

Parkside at Terrigal Phase 1 Environmental Site Assessment

Crighton Properties Pty Limited October 2008 0050265ESA Final

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Environmental Resources N	Aanagement Australia Pty Ltd Quality System

Parkside at Terrigal *Phase 1 Environmental Site Assessment*

Crighton Properties Pty Limited October 2008 0050265ESA Final

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1 INTRODUCTION

1.1 GENERAL

Crighton Properties Pty Ltd (Crighton Properties) have sought Project Application and Concept Plan approval to create a "Hi Tech Home Based Business Park" designed to bring significant numbers of jobs to the Terrigal area within a high quality, low environmental impact development. A significant part of the site (18 hectares) is proposed to be dedicated at no cost to Council so that it can be incorporated into the adjoining Coastal Open Space System.

Environmental Resources Management Australia Pty Ltd (ERM) has been engaged by Crighton Properties to prepare a Phase 1 Environmental Site Assessment (ESA) for the site which comprises Lots 2 DP 155116, Lots 8 & 9 DP 876102, Lot 202, DP 831864, Lot 4 DP 37914 and Lot 1, DP 381971 (see *Figure 2* in *Annex A* for site boundary).

1.2 OBJECTIVE

In accordance with the NSW EPA Guidelines for Consultants Reporting on Contaminated Sites (*Ref 1; Annex B*) the objective of the Environmental Site Assessment was to:

- identify all past and present potentially contaminating activities;
- identify potential contamination types;
- discuss the site condition;
- provide a preliminary assessment of site contamination; and
- assess the need for further investigations.

1.3 SCOPE OF WORKS

In order to meet the above objectives ERM undertook the following scope of works:

- a site history review including historical land titles and aerial photographs;
- a review of site geology, hydrology, hydrogeology (including a desktop search of the DIPNR groundwater bore data base) and topography information for the site; and
- a site inspection for potential sources of contamination (e.g. current and former land uses etc).

BACKGROUND INFORMATION

Site Identification	Parkside
Site Location	Terrigal
Property Description	Lot 202 DP 831864
	Lot 9 DP 876102
	Lot 8 DP 876102
	Lot 2 DP 1111392
	Lot 4 DP 37914
	Lot 1 DP381971
Site Area	47.4 hectares (approximately)
Current Zoning Lot 202 DP 831864	7 (c2) scenic protection - rural small holding
Current Zoning Lot 9 DP 876102	7 (c2) scenic protection - rural small holding
Current Zoning Lot 8 DP 876102	7 (c2) scenic protection - rural small holding
Current Zoning Lot 2 DP 1111392	7 (c2) scenic protection - rural small holding
Current Zoning Lot 4 DP 37914	7 (c2) scenic protection – rural small holding (north- western part)
	7 (a) conservation (south-eastern part)
Current Zoning Lot 1 DP381971	7 (c2) scenic protection – rural small holding (northern part)
	7 (a) conservation (southern part)
Current Ownership Lot 202 DP 831864	Crighton Properties Pty Limited
Current Ownership Lot 9 DP 876102	John Michael Olzomer & Pamela Ann Olzomer
Current Ownership Lot 8 DP 876102	John Michael Olzomer & Pamela Ann Olzomer
Current Ownership Lot 2 DP 1111392	Abel & Barbara Morrell
Current Ownership Lot 4 DP 37914	Crighton Properties Pty Limited
Current Ownership Lot 1 DP381971	Crighton Properties Pty Limited

Table 2.1Phase 1 ESA - Parkside - Site Identification

2

2.1 SITE LOCATION

The Parkside at Terrigal (the site) is located south of Kings Avenue, Terrigal, NSW 2260, Australia (*Figure 1, Annex A*).

Access to the site is via a Kings Avenue. The site is currently mostly vacant and has a total area of approximately 47.4 hectares.

2.2 ADJACENT LAND USE

The site is bounded by Kings Avenue to the north and residential properties east and west.

In the immediate vicinity of the site there are:

- North: Kings Avenue and residential properties north of the street;
- West: Residential properties in Windemere Drive and bushland;
- South: bushland directly adjacent and residential buildings; and

East: residential properties aligning Belar Avenue.

The nearest surface water bodies are two small lakes on the site which drain to the northeast into the Terrigal lagoon via a small creek and Avoca Lake which is located approximately 1.5 km to the south east of the site.

