE-Centralisers

H	P	Component Type	From (m)	To (m)	OD (mm)	ID (mm)	Interval	Details

(No Construction Details Found)

Water Bearing Zones

From (m)	To (m)	Thickness (m)	WBZ Type	S.W.L. (m)	D.D.L. (m)	Yield (L/s)	Hole Depth (m)	Duration (hr)	Salinity (mg/L)

(No Water Bearing Zone Details Found)

Drillers Log

From (m)	To (m)	Thickness(m)	Drillers Description	Geological Material	Comments

Remarks

Form A Remarks:
Spearpoint existed when property purchased in 1996

***** End of GW303198 *****

DEPARTMENT OF WATER AND ENERGY
Work Summary

GW303245

Licence : 30BL179849
Licence Status Active
Authorised Purpose(s) DOMESTIC
Intended Purpose(s) DOMESTIC

Work Type : Bore
Work Status :
Construct. Method :
Owner Type :

Commenced Date :
Completion Date : 05-Apr-2002
Final Depth : 46.20 m
Drilled Depth : 46.20 m

Contractor Name : Country to Coast Drilling
Driller : 1606 HOOK, Leon Frederick
Assistant Driller's Name :

Property : - " CURRELL'S "
GWMA : -
GW Zone : -
Standing Water Level :
Salinity :
Yield :

Site Details

Site Chosen By Diviner
County
Form A : MACQUARIE
Licensed : MACQUARIE
Parish QUEENS LAKE QUEENS LAKE
Portion/Lot DP LT 7 DP 803801 7 803801

Region : 30 - NORTH COAST
River Basin :
Area / District :
CMA Map :
Grid Zone :
Scale :

Elevation :
Elevation Source :
Northing : 6508268
Easting : 483554
Latitude (S) : 31° 33' 38"
Longitude (E) : 152° 49' 36"

GS Map :
MGA Zone : 56
Coordinate Source : Map Interpretation

Construction

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;PL-Placement of Gravel Pack;PC-Pressure Cemented;S-Sump;CE-Centralisers

H	P	Component	Type	From (m)	To (m)	OD (mm)	ID (mm)	Interval	Details
1		Hole	Hole	0.00	1.50	195			Rotary Air
1		Hole	Hole	1.50	46.20	140			Down Hole Hammer
1	1	Casing	PVC Class 9	-0.03	28.20	115	105		Glued; Seated on Bottom
1	1	Opening	Slots - Vertical	28.20	46.20	115			PVC Class 9; SL: 200mm; A: 2mm

Water Bearing Zones

From (m)	To (m)	Thickness (m)	WBZ Type	S.W.L. (m)	D.D.L. (m)	Yield (L/s)	Hole Depth (m)	Duration (hr)	Salinity (mg/L)
28.00	28.20	0.20				0.63	46.20	0.50	2300.00
40.00	40.30	0.30		16.00		0.24	46.20	1.00	2300.00

Drillers Log

From (m)	To (m)	Thickness(m)	Drillers Description	Geological Material	Comments
0.00	0.10	0.10	Topsoil	Topsoil	
0.10	0.40	0.30	Dry Brown Clay	Dry	
0.40	4.00	3.60	Hard Basalt	Hard Bands	
4.00	11.00	7.00	Weathered Bassalt	Weathered	
11.00	24.00	13.00	Hard Basalt	Hard Bands	
24.00	28.00	4.00	Very Hard Basalt	Hard Bands	
28.00	28.20	0.20	Water Cut	Water Bearing	
28.20	36.00	7.80	Hard Basalt	Hard Bands	
36.00	40.00	4.00	Very Hard Basalt	Hard Bands	
40.00	40.30	0.30	Water Cut	Water Bearing	
40.30	46.20	5.90	Hard Basalt	Hard Bands	

Remarks

***** End of GW303245 *****

DEPARTMENT OF WATER AND ENERGY
Work Summary

GW303472

Licence : 30BL177832
Licence Status Active
Authorised Purpose(s) DOMESTIC
Intended Purpose(s) DOMESTIC
Work Type : Bore
Work Status :
Construct. Method : Rotary Air
Owner Type :

Commenced Date :
Completion Date : 26-Nov-2002
Final Depth : 34.50 m
Drilled Depth : 34.50 m

Contractor Name : CCD
Driller : 1606 HOOK, Leon Frederick
Assistant Driller's Name :

Property : - DAYMANS'
GWMA : -
GW Zone : -
Standing Water Level : 8.00 m
Salinity : 950.00 mg/L
Yield : 1.10 L/s

Site Details

Site Chosen By Diviner
County **Form A :** MACQUARIE **Licensed :** MACQUARIE
Parish QUEENS LAKE QUEENS LAKE
Portion/Lot DP LT 28 DP 262973 28 262973

Region : 30 - NORTH COAST
River Basin :
Area / District :
CMA Map :
Grid Zone :
Scale :

Elevation :
Elevation Source :
Northing : 6507122
Easting : 482203
Latitude (S) : 31° 34' 15"
Longitude (E) : 152° 48' 45"

GS Map :
MGA Zone : 56
Coordinate Source : GPS - Global Positioning System

Construction

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;PL-Placement of Gravel Pack;PC-Pressure Cemented;S-Sump;CE-Centralisers

H	P	Component	Type	From (m)	To (m)	OD (mm)	ID (mm)	Interval	Details
1		Hole	Hole	0.00	18.50	195			Rotary Air
1		Hole	Hole	18.50	34.50	165			Down Hole Hammer
1	1	Casing	PVC Class 9	0.00	22.50	140	126		Seated on Bottom; Casing Shoe
1	1	Opening	Slots - Vertical	22.50	34.50	140			PVC Class 9; Mechanically Slotted; SL: 200mm; A: 2mm
1		Annulus	Waterworn/Rounded	10.00	34.50				Graded; GS: 5-7mm; .25m³

Water Bearing Zones

From (m)	To (m)	Thickness (m)	WBZ Type	S.W.L. (m)	D.D.L. (m)	Yield (L/s)	Hole Depth (m)	Duration (hr)	Salinity (mg/L)
22.00	22.20	0.20						30.00	850.00
28.00	28.70	0.70		8.00				1.50	950.00

Drillers Log

From (m)	To (m)	Thickness(m)	Drillers Description	Geological Material	Comments
0.00	0.20	0.20	top soil	Topsoil	
0.20	5.00	4.80	grey and red mottled clay	Grey Bands	
5.00	9.00	4.00	moist silty clay	Moist	
9.00	14.00	5.00	soft tan slit stone	Soft Bands	
14.00	22.00	8.00	grey sandstone	Grey Streaks	
22.00	22.20	0.20	water cut	Water Bearing	
22.20	28.00	5.80	grey sandstone	Grey Streaks	
28.00	28.70	0.70	water cut	Water Bearing	
28.70	34.50	5.80	hard grey sandstone	Hard Bands	

Remarks

***** End of GW303472 *****

DEPARTMENT OF WATER AND ENERGY
Work Summary

GW304535

Licence : 30BL182266
Licence Status Active
Authorised Purpose(s) DOMESTIC
Intended Purpose(s) DOMESTIC
Work Type : Spear
Work Status :
Construct. Method : Auger - Solid Flight
Owner Type : Private

Commenced Date :
Completion Date : 29-Oct-2003
Final Depth : 5.00 m
Drilled Depth : 5.00 m

Contractor Name : David GOLBY
Driller : 1728 GOLBY, David
Assistant Driller's Name :

Property : - LYNCH'S
GWMA : -
GW Zone : -
Standing Water Level :
Salinity :
Yield :

Site Details

Site Chosen By

	County	Parish	Portion/Lot DP
Form A :	MACQUARIE	QUEENS LAKE	LT 16 DP 24446
Licensed :	MACQUARIE	QUEENS LAKE	16 24446

Region : 30 - NORTH COAST
River Basin : 207 - HASTINGS RIVER
Area / District :
CMA Map :
Grid Zone :
Scale :

Elevation :
Elevation Source :
Northing : 6505207
Easting : 484525
Latitude (S) : 31° 35' 17"
Longitude (E) : 152° 50' 13"

GS Map :
MGA Zone : 56
Coordinate Source : Map Interpretation

Construction

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;PL-Placement of Gravel Pack;PC-Pressure Cemented;S-Sump;CE-Centralisers

H	P	Component	Type	From (m)	To (m)	OD (mm)	ID (mm)	Interval	Details
1		Hole	Hole	0.00	5.00	90			Auger - Solid Flight
1	1	Casing	PVC Class 9	0.00	4.40	90			
1	1	Opening	Slots	0.00	5.00	40			PVC Class 9; SL: 600mm

Water Bearing Zones

From (m)	To (m)	Thickness (m)	WBZ Type	S.W.L. (m)	D.D.L. (m)	Yield (L/s)	Hole Depth (m)	Duration (hr)	Salinity (mg/L)

(No Water Bearing Zone Details Found)

Drillers Log

From (m)	To (m)	Thickness(m)	Drillers Description	Geological Material	Comments
0.00	0.50	0.50	TOP SOIL	Topsoil	
0.50	5.00	4.50	SAND	Sand	

Remarks

Form A Remarks:
NO OTHER INFORMATION GIVEN
DATE NOT SHOWN, DATE USED IS WHEN APPLICATION FORM WAS COMPLETED.