3 SITE HISTORY

3.1 ZONING

The site is currently zoned 7(a) and 7(c2) under the provisions of the Gosford Interim Development Order No 122, however, none of the 7(a) area is proposed to be rezoned. Under the provisions of the Gosford IDO No 122, subdivision of land is a permissible land use. The potential exists under the current zoning regime to subdivide the site into approximately 20 rural/residential allotments.

It is proposed to rezone part of the site from 7(c2) to part 2 (a) Residential and part 7(c2) Rural Residential. An enabling clause is also proposed to facilitate a home based business park. The development will be designed for leading edge environmental performance with waste water recycling and design requirements for maximum energy efficiency. A significant part of the site (18 hectares) is proposed to be dedicated at no cost to Council so that it can be incorporated into the adjoining Coastal Open Space System.

A figure showing the current zoning on the site (*Figure 2* and *Figure 4*) is provided in *Annex A*.

3.2 PRIOR SITE USES

Prior site uses have been identified by review of Historical Title Search results for three of the six Lots, selected as being representative of the prior site uses. The title search was conducted by Advance Legal Search Pty Ltd. Details of the search have been summarized in *Table 3.1* and are included in *Annex C*.

Table 3.1Phase 1 ESA- Parkside - Historical Title Search of selected Lots

Date	Title Details
1993 – to date	Lot 202 DP 831864 Crighton Properties Pty Limited Lot 104 DP 430463
1993 - 1993	Crighton Properties Pty Limited
1988 - 1993 1978 - 1988 1974 - 1978	Part Portion 104 Parish Kincumber – Area 40 Acres 1 Rood 15 ½ Perches – CTVol 5281 Fol 182 Crighton Properties Pty Limited John Francis Sparrow, accountant & Jean Sparrow Reginald Rex Hart, plumber & Lola Marie Schmidt, married woman
1941 - 1974	Irene Margretta Hart, music teacher / spinster
	Portions 104 & 108 Parish Kincumber – Area 80 Acres 2 Rood 31 Perches – CTVol 1892 Fol 201
1925 - 1941	Margretta Sophia Hart, widow
1908 - 1925	Henry Dose, cooper
1911 - 1917	Alfred George Aldrick, orchardist

Date	Title Details
	Lot 9 DP 876102
1998 - todate	John Michael Olzomer, builder & Pamela Ann Olzomer
	Lot 15 DP 873969
1998 - 1998	John Michael Olzomer, builder & Pamela Ann Olzomer
	Lot 6 DP 37914
1988 - 1998	John Michael Olzomer, builder & Pamela Ann Olzomer
	Lot 6 DP 37914 - CTVol 14240 Fol 183
1984 - 1988	John Michael Olzomer, builder & Pamela Ann Olzomer
1983 - 1984	Roy Dale Parker
1980 - 1983	Thomas Frederick King, retired
	Part Lot 5 & Lot 6 of the Bellbird Estate - Area 14 Acres 3 Roods 18
	Perches
1941 - 1980	Thomas Frederick King, farmer
1941 - 1941	Arthur Oliver Harrigan, farmer
1941 - 1941	Commercial Bank of Australia Limited
	Part Portion 103 Parish Kincumber – Area 64 Acres 0 Roods 16 Perches
1927 – 1941	Victor Eric Wilson, orchardist
1920 - 1927	Rachel Wilson, widow
1917 - 1920	Victor Eric Wilson, orchardist
1911 - 1917	Alfred George Aldrick, orchardist
	Lot 1 DP 155116 - Area 4 Acres 3 Roods 5 Perches
1984 - 1998	John Michael Olzomer, builder & Pamela Ann Olzomer
1982 - 1984	Roy Dale Parker, executor
	Part Lot 5 & Lot 6 of the Bellbird Estate – Area 14 Acres 3 Roods 18
	Perches
1941 - 1982	Thomas Frederick King, farmer
1941 - 1941	Arthur Oliver Harrigan, farmer
1941 - 1941	Commercial Bank of Australia Limited
	Part Portion 103 Parish Kincumber – Area 64 Acres 0 Roods 16 Perches
1927 – 1941	Victor Eric Wilson, orchardist
1920 - 1927	Rachel Wilson, widow
1917 - 1920	Victor Eric Wilson, orchardist
1911 - 1917	Alfred George Aldrick, orchardist
	Lot 4 DP 37914
1992 – todate	Crighton Properties Pty Limited
1989 - 1992	Norma Lynette Gee
1988 - 1989	Reginald Norman King, orchard hand
1045 1099	Lot 4 & Part Lot 5 of Bellbird Estate – Area 24 Acres 3 Roods 28 Perches
1945 - 1988 1941 - 1945	Reginald Norman King, farmer
1941 - 1943	Geoffrey Riderick Michelsen, farmer Part Portion 103 Parish Kincumber & other lands
1941 - 1941	Arthur Oliver Harrigan, farmer
1941 - 1941	Commercial Bank of Australia Limited
-	Part Portion 103 Parish Kincumber – Area 64 Acres 0 Roods 16 Perches
1927 - 1941	Victor Eric Wilson, orchardist
1920 - 1927	Rachel Wilson, widow
1917 - 1920	Victor Eric Wilson, orchardist

3.3 AERIAL PHOTOGRAPHS

A summary of all historical aerial photography of the site available from the NSW Department of Lands is provided in *Table 3.2.* A selection of these photographs was reviewed for this assessment and the reviewed photographs are reproduced in *Annex E*.

No evidence of significant development can be identified on current aerial photographs of the site. Only residential properties are located in the northern part of the site. A current aerial photograph of the site is provided as *Figure 1; Annex E.*

On the earliest assessed aerial photograph from 1954 the whole site was covered by bush and trees and some areas in the north-eastern part of the site were cleared of substantial growth. No plantations or evidence of other agriculture could be identified on the aerial photograph.

The aerial photograph from 1980 shows that some additional area in the northern part of the site was cleared and a small pond / dam had been created in the north-eastern part of the site. No plantations or evidence of other agriculture could be identified on the aerial photograph. With exception of 1-2 buildings with unknown use in the north-eastern part of the site no buildings or other structures could be recognised on this photograph.

In the aerial photograph from 1985 it can be seen that more trees had been cleared in the north-western part of the site since the 1980 photo. The remainder of the site remained unchanged with exception of an additional pond / dam installed north of the existing one in the north-eastern part of the site. Two additional buildings / structures were constructed in the north-eastern part of the site. No other buildings or other structures could be recognised on the remainder of the site on this photograph.

On review of recent aerial photography on Google Earth, it can be seen that some regeneration of growth has occurred on an area previously cleared in the northern centre of the site. No additional buildings or structures could be recognised on this photograph.

The site has been substantially cleared of vegetation in the timeframe that passed between the earliest reviewed aerial photograph and the present. The land does not appear to have been used in the intervening period. There is no evidence of market gardening, cropping, or other high-intensity agriculture having taken place on the site.

Location	Year	Scale	Format ¹	reviewed
GOSFORD	2002	25000	COL	No
GOSFORD	1994	25000	COL	No
GOSFORD	1991	25000	COL	No
GOSFORD	1986	16000	COL	Yes
GOSFORD	1984	40000	BW	No
GOSFORD	1982	16000	COL	No
GOSFORD	1980	60500	BW	Yes
GOSFORD	1975	40000	BW	No
GOSFORD	1971	59000	BW	No
GOSFORD	1966	38000	BW	No
GOSFORD	1954	40000	BW	Yes
1 COL = colour; B	W = black & w	hite		

Table 3.2Available Aerial Photographs

3.4 GROUNDWATER BORE SEARCH

ERM conducted a search of the NSW Department of Infrastructure, Planning and Natural Resources (DIPNR) groundwater bore database, for all licensed bores located within a 2.0 km radius of the investigation site. A total of nine bores are located in the vicinity of the site. In total three monitoring bores are located north west of the site, one is located northeast and five are located south of the site and are classified as either domestic stock and irrigation bores, domestic use or test bores.

The locations of the bores are provided in *Figure 3, Annex A*.

3.5 POTENTIALLY CONTAMINATING ACTIVITIES

The review of the title search and aerial photographs did not result in the identification of potentially contaminating activities for this site.

3.6 RELEVANT LEGISLATION

The Gosford City Council (GCC) Section 149 Planning Certificate for the site, issued in accordance with the Environmental Planning and Assessment Act 1979 (*Ref 3, Annex B*), states that a number of State Environmental Planning Policies apply to the site. Of these, one has particular relevance to this assessment:

• SEPP 55 – Remediation of Contaminated Land.

No evidence has been observed during the undertaking of the current Phase 1 ESA, that past or present site uses are either in breach or would require that the above SEPP be actioned to ensure compliance.