***** End of GW304535 *****

DEPARTMENT OF WATER AND ENERGY
Work Summary

GW305101

Licence : 30BL183541
Licence Status Active
Authorised Purpose(s) DOMESTIC
Intended Purpose(s) DOMESTIC

Work Type : Bore
Work Status :
Construct. Method :
Owner Type :

Commenced Date :
Completion Date : 30-Mar-2005
Final Depth : 4.00 m
Drilled Depth : 4.00 m

Contractor Name : UNKNOWN
Driller :
Assistant Driller's Name :

Property : - DENNIS
GWMA : -
GW Zone : -
Standing Water Level :
Salinity :
Yield :

Site Details

Site Chosen By Client
County
Form A : MACQUARIE
Licensed : MACQUARIE
Parish QUEENS LAKE QUEENS LAKE
Portion/Lot DP 6 848067 6 848067

Region : 30 - NORTH COAST
River Basin :
Area / District :
CMA Map :
Grid Zone :
Scale :

Elevation :
Elevation Source :
Northing : 6505839
Easting : 484622
Latitude (S) : 31° 34' 57"
Longitude (E) : 152° 50' 17"

GS Map :
MGA Zone : 56
Coordinate Source :

Construction

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;PL-Placement of Gravel Pack;PC-Pressure Cemented;S-Sump;CE-Centralisers

H	P	Component	Type	From (m)	To (m)	OD (mm)	ID (mm)	Interval	Details
1		Hole	Hole	0.00	4.00	100			Hand Auger
1	1	Casing	PVC Class 9	0.00	4.00	100	96		Glued

Water Bearing Zones

From (m)	To (m)	Thickness (m)	WBZ Type	S.W.L. (m)	D.D.L. (m)	Yield (L/s)	Hole Depth (m)	Duration (hr)	Salinity (mg/L)
3.30	4.00	0.70						0.50	

Drillers Log

From (m)	To (m)	Thickness(m)	Drillers Description	Geological Material	Comments
0.00	4.00	4.00	sand	Sand	

Remarks

***** End of GW305101 *****

DEPARTMENT OF WATER AND ENERGY
Work Summary

GW305117

Licence : 30BL180597 **Licence Status** Active

	Authorised Purpose(s)	Intended Purpose(s)
Work Type : Bore	DOMESTIC	DOMESTIC
Work Status :		
Construct. Method : Cable Tool - Drill & Drive Casing		
Owner Type :		

Commenced Date : **Final Depth :** 28.50 m
Completion Date : 27-Nov-2002 **Drilled Depth :**

Contractor Name : COUNTRY COAST
Driller : 1606 HOOK, Leon Frederick
Assistant Driller's Name :

Property : - BRIDSON **Standing Water Level :** 5.00 m
GWMA : - **Salinity :** 920.00 mg/L Poor
GW Zone : - **Yield :** 0.83 L/s

Site Details

Site Chosen By	County	Parish	Portion/Lot DP
	Form A : MACQUARIE	QUEENS LAKE	72 700284
	Licensed : MACQUARIE	QUEENS LAKE	72 700284

Region : 30 - NORTH COAST **CMA Map :**
River Basin : **Grid Zone :** **Scale :**
Area / District :

Elevation : **Northing :** 6506728 **Latitude (S) :** 31° 34' 28"
Elevation Source : **Easting :** 482310 **Longitude (E) :** 152° 48' 49"

GS Map : **MGA Zone :** 56 **Coordinate Source :**

Construction

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;PL-Placement of Gravel Pack;PC-Pressure Cemented;S-Sump;CE-Centralisers

H	P	Component	Type	From (m)	To (m)	OD (mm)	ID (mm)	Interval	Details
1		Hole	Hole	0.00	28.50	125			Cable Tool - Drill & Drive Casing
1	1	Casing	P.V.C.	0.00	28.50	125			

Water Bearing Zones

From (m)	To (m)	Thickness (m)	WBZ Type	S.W.L. (m)	D.D.L. (m)	Yield (L/s)	Hole Depth (m)	Duration (hr)	Salinity (mg/L)

(No Water Bearing Zone Details Found)

Drillers Log

From (m)	To (m)	Thickness(m)	Drillers Description	Geological Material	Comments

Remarks

***** End of GW305117 *****

DEPARTMENT OF WATER AND ENERGY
Work Summary

GW305597

Licence : 30BL181021
Licence Status Active
Authorised Purpose(s) DOMESTIC
Intended Purpose(s) DOMESTIC

Work Type : Spear
Work Status : New Bore
Construct. Method :
Owner Type : Private

Commenced Date :
Completion Date : 01-Aug-2001
Final Depth : 6.00 m
Drilled Depth :

Contractor Name : SELF
Driller : 372 UNKNOWN, Unknown
Assistant Driller's Name :

Property : - DEVER'S
GWMA : -
GW Zone : -
Standing Water Level :
Salinity :
Yield :

Site Details

Site Chosen By Client

	County	Parish	Portion/Lot DP
Form A :	MACQUARIE	QUEENS LAKE	191//1061023
Licensed :	MACQUARIE	QUEENS LAKE	19 819076

Region : 30 - NORTH COAST
River Basin :
Area / District :
CMA Map :
Grid Zone :
Scale :

Elevation :
Elevation Source :
Northing : 6505506
Easting : 484317
Latitude (S) : 31° 35' 7"
Longitude (E) : 152° 50' 5"

GS Map :
MGA Zone : 56
Coordinate Source :

Construction

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;PL-Placement of Gravel Pack;PC-Pressure Cemented;S-Sump;CE-Centralisers

H	P	Component Type	From (m)	To (m)	OD (mm)	ID (mm)	Interval	Details

(No Construction Details Found)

Water Bearing Zones

From (m)	To (m)	Thickness (m)	WBZ Type	S.W.L. (m)	D.D.L. (m)	Yield (L/s)	Hole Depth (m)	Duration (hr)	Salinity (mg/L)

(No Water Bearing Zone Details Found)

Drillers Log

From (m)	To (m)	Thickness(m)	Drillers Description	Geological Material	Comments

Remarks

***** End of GW305597 *****

***** End of Report *****

Annex H

Photographic Log

Photograph 1

Stockyards - looking along the cattle race.

Photograph 2

Localised oil stain at rear of workshop.

Photograph 3

Telstra communications building.

Photograph 4

Looking north along the electricity easement which traverses the eastern section of the site.

Photograph 5

Old molasses drums.

Photograph 6

Grazing paddocks.

Photograph 7

Rusty drums near stockyards.

Photograph 8

Fill material.

Photograph 9

Asbestos sample site.

Annex I

Analytical Tables

TABLE 1
Sample Descriptions
Environmental Site Assessment- Rainbow Beach, NSW

Sample ID	Location type	Depth m(BGS)	Description	Laboratory Analysis
SS01	Cattleyards	0.1	Brown sandy topsoil	TPH, PAH, OCP, OPP, Inorganics
SS02	Cattleyards	0.05	Brown sandy topsoil	TPH, PAH, OCP, OPP, Inorganics
SS03	Drums nearby Cattleyards	0.1	Brown sandy topsoil	TPH, PAH, OCP, OPP, Inorganics
SS04	Electricity Easement	0.1	Grey sandy topsoil at base of telegraph pole	TPH, PAH, OCP, OPP, Inorganics
SS05	Compound Rear Shed	0.1	Gravelly fill material	TPH, PAH, OCP, OPP, Inorganics
AS01	Northern Residence	-	Fibrous sheeting, blue/green paint	Asbestos Identification

Notes:
TPH – total petroleum hydrocarbons
PAH – polycyclic aromatic hydrocarbons
OCP – Organochlorine Pesticides
OPP – Organophosphate Pesticides
Inorganics – Arsenic, Cadmium, Chromium, Hexavalent Chromium, Copper, Lead, Nickel, Mercury and Zinc
C&D – Construction and Demolition
mBGS - metres below ground surface
ppmV - parts per million by volume

TABLE 2
Total Petroleum Hydrocarbons in Soil (mg/kg)
Environmental Site Assessment- Rainbow Beach, NSW

Borehole	Depth (mBGS)	Sampling Date		TPH C 6 - C 9 Fraction	TPH C10 - C14 Fraction	TPH C15-C28 Fraction	TPH C29-C36 Fraction	TPH C10 - C36 (Sum of total)
EQL				*10*	*50*	*100*	*100*	-
SS03	0.1	24/9/07		<10	<50	250	780	1030
SS05	0.1	24/9/07		<10	<50	13200	14700	27900
Assessment Criteria								
NSW EPA (1994) Sensitive Land Use				*65*	*ns*	*ns*	*ns*	*1000*

Notes:
ns - no assessment criteria specified
EQL - Estimated Quantitation Limit
< - not detected, below laboratory detection limit
NSW EPA (1994) - *NSW EPA Contaminated Sites Guidelines for Assessing Service Stations - sensitive land use*
Result exceeds criteria

TABLE 3
Polycyclic Aromatic Hydrocarbons (PAHs) in Soil (mg/kg)
Environmental Site Assessment- Rainbow Beach, NSW