4 SITE CONDITION AND SURROUNDING ENVIRONMENT

4.1 REGIONAL GEOLOGY

According to the geological map of Sydney 1:250,000 Geological Series Sheet S1 56-5 third edition (1966), the site is underlain by Triassic sand- and siltstones of the Gosford formation which were deposited in a fluvial inchannel and floodplain environmental setting. The Gosford Formation has an approximate thickness of 210metres. Although unlikely, it cannot be excluded that fill material is present on the site.

The Acid Sulphate Soil Risk Map from the Gosford Council show that the site is located in an area where there is a very low probability of acid soil materials occurring between one and three metres below the ground surface.

A geotechnical assessment performed by Coffey Geotechnics¹ was carried out in early 2008 to assess the suitability of the site for the proposed residential subdivision with respect to slope stability. The report draws the conclusion that "no significant areas of instability were noted over the area" and that " based on the results of this assessment it is considered [by Coffeys] that the land is generally suitable for the type of urban use proposed subject to the geotechnical constraints on the development". The report details constraints on road excavation design, fill embankments, building platforms, retaining walls, drainage and sewage disposal.

4.2 REGIONAL TOPOGRAPHY

The site is situated in an area of moderate to steeply undulating terrain on the north eastern end of a prominent south west trending ridgeline. Two gullies originate at the upper slopes and drain towards the north of the site, which is low lying.

The site is located within an elongated valley running east to west and is generally characterised by residential development on the valley floor and lower slopes while the upper slopes are more vegetated. The site is located at approximately 50 m Australian Height Datum (AHD).

¹ Coffey Geotechnics (13 Feb 2008): Proposed Subdivision at Kings Ave Terrigal (Document Number: GEOTKARI02083AA-AC

4.3 REGIONAL CLIMATE

Information regarding the regional climate was obtained from the Bureau of Meteorology. The nearest weather station is located at Gosford (Gosford / Narara Research Station / Site number 061087). The mean maximum temperature ranged between 27.5°C in January and 17.5 °C in July. The average annual maximum temperature is 23.0°C and the respective minimum temperature is 11.4°C. The mean minimum temperature ranged between 17.1°C in February and 4.6°C in July. The highest mean rainfall was recorded for March with 151.2 mm and the lowest mean rainfall was recorded for September with 67.3mm. The average annual rainfall is 1318.0 mm.

4.4 REGIONAL HYDROGEOLOGY

No groundwater assessment for the site has been performed in the past and no detailed groundwater information was available for this assessment.

4.5 SURFACE WATER

Two small creeks drain the northern part of the site and another small creek drains the southern part of the site. The surface water runoff after rainfall events will generally follow the topography and flow to the northern side of the site.

Due to the low lying nature of the northern part of the site the area adjacent to the small creeks is shown as potentially flooded during a 100 year flood event on a map provided by Gosford Council.

4.6 CHEMICALS OF POTENTIAL CONCERN

Based on ERM's knowledge of the site no chemicals of potential concern were identified for the site.

4.7 POTENTIAL SOURCE AREAS

No potential source areas were identified within the site during the course of this assessment.

4.8 POTENTIAL RECEPTORS

For the purpose of this assessment, 'receptors' include persons, structures and utilities, ecological receptors and water supply wells that are, or may be

adversely affected by the chemicals of concern. The potential receptors identified for the site include the following:

- future residents and patrons of facilities;
- on-site workers and patrons;
- off-site residents (adult and child);
- off-site water supply or irrigation wells; and
- the Terrigal Lagoon.

SITE CHARACTERISATION

The Phase 1 ESA which has been undertaken for the site considers the environmental conditions based on three criteria:

- available background information;
- site history; and
- the conditions of the site and surrounding environment.

Based on the information reviewed it is considered that the assessment objectives detailed in *Section 1.2* have been met for the site.

Generally the site was assessed as being free of potential contaminants or past and present contaminating activities, likely to have a significant adverse impact on human health or the environment. The site, although disturbed in parts by clearing of bushes and trees, is currently free from development. Also no evidence of former development was noted. As the site is largely uncontrolled it cannot be discounted that illegal dumping of potentially contaminating materials has occurred. However, based on the information reviewed it is considered that the potential for such dumping is low.

Potential for existing site contamination therefore is considered to be low and if encountered contamination is likely to be limited in extent to localized zones within the site. Therefore the site is considered to have low potential to adversely effect human health or the environment either on surrounding properties or local receiving waters.