Borehole	Depth (mBGS)	Sampling Date		Naphthalene	Acenaphthylene	Acenaphthene	Fluorene	Phenanthrene	Anthracene	Fluoranthene	Pyrene	Benz(a)anthracene	Chrysene	Benzo(b)&(k)fluoranthene	Benzo(a) pyrene	Indeno(1,2,3-c,d)pyrene	Dibenz(a,h)anthracene	Benzo(g,h,i)perylene	Sum of reported PAHs
EQL				*0.5*	*0.5*	*0.5*	*0.5*	*0.5*	*0.5*	*0.5*	*0.5*	*0.5*	*0.5*	*1*	*0.5*	*0.5*	*0.5*	*0.5*	-
SS03	0.1	24/9/07		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	-
SS04	0.1	24/9/07		<0.5	2.9	<0.5	<0.5	0.5	3.3	22.3	62.2	12.3	23.3	62	16.4	10.3	3.8	9.1	228.4
SS05	0.1	24/9/07		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	-
Assessment Criteria																			
NEPM 1999 HIL A				*ns*	*ns*	*ns*	*ns*	*ns*	*ns*	*ns*	*ns*	*ns*	*ns*	*ns*	*1*	*ns*	*ns*	*ns*	*20*

Notes:
ns - no assessment criteria specified
EQL - Estimated Quantitation Limit
< - not detected, below laboratory detection limit
NEPM (Assessment of Site Contamination Measure, 1999)
HILs - Health Investigation Levels ('A' - standard residential)
Result exceeds criteria

TABLE 4
Organochlorine Pesticides in Soil (mg/kg)
Environmental Site Assessment- Rainbow Beach, NSW

Borehole	Depth (mBGS)	Sampling Date		a-BHC	HCB	b-BHC	g-BHC (Lindane)	d-BHC	Heptachlor	Aldrin	Heptachlor epoxide	trans-Chlordane	Endosulfan I	cis-Chlordane	Dieldrin	4,4-DDE	Endrin	Endosulfan II	4,4-DDD	Endosulfan sulphate	4,4-DDT	Methoxychlor
EQL				*0.05*	*0.05*	*0.05*	*0.05*	*0.05*	*0.05*	*0.05*	*0.05*	*0.05*	*0.05*	*0.05*	*0.05*	*0.05*	*0.05*	*0.05*	*0.05*	*0.05*	*0.2*	*0.2*
SS01	0.1	24/9/07		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2
SS02	0.05	24/9/07		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2
SS03	0.1	24/9/07		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2
SS04	0.1	24/9/07		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	3.7	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2
Assessment Criteria																						
NEPM 1999 HIL A				*ns*	*ns*	*ns*	*ns*	*ns*	*10*	*10*	*ns*	*ns*	*ns*	*ns*	*10*	*200*	*ns*	*ns*	*200*	*ns*	*200*	*ns*

Notes: ns - no assessment criteria specified
EQL - Estimated Quantitation Limit
< - not detected, below laboratory detection limit
NEPM (Assessment of Site Contamination Measure, 1999)
HILs - Health Investigation Levels ('A' - standard residential)
~ - Sample dilution required, EQLs adjusted accordingly.

TABLE 5
Organophosphorus Pesticides in Soil (mg/kg)
Environmental Site Assessment- Rainbow Beach, NSW

Borehole	Depth (mBGS)	Sampling Date		Dichlorvos	Mevinphos (Phosdrin)	Demeton (total)	Ethoprop	Monocrotophos	Phorate	Dimethoate	Diazinon	Disulfoton	Methyl parathion	Ronnel	Fenitrothion	Malathion	Chlorpyrifos	Fenthion	Parathion	Stirofos	Prothiofos	Azinophos methyl	Coumaphos
EQL				*0.5*	*0.5*	*1*	*0.5*	*0.5*	*0.5*	*0.5*	*0.5*	*0.5*	*0.5*	*0.5*	*0.5*	*0.5*	*0.5*	*0.5*	*0.5*	*0.5*	*0.5*	*0.5*	*0.5*
SS01	0.1	24/9/07		<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
SS02	0.05	24/9/07		<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
SS03	0.1	24/9/07		<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
SS04	0.1	24/9/07		<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Assessment Criteria																							
NEPM 1999 HIL A				*ns*	*ns*	*ns*	*ns*	*ns*	*ns*	*ns*	*ns*	*ns*	*ns*	*ns*	*ns*	*ns*	*ns*	*ns*	*ns*	*ns*	*ns*	*ns*	*ns*

Notes: ns - no assessment criteria specified
EQL - Estimated Quantitation Limit
< - not detected, below laboratory detection limit
NEPM (Assessment of Site Contamination Measure, 1999)
HILs - Health Investigation Levels ('A' - standard residential)

TABLE 6
Inorganics in Soil (mg/kg)
Environmental Site Assessment- Rainbow Beach, NSW

Borehole	Depth (mBGS)	Sampling Date		Arsenic	Cadmium	Chromium	Hexavalent Chromium	Copper	Nickel	Lead	Zinc	Mercury
EQL				*1*	*0.1*	*1*	*1*	*2*	*1*	*2*	*5*	*0.1*
SS01	0.1	24/9/07		1	-	-	-	-	-	-	-	-
SS02	0.05	24/9/07		1	-	-	-	-	-	-	-	-
SS04	0.1	24/9/07		1	-	-	1	-	-	-	-	-
SS05	0.1	24/9/07		2	0.2	38	-	47	29	60	344	<0.1
Assessment Criteria												
NEPM 1999 HIL A				*100*	*20*	*100**	*100*	*1000*	*600*	*300*	*7000*	*15*

Notes:
ns - no assessment criteria specified
EQL - Estimated Quantitation Limit
< - not detected, below laboratory detection limit
NEPM (Assessment of Site Contamination Measure, 1999)
HILs - Health Investigation Levels ('A' - standard residential)
* - HIL Level A for Chromium (VI)
- not analysed

Annex J

QA/QC Report

J.1 INTRODUCTION

The objective of this data assessment is to evaluate and identify quality data, which meets or exceeds acceptable specifications for the characterisation of the North Tuncurry Urban Release Area, Tuncurry NSW. This process has been undertaken to ensure that the sample data is of a suitable standard to be utilised for this report.

All laboratory sample and QA/QC data packages were issued as finalised and checked laboratory reports by the following NATA Registered Laboratories for this project, unless otherwise stated:

- Primary Laboratory: LabMark Laboratories Pty. Ltd.
  NATA Accreditation No. 13542 (Sydney).
  Report Number E034319

J.2 DEFINITIONS

This section outlines various definitions, which were adopted throughout this assessment report. The following definitions are in accordance with current NEPM (1999), USEPA SW-846 methods (1994) and those that are described by Keith, *Environmental Sampling and Analysis, A Practical Guide* (1991).

The Practical Quantitation Limit 'PQL', Limit of Reporting 'LOR', and Estimated Quantitation Limit 'EQL' all refer to the concentration above which reported results can be expressed with a minimum 95% confidence level. For the purposes of this report, all references to PQLs, LORs, and EQLs were referred to as the laboratory reporting limit and were all considered to be equivalent. The laboratory reporting limits were generally set at 2-10 times the SD for the Method Detection Limit 'MDL' for specific analytes.

Users of laboratory data should be aware that values measured at or near the LOR may have two inherent limitations. *"The uncertainty of the measurement value can approach, and even equal, the reported value. Secondly, confirmation of the analytes reported is virtually impossible unless identification uses highly selective methods. These issues diminish when reliably measurable amounts of analytes are present. Accordingly, legal and regulatory actions should be limited to data at or above the reliable detection limit"* Keith (1991).

J.2.1 Accuracy

Accuracy is defined as the proximity of an averaged result to the true value, where all random errors have been statistically removed. Unless the true value is known, accuracy may take on a meaning equivalent to the term bias due to the existence of systematic errors. Accuracy is measured by percent recovery '%R'. Unless otherwise stated, accuracy data for matrix spike and matrix spike duplicates were expected to vary within the range of:

Expected Matrix Spike Percentage Recovery

Analyte	Percentage Recovery
General analytes	70-130 %R
Organophosphorous pesticide analytes	60-130 %R
Chromium	62-120 %R

Accuracy of data was treated as an estimate or would be rejected on the following assessment criteria:

% Range: - if 10%R < result < 19%R, then treat the result as an estimate value;

- if < 10% R, then data value should be rejected.

J.2.2 Precision

Precision is considered to be the degree to which data generated from replicate or repetitive measurements differ from one another due to random errors. Precision is measured using the standard deviation 'SD' or Relative Percent Difference 'RPD'. Replicate data existing in the RPD range presented below shall be accepted as quality data, whereas data outside of the acceptance criteria required further discussion.

%RPD Range:
- if result > 10 x EQL, the maximum of 50% RPD;
- if result 5-10 x EQL, the maximum of 75% RPD; and
- if result < 5 x EQL, the maximum of 100% RPD.

J.2.3 Blanks

Laboratory method blanks are designed to check for artefacts and interferences during the analysis stages, which may lead to the reporting of false positive results. In the event that a positive blank was reported for this project, the following remedies would proceed:

- Laboratory to review data;
- Positive blank results may not be subtracted from sample results;

- No further action necessary if sample results reported were less than laboratory reporting limit;
- Analyse additional field blanks if taken and within holding times;
- Positive results may be reported if analyte concentrations were significantly greater than the amount reported in the blank (ten times for laboratory reagents such as methylene chloride, chloroform, and acetone etc., and five times for all other analytes). Alternatively, the laboratory LOR may be raised to accommodate blank anomalies provided that regulatory guidelines were not compromised by any adjustment made to the laboratory reporting limit; and
- Professional expertise would be used in all cases, which may include conducting additional testing.

J.2.4 Matrix Spikes

Environmental samples were spiked with laboratory grade standards to assess the interactive effects between the sample matrix and the analytes being measured. Matrix Spikes 'MS' were reported as a percent recovery %R, at a minimum rate of 1 in every 20 samples for this project.

Percent Recovery is expressed as: $$\%R = \left(\frac{SSR - SR}{SA} \right) \times 100$$

where: SSR = spiked sample result
SR = sample result (blank)
SA = spike added

J.2.5 Laboratory Duplicates

Laboratory duplicate samples measure precision, which is calculated as standard deviation SD or Relative Percent Difference %RPD. Duplicates were collected in a single sample container in the field and were analysed as two separate extractions.

Relative Percent Difference is expressed as: $$\%RPD = \left(\frac{C_2 - C_1}{C_2 + C_1} \right) \times 200\%$$

where: C_1 = sample concentration
C_2 = duplicate sample concentration

J.2.6 Laboratory Surrogates

Surrogates are QC monitoring spikes, which were added at the beginning of the sample extraction process in the laboratory where applicable. Surrogates were measured as Percent Recovery %R.

Percent Recovery is expressed as: $$\%R = \left(\frac{SSR}{SA} \right) \times 100$$

where: SSR = spiked sample result
SA = spike added

Surrogate spike recoveries indicate the presence of sample specific interferences. Whilst the USEPA have documented limits (summarised in the table below), for some compounds, other similar compounds may be used. In the event that the USEPA have not published a surrogate recovery limit, the range 70 – 130 % recovery soil was used. In the event that a surrogate recovery failed to comply with the documented or established limits, the sample was re-extracted and reanalysed. Should the recovery breaches occur again, this was an indication of matrix interference.

USEPA Surrogate Recovery Limits

Surrogate Type	% Recovery Soil	% Recovery Water
Volatile Surrogates		
4-Bromofluorobenzene	74 – 121	86 – 115
1,2-Dichloroethane-d4	80 – 120	80 – 120
Toluene-d8	81 – 117	88 – 110
Semivolatile Surrogates		
Nitrobenzene-d5	23 – 120	35 – 114
2-Fluorobiphenyl	30 – 115	43 – 116
p-Terphenyl-d14	18 – 137	33 – 141
Phenol-d6	24 – 113	10 – 94
2-Fluorophenol	25 – 121	21 – 100
2,4,6-Tribromophenol	19 – 122	10 – 123
2-Chlorophenol-d4	23 – 134	23 – 134
1,2-Dichlorobenzene-d4	32 – 129	32 – 129
Anthracene-d10	27 – 133	27 – 133
Pesticides		
Dibromo-DDE	10 – 136	10 – 136
DEF	10 – No upper limit	10 – No upper limit
PCBs		
Decachlorobiphenyl	10 – 164	10 – 164

J.2.7 Blind Replicate Samples (Field Duplicates)

Field generated check samples measure repeatability over a short time period. At least 10% of samples are submitted from a larger quantity of sample which were collected from the same sampling point, removed by a single action, where possible, and divided into two separate and unrelated sample containers for blind analysis at either the same laboratory (intra-laboratory precision) or a different laboratory (inter-laboratory precision). Due to the small number of samples collected and direct sampling techniques, field duplicate samples were not collected as part of the preliminary sampling conducted for this *Phase 1 PSI*.

J.3 FIELD PROCEDURES

J.3.1 Sampling Team

Soil sampling was undertaken by ERM environmental engineer Will Weir on 24 September 2006. All samples were collected in accordance with ERM's standard operating procedures, as described in *Section 4* of this report.

J.3.2 Decontamination Procedures

All soil sampling equipment was decontaminated between sampling locations where designated disposable materials were not used. Details of decontamination procedures are provided in *Section 4*.

J.3.3 Sample Handling, Storage and Preservation

All samples were placed in laboratory-provided containers, preserved and stored following ERM standard operating procedures. The samples were then placed in ice-filled coolers.

Chain of custody documentation was completed, with data including sample identification, date sampled, matrix type, preservation method, analyses required, sampler and requested date for data.

All soil samples were shipped in ice-filled coolers at a temperature of 4°C ± 2°C to prevent degradation of organic compounds to selected laboratories. Both LabMark and ASET are National Association of Testing Authorities (NATA) accredited for the analyses requested.

J.3.4 Field QA/QC

QA/QC sampling included the collection of field duplicate samples at a frequency of one duplicate per ten samples. Details regarding the field duplicate are provided in *Tables 8 to 13* of *Appendix B*.

QA/QC samples were stored, handled and shipped in an identical fashion to the primary soil samples collected.

J.4 LABORATORY QA/QC

The primary laboratories selected to provide analytical services for this project were LabMark Laboratories Pty Ltd Sydney (LabMark) for all analyses.

ERM selected the laboratories based on the following criteria:

- NATA registration for routine test methods and commonly encountered sample matrices;
- Qualifications and experience of laboratory staff;
- Satisfactory compliance to ERM quality objectives for this project; and
- Customer service assurances that all reports to be issued within agreed time frames.

The data assessment consists of comparing laboratory QA/QC results to documented USEPA SW-846 guidelines, USEPA CLP National Functional Guidelines for Inorganic and Organic Data Review, ANZECC, and other internationally recognised publications. Reference to modified USEPA and ANZECC "in-house" laboratory methods may be applied which are revisable through laboratory NATA assessments. All laboratory sample and QA/QC data packages have been issued as finalised and checked laboratory reports by the following NATA Registered Laboratories for this project:

J.5 LABORATORY METHODOLOGIES

All samples submitted for analysis at LabMark for this project were analysed by one or more of the following laboratory methods. All laboratory test methods for soil chemical testing were NATA registered at the time of analysis.

J.5.1 Selected Inorganics (As, Hg, Cd, Cr, Cu, Pb, Ni, Zn)

Soil: The sample is mixed (after organic sample portions have been removed) in the sample jar as thoroughly as possible. A 20-50 gram portion is removed (variance dependent upon sample mass submitted) and dried at 60^{o}C overnight in a fan forced oven. The dried sample is then crushed in a pestle and mortar before sieving through a 2 mm sieve. Then 0.500 +/-0.100 grams of the sieved soil is digested with 4 mL of 1:1 nitric acid: hydrochloric acid mix in a sealed vessel, in an industrial microwave. The extract is then made up to final volume before direct analysis by ICP-MS. Mercury is analysed separately by 'cold-vapour' ICP-MS.

J.5.2 Asbestos

Soil: (subcontracted to Australian Safer Environment & Technology Pty Ltd) soil samples analysed by Stereomicroscopy and Polarised Light Microscopy (with Dispersion Staining).

J.5.3 Volatile Total Petroleum Hydrocarbons (TPH C_6-C_9)

Soil: 10 grams soil extracted with 20 ml methanol and tumbled for 1-4 hours and analysed. Analysis by capillary column Purge & Trap GC/FID (LabMark in-house method numbers E003.1, E003.2, reference USEPA 5030B, 8015B).

J.5.4 Semi-Volatile Total Petroleum Hydrocarbons (TPH C_{10}-C_{36})

Soil: 10 grams soil and anhydrous sodium sulphate extracted with 20 ml dichloromethane/ acetone (8:2), and tumbled for 1-4 hours. Product samples diluted one hundred fold with dichloromethane/ acetone (8:2) solvent. Analysis by capillary column GC/FID (LabMark in-house method E004.1, E006.2, reference USEPA 8000, 3510B, TPHWG vols. 1&3).

J.5.5 Polycyclic Aromatic Hydrocarbons

Soil: Solid samples are extracted with dichloromethane/acetone (9:1) and injected into capillary Gas Chromatograph equipped with a Mass Selective Detector (MSD) using SIM mode. Water samples undergo triple extraction with dichloromethane and analysis by capillary Gas Chromatograph equipped with Mass Selective Detector (MSD) using SIM mode.

J.5.6 Organochlorine Pesticides

Soil: Solid samples are extracted with hexane/ acetone (1:1) and analysis by capillary Gas Chromatograph equipped with Electron Capture Detector. Water samples undergo triple extraction with hexane and analysis by capillary Gas Chromatograph equipped with Electron Capture Detector.

J.5.7 Organophosphorus Pesticides

Soil: A portion of sample 10-12 g is weighed, and into it is immediately added an aliquot of surrogate standard and 5-10 g of anhydrous sodium sulphate. A 1:1 mixture of acetone/hexane is then added and the sample is capped and shaken vigorously and placed onto a rotator for 4 hours at 20-25 rpm. An aliquot of sample is then taken and injected into a GC/FPD or GC/MS.

J.5.8 Polychlorinated Biphenyls

Soil: 10 gm soil extracted with 20 ml hexane/ acetone (1:1), and tumbled for 1-4 hours and analysed. Analysis by capillary column GC/dual ECD (LabMark in-house method number E013.2)

J.6 DATA VALIDATION

Data assessment was undertaken on samples documented on the chain of custody forms relating to the laboratory reports outlined in *Section 4* of this *Appendix*.

J.6.1 Sample Integrity and Containers

Chain of custody documentation were signed and dated by the laboratory stating that all samples were received cool and in good order, and were presented in adequate sample containers. All samples submitted for volatiles were correctly contained with no headspace, and all samples were labelled appropriately according to current quality field sampling protocols undertaken by ERM.

J.6.2 Holding Times

All holding times for primary sample analyses undertaken by LabMark and ASET were checked and noted to be acceptable. ERM considers that the date of analysis following completion of fieldwork for these analyses was within acceptable criteria for the contaminants being analysed.

J.6.3 Matrix Spike and Matrix Spike Duplicates

All primary laboratory matrix spike recoveries were within the global acceptance criteria.