It is not considered that further investigations to assess the site for environmental conditions in accordance with the current assessment objectives, are required prior to the site being developed.

CONCLUSIONS AND RECOMMENDATIONS

The Phase 1 ESA undertaken for the Parkside at Terrigal site has not identified any significant potential for site contamination. Therefore it is concluded that in terms of the objectives of this assessment that the site is suitable for the proposed development. Providing that environmental conditions on the site do not deteriorate due to unforeseen circumstances further investigation to assess the environmental conditions on the site are not recommended.

7 STATEMENT OF LIMITATIONS

The findings of this report are based on the scope of work outlined within this report. ERM performed the services in a manner consistent with the normal level of care and expertise exercised by members of the environmental profession. No warranties, express or implied, are made.

Subject to the scope of work, ERM's assessment is limited strictly to identifying typical environmental conditions associated with the subject property and does not evaluate structural conditions of any buildings on the subject property, nor any other issues. Although normal standards of professional practice have been applied, the absence of any identified hazardous or toxic materials on the subject property should not be interpreted as a guarantee that such materials do not exist on the site.

This assessment is based on desk top review of information provided by Gosford City Council or other people with knowledge of site conditions. All conclusions and recommendations made in the report are the professional opinions of the ERM personnel involved with the project and, while normal checking of the accuracy of data has been conducted, ERM assumes no responsibility or liability for errors in data obtained from regulatory agencies or any other external sources, nor from occurrences outside the scope of this project.

ERM is not engaged in environmental consulting and reporting for the purpose of advertising sales promoting, or endorsement of any client interests, including raising investment capital, recommending investment decisions, or other publicity purposes. The client acknowledges that this report is for the exclusive use of the client and its representatives. The client agrees that ERM's report or correspondences will not be, except as set forth herein, used or reproduced in full or in parts for such promotional purposes, and may not be used or relied upon in any prospectus or offering circular. Notwithstanding delivery of this report by ERM or Crighton Properties to any third party, any copy of this report provided to a third party is provided for informational purposes only, without the right to rely.

Annex A

Figures



Legend	
C112.	Site

				Figure 1
Client:	Crighton Properties	s Pty Ltd		Site Locality Plan
Project:	Parkside Terrigal R Phase I	ezoning Report	-	
Drawing No	: 0050265hv_Phase	I_01		
Date:	13/06/08	Drawing size:	A4	
Drawn by:	JD	Reviewed by:	RME	Environmental Resources Management Australia Pty Ltd
Source:	-			53 Bonville Avenue, Thornton, NSW 2322 Telephone +61 2 4964 2150
Scale:	Refer to Scale Bar			
G _N	0 100)	200m	









Annex B

References

REFERENCES

Environment Protection Authority (EPA) NSW Contaminated Sites (November 1997). Guidelines for Consultants Reporting on Contaminated Sites,

Coffey Geotechnics (13 Feb 2008): **Proposed Subdivision at Kings Ave Terrigal** (Document Number: GEOTKARI02083AA-AC

NSW Government (1979) Environmental Planning and Assessment Act

Annex C

Results of Title, ERM and CLR Searches

ADVANCE LEGAL SEARCH PTY LIMITED

(ACN 077 067 068) ABN 49 077 067 068

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 Telephone:
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 1590

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 Email:
 alsearch@optusnet.com.au

24 June 2008

Environmental Resources Management Australia Pty Ltd PO Box 71, THORNTON NSW 2322

Attention: Robert Meinke

RE:

Kings Avenue TERRIGAL

Note 1:	Lot 202 DP 831864
Note 2:	Lot 9 DP 876102
Note 3:	Lot 4 DP 37914

Note 1:

Current Search

Folio Identifier 202/831864 (attached) DP 831864 (plan attached) Dated 13 June 2008 Registered Proprietor: CRIGHTON PROPERTIES PTY LIMITED

Title Tree Lot 202 DP 831864

Folio Identifier 202/831864

Folio Identifier 104/430463

Certificate of Title Volume 5281 Fol 182

Certificate of Title Volume 1892 Fol 201

Summary of Proprietors Lot 202 DP 831864

Year

101

Proprietor

	(Lot 202 DP 831864)
1993 - todate	Crighton Properties Pty Limited
	(Lot 104 DP 430463)
1993 - 1993	Crighton Properties Pty Limited
-	(Part Portion 104 Parish Kincumber – Area 40 Acres 1 Rood 15 ½ Perches – CTVol 5281 Fol 182)
1988 - 1993	Crighton Properties Pty Limited
1978 - 1988	John Francis Sparrow, accountant
1974 - 1978	Jean Sparrow Reginald Rex Hart, plumber
19/4 - 19/8	Lola Marie Schmidt, married woman
1941 - 1974	Irene Margretta Hart, music teacher / spinster
	(Portions 104 & 108 Parish Kincumber – Area 80 Acres 2 Rood 31 Perches – CTVol 1892 Fol 201)
1925 - 1941	Margretta Sophia Hart, widow
1908 - 1925	Henry Dose, cooper

Note 2:

Current Search

Folio Identifier 9/876102 (attached) DP 876102 (plan attached) Dated 13 June 2008 Registered Proprietor: JOHN MICHAEL OLZOMER PAMELA ANN OLZOMER

Title Tree Lot 9 DP 876102

Folio Identifier 9/876102

Folio Identifier 15/873969

(a)

(b)

Folio Identifier 6/37914

CA 59095

CTVol 14240 Fol 183

Conveyance Book 3594 No 999

1

IVA 50598

Conveyance Book 1898 No 63

Conveyance Book 1893 No 999

Conveyance Book 1460 No 500

Conveyance Book 1111 No 394

Conveyance Book 954 No 463

Summary of Proprietors Lot 9 DP 876102

Year

Proprietor

	(Lot 9 DP 876102)	
1998 - todate	John Michael Olzomer, builder	
	Pamela Ann Olzomer	
	(Lot 15 DP 873969)	_
1998 - 1998	John Michael Olzomer, builder	
	Pamela Ann Olzomer	

See Notes (a) & (b)

Note (a)

	(Lot 6 DP 37914)
1988 - 1998	John Michael Olzomer, builder Pamela Ann Olzomer
	(Lot 6 DP 37914 - CTVol 14240 Fol 183)
1984 - 1988	John Michael Olzomer, builder
1.3303.43	Pamela Ann Olzomer
1983 - 1984	Roy Dale Parker
1980 - 1983	Thomas Frederick King, retired
	(Part Lot 5 & Lot 6 of the Bellbird Estate – Area 14 Acres 3 Roods 18 Perches)
1941 - 1980	Thomas Frederick King, farmer
1941 - 1941	Arthur Oliver Harrigan, farmer
1941 - 1941	Commercial Bank of Australia Limited
	(Part Portion 103 Parish Kincumber – Area 64 Acres 0 Roods 16 Perches)
1927 - 1941	Victor Eric Wilson, orchardist
1920 - 1927	Rachel Wilson, widow
1917 - 1920	Victor Eric Wilson, orchardist
1911 - 1917	Alfred George Aldrick, orchardist

Note (b)

	(Lot 1 DP 155116 - Area 4 Acres 3 Roods 5 Perches)			
1984 - 1998	John Michael Olzomer, builder			
	Pamela Ann Olzomer			
1982 - 1984	Roy Dale Parker, executor			
	(Part Lot 5 & Lot 6 of the Bellbird Estate – Area 14 Acres 3 Roods 18 Perches)			
1941 - 1982	Thomas Frederick King, farmer			
1941 - 1941	Arthur Oliver Harrigan, farmer			
1941 - 1941	Commercial Bank of Australia Limited			
	(Part Portion 103 Parish Kincumber – Area 64 Acres 0 Roods 16 Perches)			
1927 - 1941	Victor Eric Wilson, orchardist			
1920 - 1927	Rachel Wilson, widow			
1917 - 1920	Victor Eric Wilson, orchardist			
1911 - 1917	Alfred George Aldrick, orchardist			

Note 3:

Current Search

Folio Identifier 4/37914 (attached) DP 37914 (plan attached) Dated 13 June 2008 Registered Proprietor: CRIGHTON PROPERTIES PTY LIMITED