J.6.4 Laboratory Duplicates

In accordance with the NEPM (1999) guidelines, the laboratories conducted analyses of laboratory duplicates. To assess laboratory precision the relative percent difference was calculated for the duplicate samples.

All laboratory %RPD results were within the general acceptance criteria, indicating that sample precision was acceptable.

J.6.5 Blanks

All laboratory method blanks were free of analyte concentrations above the laboratory reporting limits.

J.6.6 Surrogates (%R)

Surrogate recoveries were all reported within the relevant USEPA Surrogate Recovery Limits. A review of the reported surrogate recoveries is included in *Annex E* of this report (Laboratory Certificates and COCs).

J.7 QA/QC EVALUATION

J.7.1 Completeness

The following works were undertaken:

- A total of 5 shallow and surface soil samples were advanced across the site on 24 September 2007 using a hand pick and direct grab sampling methods; and
- soil samples were submitted to LabMark chemical and asbestos testing.

J.7.2 Comparability

Soil sampling was undertaken by the same ERM personnel throughout the duration of the site investigation utilising ERM's standard operating procedures as described previously.

The date and results were recorded sample register forms and are summarised in *Table 1* of *Appendix I*. Samples were handled and stored utilising ERM standard operating procedures.

LabMark was utilised as the primary laboratory throughout the project. One fibrous material samples were sent to ASET for asbestos analysis.

The analytical methods utilised by LabMark and ASET were consistent throughout the project. All soil chemical testing analytical methods were accredited by NATA and conducted in accordance with *National Environment Protection (Assessment of Site Contamination) Measure 1999, Schedule B(3) - Guidelines on Laboratory Analysis of Potentially Contaminated Soils*, which allows for the comparability of the data.

J.7.3 Representativeness

The strategy adopted for this investigation involved targeted sampling only across the site.

J.7.4 Precision

QA/QC sampling was undertaken in accordance with ERM's standard operating procedures.

To assess data precision the relative percent difference (RPD) was calculated for the laboratory duplicate samples detailed in laboratory reports presented in *Appendix K*. RPDs for all analytes were within acceptable ranges.

Laboratory RPD values were within prescribed limits, the precision of the data was considered to be satisfactory. Results obtained during the course of the investigation were therefore regarded as reliable.

J.7.5 Accuracy

All samples were collected in accordance with ERM standard procedures. The procedures were considered to be appropriate for the project.

In accordance with the NEPM (1999) guidelines, the laboratory conducted analysis of matrix spikes (and matrix spike duplicates), laboratory control samples, single control spikes (and duplicate control spikes), certified reference material and surrogates. To assess the accuracy of the data, the % recovery was calculated by the laboratory. The % recovery results are presented in the laboratory reports in *Appendix K*.

All primary and secondary laboratory matrix spike recoveries were reported within the global acceptance criteria.

J.8 QA/QC EVALUATION SUMMARY

In summary, the soil analytical data is considered to be of suitable quality to be utilised for the purposes of this investigation.

J.9 REFERENCES

- Australian and New Zealand Environmental and Conservation Council, ANZECC, Guidelines for the laboratory analysis of Contaminated Soils, 1996.

- Environmental Sampling and Analysis, A Practical Guide, Lawrence H. Keith, 1991, Lewis publishers.

- Guidelines for the Quality Control in the Analytical Laboratory, 1995, technical note 23, NATA Australia.

- Guide to the Sampling and Investigation of Potentially Contaminated Soil, Part 1, non-volatile and semi-volatile compounds, AS 4482.1-1997.

- National Environment Protection Council (1999) National Environment Protection (Assessment of Site Contamination) Measure. *Schedule B(3) – Guidelines on Laboratory Analysis of Potentially Contaminated Soils.*

- NSW EPA (1994) Guidelines for Assessing Service Station Sites.

- Standard Methods for the Examination of Water and Waste Water, 1995, APHA nineteenth edition.

- Test Methods for Evaluating Solid Waste, 1994 USEPA publication SW-846 Methods, third edition, chapter 1 (Quality Control).

- USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review, Feb. 1994, Office of Emergency and Remedial Response, publication 9240.1-05-01.

- USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review, Feb. 1994, Office of Emergency and Remedial Response, publication 9240.1-05.

Annex K

Laboratory Reports

LabMark

CUSTOMER CENTRIC - ANALYTICAL CHEMISTS

ilac-MRA

NATA

No. 13542.

Accredited for compliance with ISO/IEC 17025. The results of tests, calibrations and/or measurements included in this document are traceable to Australian/national standards. NATA is a signatory to the APLAC mutual recognition arrangement for the mutual recognition of the equivalence of testing, calibration and inspection reports.

AQIS

AUSTRALIAN QUARANTINE AND INSPECTION SERVICE

SYDNEY License No. N0356.

Quarantine Approved premises criteria 5.1 for quarantine containment level 1 (QCI) facilities. Class five criteria cover premises utilised for research, analysis,and/or testing of biological material, soil, animal, plant and human products.

FINAL CERTIFICATE OF ANALYSIS - ENVIRONMENTAL DIVISION

Laboratory Report No: E034319
Client Name: ERM Australia Pty Limited
Client Reference: Rainbow Beach Phase 1
Contact Name: Rachael King
Chain of Custody No: na
Sample Matrix: SOIL

Cover Page 1 of 4
plus Sample Results

Date Received: 03/10/2007
Date Reported: 09/10/2007

This Final Certificate of Analysis consists of sample results, DQI's, method descriptions, laboratory definitions, and internationally recognised NATA accreditation and endorsement. The DQO compliance relates specifically to QA/QC results as performed as part of the sample analysis, and may provide an indication of sample result quality. Transfer of report ownership from Labmark to the client shall only occur once full & final payment has been settled and verified. All report copies may be retracted where full payment has not occured within the agreed settlement period.

QUALITY ASSURANCE CRITERIA

Accuracy:	matrix spike:	1 in first 5-20, then 1 every 20 samples
	lcs, crm, method:	1 per analytical batch
	surrogate spike:	addition per target organic method
Precision:	laboratory duplicate:	1 in first 5-10, then 1 every 10 samples
	laboratory triplicate:	re-extracted & reported when duplicate RPD values exceed acceptance criteria
Holding Times:	soils, waters:	Refer to LabMark Preservation & THT table VOC's 14 days water / soil VAC's 7 days water or 14 days acidified VAC's 14 days soil SVOC's 7 days water, 14 days soil Pesticides 7 days water, 14 days soil Metals 6 months general elements Mercury 28 days
Confirmation:	target organic analysis:	GC/MS, or confirmatory column
Sensitivity:	EQL:	Typically 2-5 x Method Detection Limit (MDL)

QUALITY CONTROL GLOBAL ACCEPTANCE CRITERIA (GAC)

Accuracy:	spike, lcs, crm surrogate:	general analytes 70% - 130% recovery phenol analytes 50% - 130% recovery organophosphorous pesticide analytes 60% - 130% recovery phenoxy acid herbicides, organotins 50% - 130% recovery
	anion/cation bal:	+/- 10% (0-3 meq/l), +/- 5% (>3 meq/l)
Precision:	method blank:	not detected >95% of the reported EQL
	duplicate lab RPD (metals):	0-30% (>10xEQL), 0-75% (5-10xEQL) 0-100% (<5xEQL)
	duplicate lab RPD:	0-50% (>10xEQL), 0-75% (5-10xEQL) 0-100% (<5xEQL)

QUALITY CONTROL ANALYTE SPECIFIC ACCEPTANCE CRITERIA (ASAC)

Accuracy:	spike, lcs, crm surrogate:	analyte specific recovery data <3xsd of historical mean
Uncertainty:	spike, lcs:	measurement calculated from historical analyte specific control charts

RESULT ANNOTATION

DQO:	Data Quality Objective	s:	matrix spike recovery	p:	pending
DQI:	Data Quality Indicator	d:	laboratory duplicate	lcs:	laboratory control sample
EQL:	Estimated Quantitation Limit	t:	laboratory triplicate	crm:	certified reference material
- - :	not applicable	r:	RPD relative % difference	mb:	method blank

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NEPC GUIDELINE COMPLIANCE - DQO

1. GENERAL

A. Results relate specifically to samples as received. Sample results are not corrected for matrix spike, lcs, or surrogate recovery data.

B. EQL's are matrix dependant and may be increased due to sample dilution or matrix interference.

C. Laboratory QA/QC samples are specific to this project.

D. Inter-laboratory proficiency results are available upon request. NATA accreditation details available at www.nata.asn.au.

E. VOC spikes & surrogates added to samples during extraction, SVOC spikes & surrogates added prior to extraction.

F. Recovery data outside GAC limits shall be investigated and compared to ASAC (historical mean +/- 3sd). If recovery data <20%, then the relevant results for that compound are considered not reliable.

G. Recovery data (ms, surrogate, crm, lcs) outside ASAC limits shall initiate an investigative action. Anomolous QC data is examined in conjunction with other QC samples and a final decision whether to accept or reject results is provided by the professional judgement of the senior analyst. The USEPA-CLP National Functional Guidelines are referred to for specific recommendations.

H. Extraction (preparation) date refers to the date that sample preparation was initiated. Note that certain methods not requiring sample preparation (eg. VOCs in water, etc) may report a common extraction and analysis date.

I. LabMark shall maintain an official copy of this Certificate of Analysis for all tracable reference purposes.

2. CHAIN OF CUSTODY (COC) & SAMPLE RECEIPT NOTICE (SRN) REQUIREMENTS

A. SRN issued to client upon sample receipt & login verification.

B. Preservation & sampling date details specified on COC and SRN, unless noted.

C. Sample Integrity & Validated Time of Sample Receipt (VTSR) Holding Times verified (preservation may extend holding time, refer to preservation chart).

3. NATA ACCREDITED METHODS

A. NATA accreditation held for each method and sample matrix type reported, unless noted below.

B. NATA accredited in-house laboratory methods are referenced from NEPC, ASTM, modified USEPA / APHA documents. Corporate Accreditation No. 13542.

C. Subcontracted analyses: Refer to Sample Receipt Notice and additional DQO comments.

Reported by Aust. Safer Env & Tech., NATA accreditation No. 14484

4. QA/QC FREQUENCY COMPLIANCE TABLE SPECIFIC TO THIS REPORT

Matrix: **SOIL**

Page:	Method:	Totals:	#d	%d-ratio	#t	#s	%s-ratio
1	Volatile TPH by P&T (vTPH)	2	0	0%	0	0	0%
2	Petroleum Hydrocarbons (TPH)	2	0	0%	0	0	0%
3	Polyaromatic Hydrocarbons (PAH)	3	0	0%	0	0	0%
4	Phenols by GC/MS	3	0	0%	0	0	0%
5	Organochlorine Pesticides (OC)	4	0	0%	0	0	0%
6	Organophosphorus Pesticides (OP)	4	0	0%	0	0	0%
7	Acid extractable mercury	1	0	0%	0	0	0%
8	Acid extractable metals	4	0	0%	0	0	0%
9	Speciated Chromium	1	0	0%	0	0	0%
10	Moisture	5	--	--	--	--	--

GLOSSARY:

#d	number of discrete duplicate extractions/analyses performed.
%d-ratio	NEPC guideline for laboratory duplicates is 1 in 10 samples (min 10%).
#t	number of triplicate extractions/analyses performed.
#s	number of spiked samples analysed.
%s-ratio	USEPA guideline for laboratory matrix spikes is 1 in 20 samples (min 5%).

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* Telephone: (02) 9476 6533 * Fax: (02) 9476 8219 * Telephone: (03) 9686 8344 * Fax: (03) 9686 7344

5. THERE ARE NO ADDITIONAL COMMENTS SPECIFIC TO THIS REPORT

A. All tests were conducted by LabMark Environmental Sydney, NATA accreditation No. 13542, Corporate Site No. 13535., unless indicated below.
B. The following test was conducted by Aust. Safer Env & Tech., NATA accreditation No. 14484 :- ASBESTOS

Laboratory QA/QC data shall relate specifically to this report, and may provide an indication of site specific sample result quality. LabMark DOES NOT report NON-RELEVANT BATCH QA/QC data. Acceptance of this self assessment certificate does not preclude any requirement for a QA/QC review by a accredited contaminated site EPA auditor, when and wherever necessary. Laboratory QA/QC self assessment references available upon request.

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Laboratory Report No: E034319
Client Name: ERM Australia Pty Limited
Contact Name: Rachael King
Client Reference: Rainbow Beach Phase 1 0072982

Page: 1 of 10
plus cover page
Date: 09/10/07
This report supercedes reports issued on: N/A

Final
Certificate
of Analysis

Laboratory Identification		**118010**	**118012**	**lcs**	**mb**						
Sample Identification		SS03	SS05	QC	QC						
Depth (m)		0.1	0.1	--	--						
Sampling Date recorded on COC		24/9/07	24/9/07	--	--						
Laboratory Extraction (Preparation) Date		4/10/07	4/10/07	4/10/07	4/10/07						
Laboratory Analysis Date		6/10/07	6/10/07	4/10/07	4/10/07						
Method : E003.2											
Volatile TPH by P&T (vTPH)	**EQL**										
C6 - C9 Fraction	10	<10	<10	98%	<10						

Results expressed in mg/kg dry weight unless otherwise specified

Comments:

E003.2: 8-10g soil extracted with 20ml methanol. Analysis by P&T/GC/FID.

Final
Certificate of Analysis

Laboratory Identification		**118010**	**118012**	**lcs**	**mb**						
Sample Identification		SS03	SS05	QC	QC						
Depth (m)		0.1	0.1	--	--						
Sampling Date recorded on COC		24/9/07	24/9/07	--	--						
Laboratory Extraction (Preparation) Date		4/10/07	4/10/07	4/10/07	4/10/07						
Laboratory Analysis Date		5/10/07	5/10/07	4/10/07	4/10/07						
Method : E006.2											
Petroleum Hydrocarbons (TPH)	**EQL**										
C10 - C14 Fraction	50	<50	<50	--	<50						
C15 - C28 Fraction	100	250	13200	87%	<100						
C29 - C36 Fraction	100	780	14700	--	<100						
Sum of TPH C10 - C36	--	1030	27900	--	--						

Results expressed in mg/kg dry weight unless otherwise specified

Comments:

E006.2: 8-10g soil extracted with 20ml DCM/Acetone (8:2). Analysis by GC/FID.

Final
Certificate of Analysis

Laboratory Identification		**118010**	**118011**	**118012**	**lcs**	**mb**					
Sample Identification		SS03	SS04	SS05	QC	QC					
Depth (m)		0.1	0.1	0.1	--	--					
Sampling Date recorded on COC		24/9/07	24/9/07	24/9/07	--	--					
Laboratory Extraction (Preparation) Date		4/10/07	4/10/07	4/10/07	4/10/07	4/10/07					
Laboratory Analysis Date		5/10/07	5/10/07	5/10/07	5/10/07	5/10/07					
Method : E007.2											
Polyaromatic Hydrocarbons (PAH)	**EQL**										
Naphthalene	0.5	<0.5	<0.5	<0.5	113%	<0.5					
Acenaphthylene	0.5	<0.5	2.9	<0.5	110%	<0.5					
Acenaphthene	0.5	<0.5	<0.5	<0.5	111%	<0.5					
Fluorene	0.5	<0.5	<0.5	<0.5	110%	<0.5					
Phenanthrene	0.5	<0.5	0.5	<0.5	108%	<0.5					
Anthracene	0.5	<0.5	3.3	<0.5	111%	<0.5					
Fluoranthene	0.5	<0.5	22.3	<0.5	111%	<0.5					
Pyrene	0.5	<0.5	62.2	<0.5	113%	<0.5					
Benz(a)anthracene	0.5	<0.5	12.3	<0.5	110%	<0.5					
Chrysene	0.5	<0.5	23.3	<0.5	111%	<0.5					
Benzo(b)&(k)fluoranthene	1	<1	62	<1	110%	<1					
Benzo(a) pyrene	0.5	<0.5	16.4	<0.5	113%	<0.5					
Indeno(1,2,3-c,d)pyrene	0.5	<0.5	10.3	<0.5	114%	<0.5					
Dibenz(a,h)anthracene	0.5	<0.5	3.8	<0.5	112%	<0.5					
Benzo(g,h,i)perylene	0.5	<0.5	9.1	<0.5	113%	<0.5					
Sum of reported PAHs	--	--	228.4	--	--	--					
2-FBP (Surr @ 5mg/kg)	--	*88%*	*90%*	*89%*	*100%*	*95%*					
TP-d14 (Surr @ 5mg/kg)	--	*80%*	*94%*	*82%*	*100%*	*99%*					

Results expressed in mg/kg dry weight unless otherwise specified

Comments: -

E007.2: 8-10g soil extracted with 20ml DCM/acetone (8:2). Analysis by GC/MS.

Laboratory Identification		**118010**	**118011**	**118012**	**lcs**	**mb**					
Sample Identification		SS03	SS04	SS05	QC	QC					
Depth (m)		0.1	0.1	0.1	--	--					
Sampling Date recorded on COC		24/9/07	24/9/07	24/9/07	--	--					
Laboratory Extraction (Preparation) Date		4/10/07	4/10/07	4/10/07	4/10/07	4/10/07					
Laboratory Analysis Date		5/10/07	5/10/07	5/10/07	5/10/07	5/10/07					
Method : E008.2											
Phenols by GC/MS	**EQL**										
Phenol	0.5	<0.5	<0.5	<0.5	104%	<0.5					
2-chlorophenol	0.5	<0.5	<0.5	<0.5	109%	<0.5					
2-methylphenol	0.5	<0.5	<0.5	<0.5	112%	<0.5					
3-&4-methylphenol	1.0	<1.0	<1.0	<1.0	112%	<1.0					
2-nitrophenol	0.5	<0.5	<0.5	<0.5	106%	<0.5					
2,4-dimethylphenol	0.5	<0.5	<0.5	<0.5	112%	<0.5					
2,4-dichlorophenol	0.5	<0.5	<0.5	<0.5	106%	<0.5					
4-chloro-3-methylphenol	0.5	<0.5	<0.5	<0.5	108%	<0.5					
2,4,6-trichlorophenol	0.5	<0.5	<0.5	<0.5	104%	<0.5					
2,4,5-trichlorophenol	0.5	<0.5	<0.5	<0.5	106%	<0.5					
Pentachlorophenol	1	<1	<1	<1	83%	<1					
Sum of reported phenols	--	--	--	--	--	--					
2-FP (Surr @ 5mg/kg)	--	*82%*	*90%*	*89%*	*98%*	*91%*					
Phenol-d5 (Surr @ 5mg/kg)	--	*86%*	*84%*	*83%*	*99%*	*91%*					
2,4,6-TBP (Surr @ 5mg/kg)	--	*87%*	*88%*	*74%*	*98%*	*83%*					

Results expressed in mg/kg dry weight unless otherwise specified

Comments:

E008.2: 8-10g soil extracted with 20ml DCM/acetone (8:2). Analysis by GC/MS.

Final
Certificate of Analysis

Laboratory Identification		**118008**	**118009**	**118010**	**118011**	**lcs**	**mb**				
Sample Identification		SS01	SS02	SS03	SS04	QC	QC				
Depth (m)		0.1	0.05	0.1	0.1	--	--				
Sampling Date recorded on COC		24/9/07	24/9/07	24/9/07	24/9/07	--	--				
Laboratory Extraction (Preparation) Date		4/10/07	4/10/07	4/10/07	4/10/07	4/10/07	4/10/07				
Laboratory Analysis Date		6/10/07	6/10/07	6/10/07	6/10/07	4/10/07	4/10/07				
Method : E013.2											
Organochlorine Pesticides (OC)	**EQL**										
a-BHC	0.05	<0.05	<0.05	<0.05	<0.05	89%	<0.05				
Hexachlorobenzene	0.05	<0.05	<0.05	<0.05	<0.05	96%	<0.05				
b-BHC	0.05	<0.05	<0.05	<0.05	<0.05	98%	<0.05				
g-BHC (Lindane)	0.05	<0.05	<0.05	<0.05	<0.05	98%	<0.05				
d-BHC	0.05	<0.05	<0.05	<0.05	<0.05	103%	<0.05				
Heptachlor	0.05	<0.05	<0.05	<0.05	<0.05	91%	<0.05				
Aldrin	0.05	<0.05	<0.05	<0.05	<0.05	91%	<0.05				
Heptachlor epoxide	0.05	<0.05	<0.05	<0.05	<0.05	99%	<0.05				
trans-chlordane	0.05	<0.05	<0.05	<0.05	<0.05	92%	<0.05				
Endosulfan I	0.05	<0.05	<0.05	<0.05	<0.05	88%	<0.05				
cis-chlordane	0.05	<0.05	<0.05	<0.05	<0.05	88%	<0.05				
Dieldrin	0.05	<0.05	<0.05	<0.05	3.7	93%	<0.05				
4,4-DDE	0.05	<0.05	<0.05	<0.05	<0.05	94%	<0.05				
Endrin	0.05	<0.05	<0.05	<0.05	<0.05	95%	<0.05				
Endosulfan II	0.05	<0.05	<0.05	<0.05	<0.05	94%	<0.05				
4,4-DDD	0.05	<0.05	<0.05	<0.05	<0.05	105%	<0.05				
Endosulfan sulphate	0.05	<0.05	<0.05	<0.05	<0.05	97%	<0.05				
4,4-DDT	0.2	<0.2	<0.2	<0.2	<0.2	74%	<0.2				
Methoxychlor	0.2	<0.2	<0.2	<0.2	<0.2	83%	<0.2				
DBC (Surr @ 0.2mg/kg)	--	*78%*	*93%*	*70%*	*112%*	*101%*	*100%*				

Results expressed in mg/kg dry weight unless otherwise specified

Comments: -

E013.2: 8-10g soil extracted with 20ml hexane/acetone (1:1). Analysis by GC/dual ECD.

Laboratory Identification		**118008**	**118009**	**118010**	**118011**	**lcs**	**mb**				
Sample Identification		SS01	SS02	SS03	SS04	QC	QC				
Depth (m)		0.1	0.05	0.1	0.1	--	--				
Sampling Date recorded on COC		24/9/07	24/9/07	24/9/07	24/9/07	--	--				
Laboratory Extraction (Preparation) Date		4/10/07	4/10/07	4/10/07	4/10/07	4/10/07	4/10/07				
Laboratory Analysis Date		6/10/07	6/10/07	6/10/07	6/10/07	6/10/07	6/10/07				
Method : E014.2											
Organophosphorus Pesticides (OP)	**EQL**										
Dichlorvos	0.5	<0.5	<0.5	<0.5	<0.5	112%	<0.5				
Mevinphos (Phosdrin)	0.5	<0.5	<0.5	<0.5	<0.5	83%	<0.5				
Demeton (total)	1	<1	<1	<1	<1	108%	<1				
Ethoprop	0.5	<0.5	<0.5	<0.5	<0.5	106%	<0.5				
Monocrotophos	0.5	<0.5	<0.5	<0.5	<0.5	100%	<0.5				
Phorate	0.5	<0.5	<0.5	<0.5	<0.5	104%	<0.5				
Dimethoate	0.5	<0.5	<0.5	<0.5	<0.5	107%	<0.5				
Diazinon	0.5	<0.5	<0.5	<0.5	<0.5	106%	<0.5				
Disulfoton	0.5	<0.5	<0.5	<0.5	<0.5	116%	<0.5				
Methyl parathion	0.5	<0.5	<0.5	<0.5	<0.5	104%	<0.5				
Ronnel	0.5	<0.5	<0.5	<0.5	<0.5	109%	<0.5				
Fenitrothion	0.5	<0.5	<0.5	<0.5	<0.5	105%	<0.5				
Malathion	0.5	<0.5	<0.5	<0.5	<0.5	114%	<0.5				
Chlorpyrifos	0.5	<0.5	<0.5	<0.5	<0.5	107%	<0.5				
Fenthion	0.5	<0.5	<0.5	<0.5	<0.5	125%	<0.5				
Parathion	0.5	<0.5	<0.5	<0.5	<0.5	114%	<0.5				
Stirofos	0.5	<0.5	<0.5	<0.5	<0.5	105%	<0.5				
Prothiofos	0.5	<0.5	<0.5	<0.5	<0.5	108%	<0.5				
Azinophos methyl	0.5	<0.5	<0.5	<0.5	<0.5	103%	<0.5				
Coumaphos	0.5	<0.5	<0.5	<0.5	<0.5	114%	<0.5				
TPP (Surr @ 2mg/kg)	--	*98%*	*95%*	*96%*	*100%*	*103%*	*100%*				

Results expressed in mg/kg dry weight unless otherwise specified

Comments:

E014.2: 8-10g soil extracted with 20ml hexane/acetone (1:1). Analysis by GC/MSD.

Laboratory Identification		**118012**	**crm**	**lcs**	**mb**						
Sample Identification		SS05	QC	QC	QC						
Depth (m)		0.1	--	--	--						
Sampling Date recorded on COC		24/9/07	--	--	--						
Laboratory Extraction (Preparation) Date		4/10/07	4/10/07	4/10/07	4/10/07						
Laboratory Analysis Date		8/10/07	4/10/07	4/10/07	4/10/07						
Method : E026.2											
Acid extractable mercury	**EQL**										
Mercury	0.05	*<0.1	103%	83%	<0.05						

Results expressed in mg/kg dry weight unless otherwise specified

Comments: *EQL increased due to matrix interference.

E026.2: 0.5g digested with nitric/hydrochloric acid. Analysis by CV-ICP-MS or FIMS.

Laboratory Identification		**118008**	**118009**	**118011**	**118012**	**crm**	**lcs**	**mb**			
Sample Identification		SS01	SS02	SS04	SS05	QC	QC	QC			
Depth (m)		0.1	0.05	0.1	0.1	--	--	--			
Sampling Date recorded on COC		24/9/07	24/9/07	24/9/07	24/9/07	--	--	--			
Laboratory Extraction (Preparation) Date		4/10/07	4/10/07	4/10/07	4/10/07	4/10/07	4/10/07	4/10/07			
Laboratory Analysis Date		5/10/07	5/10/07	5/10/07	5/10/07	4/10/07	4/10/07	4/10/07			
Method : E022.2											
Acid extractable metals	**EQL**										
Arsenic	1	<1	1	<1	2	109%	94%	<1			
Cadmium	0.1	--	--	--	0.2	102%	92%	<0.1			
Chromium	1	--	--	--	38	121%	103%	<1			
Copper	2	--	--	--	47	115%	94%	<2			
Lead	2	--	--	--	60	107%	100%	<2			
Nickel	1	--	--	--	29	108%	93%	<1			
Zinc	5	--	--	--	344	119%	92%	<5			

Results expressed in mg/kg dry weight unless otherwise specified

Comments:

E022.2: 0.5g digested in nitric/hydrochloric acid. Analysis by ICP-MS.

Laboratory Identification		**118011**	**lcs**	**mb**							
Sample Identification		SS04	QC	QC							
Depth (m)		0.1	--	--							
Sampling Date recorded on COC		24/9/07	--	--							
Laboratory Extraction (Preparation) Date		4/10/07	4/10/07	4/10/07							
Laboratory Analysis Date		8/10/07	8/10/07	8/10/07							
Method : E043.2/E057.2											
Speciated Chromium	**EQL**										
Hexavalent Chromium	1	1	89%	<1							

Results expressed in mg/kg dry weight unless otherwise specified

Comments: -

E043.2/E057.2: Alkaline digestion followed by determination by colour.

Laboratory Identification		**118008**	**118009**	**118010**	**118011**	**118012**					
Sample Identification		SS01	SS02	SS03	SS04	SS05					
Depth (m)		0.1	0.05	0.1	0.1	0.1					
Sampling Date recorded on COC		24/9/07	24/9/07	24/9/07	24/9/07	24/9/07					
Laboratory Extraction (Preparation) Date		4/10/07	4/10/07	4/10/07	4/10/07	4/10/07					
Laboratory Analysis Date		5/10/07	5/10/07	5/10/07	5/10/07	5/10/07					
Method : E005.2											
Moisture	**EQL**										
Moisture	--	6	21	13	13	7					

Results expressed in % w/w unless otherwise specified

Comments:

E005.2: Moisture by gravimetric analysis. Results are in % w/w.

AUSTRALIAN SAFER ENVIRONMENT & TECHNOLOGY PTY LTD

ABN 36 088 095 112

Our ref : ASET 13265/ 16445 / 1 - 1
Your ref: E034319
NATA Accreditation No: 14484

5 October 2007

LABMARK
P O Box 641
Hornsby NSW 1630

Attn: Ms Jakleen El Galada

Dear Jakleen,

Asbestos Identification
This report presents the results of one sample, forwarded by Labmark on 4 October 2007, for analysis for asbestos.

1.Introduction: One sample forwarded was examined and analysed for the presence of asbestos.

2. Methods : The sample was examined under a Stereo Microscope and selected fibres were analysed by Polarized Light Microscopy in conjunction with Dispersion Staining method **(Safer Environment Method 1.)**

3. Results : **Sample No. 1. ASET 13265 / 16445 / 1. E034319 - 118013 - AS01.**
Approx dimensions 2,0 cm x 1.5 cm x 0.5 cm
The sample consisted of a fragment of a fibro plaster cement material.
Chrysotile asbestos, Amosite asbestos and Crocidolite asbestos detected.

Analysed and reported by,

Karu Jayasundara. BSc (Hons) MAus IMM.
Mineralogist / Chartered Professional of Geology
Approved Signatory/ Approved Identifier.

NATA
WORLD RECOGNISED ACCREDITATION

This document is issued in accordance with NATA's Accreditation requirements.
Accredited for compliance with ISO/IEC 17025.

Quality, Service, Support

Report Date : 4/10/2007
Report Time : 10:40:33AM

Sample **Receipt** Notice (SRN) for **E034319**

Client Details		Laboratory Reference Information	
Client Name:	ERM Australia Pty Limited	**Please have this information ready when contacting Labmark.**	
Client Phone:	02 6584 7155		
Client Fax:	02 6584 7160	**Laboratory Report:**	**E034319**
Contact Name:	Rachael King	**Quotation Number:**	- Not provided, standard prices apply
Contact Email:	rachael.king@erm.com	**Laboratory Address:**	Unit 1, 8 Leighton Pl. Asquith NSW 2077
Client Address:	PO Box 5711 Port Macquarie NSW 2444	**Phone:**	61 2 9476 6533
		Fax:	61 2 9476 8219
Project Name:	Rainbow beach phase 1	**Sample Receipt Contact:**	Jakleen El Galada
Project Number:	0072982	**Email:**	jakleen.galada@labmark.com.au
CoC Serial Number:	- Not provided -	**Reporting Contact:**	Jyothi Lal
Purchase Order:	- Not provided -	**Email:**	jyothi.lal@labmark.com.au
Surcharge:	No surcharge applied (results by 6:30pm on due date)		
Sample Matrix:	SOIL		

Date Sampled (earliest date):	24/09/2007	**NATA Accreditation:**	13542
Date Samples Received:	03/10/2007	**TGA GMP License:**	185-336 (Sydney)
Date Sample Receipt Notice issued:	04/10/2007	**APVMA License:**	6105 (Sydney)
Date Preliminary Report Due:	09/10/2007	**AQIS Approval:**	NO356 (Sydney)
		AQIS Entry Permit:	200521534 (Sydney)

Reporting Requirements: Electronic Data Download required: Yes

Invoice Number: 28424

Sample Condition: COC received with samples. Report number and lab ID's defined on COC.
Samples received in good order .
Samples received with cooling media: No cooling media .
Samples received chilled.
Security seals not required. Direct Labmark's custody taken .
Sample container & chemical preservation suitable .

Comments: Asbestos Subcontracted out to ASET

Holding Times: Date received allows for sufficient time to meet Technical Holding Times.

Preservation: Chemical preservation of samples satisfactory for requested analytes.

Important Notes:
LabMark shall responsibly dispose of spent customer soil and water samples which includes the disintegration of the sample label. A sample disposal fee of $1.00 is applicable on all samples received by the laboratory regardless of whether they have undergone analytical testing. Sample disposal of environmental samples shall be 31 days (water) and 3 months (soil, HN03 preserved samples) after laboratory receipt, unless otherwise requested in writing by the client. Samples requested to be held in non-refrigerated storage shall incur $5.00/ sample/ 3 months. Additional refrigerated storage shall incur $30/ sample/ 3 months. Combination prices apply only if requested. Transfer of report ownership from LabMark to the client shall occur once full and final payment has been settled and verified. All report copies may be retracted where full payment does not occur within the agreed settlement period.

Analysis comments:

Subcontracted Analyses:
Reported by Aust. Safer Env & Tech., NATA accreditation No. 14484

Thank you for choosing Labmark to analyse your project samples.
Additional information on www.labmark.com.au

Report Date : 4/10/2007
Report Time : 10:40:33AM

Quality, Service, Support

Sample **Receipt** Notice (SRN) for **E034319**

The table below represents LabMark's understanding and interpretation of the customer supplied sample COC request (refer to SRN comments section on first page for external subcontracting method details). Please confirm that your COC request has been entered correctly. Due to THT and TAT requirements, testing shall commence immediately as per this table, unless the customer intervenes with a correction prior to testing.

GRID REVIEW TABLE

No.	Date	Depth	Client Sample ID	Requested Analysis: Speciated Chromium	Acid extractable mercury	Acid extractable metals	Moisture	Organochlorine Pesticides (OC)	Organophosphorus Pesticides (OP)	Polyaromatic Hydrocarbons (PAH)	Phenols by GC/MS	PREP Not Reported	Petroleum Hydrocarbons (TPH)	Volatile TPH by P&T (vTPH)	External Not reported- Asbestos								
118008	24/09	0.1	SS01			●	●	●	●			●											
118009	24/09	0.05	SS02			●	●	●	●			●											
118010	24/09	0.1	SS03				●	●	●	●	●	●	●	●									
118011	24/09	0.1	SS04	●		●	●	●	●	●	●	●											
118012	24/09	0.1	SS05		●	●	●			●	●	●	●	●									
118013	24/09		AS01									●			●								
			Totals:	1	1	4	5	4	4	3	3	6	2	2	1								

'PREP Not Reported' refers to an internal laboratory instruction - client confirmation of this parameter is not required.

Thank you for choosing Labmark to analyse your project samples.
Additional information on www.labmark.com.au

Quality, Service, Support

Report Date : 4/10/2007
Report Time : 10:40:33AM

Sample **Receipt** Notice (SRN) for **E034319**

No.	Date	Depth	Client Sample ID	Requested Analysis: M8 - MET-T_S	MET-T_S Arsenic
118008	24/09	0.1	SS01		●
118009	24/09	0.05	SS02		●
118011	24/09	0.1	SS04		●
118012	24/09	0.1	SS05	●	
			Totals:	1	3

Thank you for choosing Labmark to analyse your project samples.
Additional information on www.labmark.com.au

E0341319

ERM

North Coast: Suite 3, 146 Gordon Street, Port Maquarie, NSW, 2444. (ph) 02 6584 7155 (fax) 02 6584 7160

Project No: 0072982
Project Name: Rainbow Beach Phase 1
Project Location: Rainbow Beach
Project Manager: Rachael King
Sampler: Rachael King

COC Number:

Laboratory: Labmark

General Analysis Requirements

1. Turn Around Time (please tick: ☐ 1 Day ☐ 2 Day ☐ 3 Day ☑ Normal TAT) — Yes (tick)
2. Do you wish any sediment layers in water to be excluded from extractions ?
3. Additional QA/QC reported where sample batches are < 10 samples ?
4. % of of extraneous material removed from samples to be reported as per NEPM 5.5.1 ?

Laboratory Number	Sample ID	Sample Depth	Sample date	Sample Time	Matrix: Soil	Matrix: Water	Matrix: Other	Preservation: Ice	Preservation: Acid	Preservation: Filter	Preservation: Other	Containers (number/type)	BTEX	TPH (C6-C9 P & T) + TPH (C10-C36)	Speciated TPH	VOC Scan (USEPA 8260 List)	OC OP Pesticides	PAH	Phenols	PCB	metals* (dissolved / total)	Arsenic	Asbestos	Chromium 6+				HOLD				Other Comments on sample (eg: high voc, highly contaminated, special detection limits etc etc
118008	SS01	0.1	24.9.07	PM	X			X				1 Jar					X					X										
118009	SS02	~~0.05~~ 0.05	24.9.07	PM	X			X				1 Jar					X					X										
118010	SS03	0.1	24.9.07	PM	X			X				1 Jar		X			X	X	X													
118011	SS04	0.1	24.9.07	PM	X			X				1 Jar					X	X	X			X		X								
118012	SS05	0.1	24.9.07	PM	X			X				1 Jar																				
														X				X	X	X												
118013	AS01	N/A	24.9.07	PM			X					bag											X									

Comments:

* Metals (circle): As Cd Cr Cu Hg Ni Pb Zn

Relinquished by:	RKing	Signed:	Rachael King	Date/Time:	2/10/07	Received by:	Date/Time: 05/10/07
Relinquished by:		Signed:		Date/Time:		Received by:	Date/Time:

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