Title Tree Lot 4 DP 37914

Folio Identifier 4/37914

Certificate of Title Volume 14255 Fol 175

IVA 50597

Conveyance Book 1970 No 948

Conveyance Book 1898 No 64

Conveyance Book 1893 No 999

Conveyance Book 1460 No 500

Conveyance Book 1111 No 394

Conveyance Book 954 No 463

Summary of Proprietors Lot 4 DP 37914

Year

Proprietor

	(Lot 4 DP 37914)			
1992 - todate	Crighton Properties Pty Limited			
1989 - 1992	Norma Lynette Gee			
1988 - 1989	Reginald Norman King, orchard hand			
	(Lot 4 & Part Lot 5 of Bellbird Estate – Area 24 Acres 3 Roods 28 Perches)			
1945 - 1988	Reginald Norman King, farmer			
1941 - 1945	Geoffrey Riderick Michelsen, farmer			
	(Part Portion 103 Parish Kincumber & other lands)			
1941 - 1941	Arthur Oliver Harrigan, farmer			
1941 - 1941	Commercial Bank of Australia Limited			
	(Part Portion 103 Parish Kincumber – Area 64 Acres 0 Roods 16 Perches)			
1927 - 1941	Victor Eric Wilson, orchardist			
1920 - 1927	Rachel Wilson, widow			
1917 - 1920	Victor Eric Wilson, orchardist			
1911 - 1917	Alfred George Aldrick, orchardist			







EziSearch Title Search

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

Title Search

LEAP Legal An Approved LPI NSW Information Broker

LAND AND PROPERTY INFORMATION NEW SOUTH WALES - TITLE SEARCH

FOLIO: 202/831864

SEARCH DATE	TIME	EDITION NO	DATE
13/6/2008	7:47 PM	13	9/10/2006

LAND

LOT 202 IN DEPOSITED PLAN 831864 AT TERRIGAL LOCAL GOVERNMENT AREA GOSFORD PARISH OF KINCUMBER COUNTY OF NORTHUMBERLAND TITLE DIAGRAM DP831864

FIRST SCHEDULE CRIGHTON PROPERTIES PTY. LIMITED

SECOND SCHEDULE (5 NOTIFICATIONS)

1 RESERVATIONS AND CONDITIONS IN THE CROWN GRANT(S)

2 EASEMENT(S) AFFECTING THE PART(S) SHOWN SO BURDENED IN THE TITLE DIAGRAM CREATED BY: J519898 EASEMENT FOR TRANSMISSION LINE 15.24 WIDE

Q609725 EASEMENT FOR TRANSMISSION LINE 15 WIDE

3 DP854233 RIGHT OF CARRIAGEWAY 8 WIDE AND VARIABLE AFFECTING THE PART(S) SHOWN SO BURDENED IN IN DP854233

4 AC435400 EASEMENT FOR ELECTRICITY PURPOSES 3 & 3.5 WIDE AFFECTING THE PART DESIGNATED E IN THE PLAN WITH AC435400

5 AC651866 MORTGAGE TO ST. GEORGE BANK LIMITED

NOTATIONS

UNREGISTERED DEALINGS: NIL

*** END OF SEARCH ***

ERM - Terrigal ALSP

PRINTED ON 13/6/2008

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EziSearch Historical Search

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

Historical Search

LEAP Legal An Approved LPI NSW Information Broker

LAND AND PROPERTY INFORMATION NEW SOUTH WALES - HISTORICAL SEARCH

SEARCH DATE 13/6/2008 7:50PM

FOLIO: 202/831864

First Title(s): OLD SYSTEM Prior Title(s): 104/430463

Recorded	Number	Type of Instrument	C.T. Issue
00/7/1002	00001064	DEBAGTRED DE SU	
22/7/1993	DP831864	DEPOSITED PLAN	FOLIO CREATED
14.1 ····			EDITION 1
3/11/1995	0661283	DISCHARGE OF MORTGAGE	EDITION 2
6/11/1995	DP854233	DEPOSITED PLAN	EDITION 3
19/8/1996	2390749	CAVEAT	
22/7/1997	3238857	MORTGAGE	EDITION 4
12/2/1999	5596460	WITHDRAWAL OF CAVEAT	
12/2/1999	5596461	DISCHARGE OF MORTGAGE	EDITION 5
29/3/1999	5712892	MORTGAGE	EDITION 6
19/3/2001	7481234	TRANSMISSION APPLICATION	EDITION 7
1/5/2001	7567915	DISCHARGE OF MORTGAGE	
1/5/2001	7567916	MORTGAGE	EDITION 8
29/5/2001	7646759	VARIATION OF MORTGAGE	EDITION 9
11/9/2003	9961746	VARIATION OF MORTGAGE	EDITION 10
1/7/2005	AB595717	VARIATION OF MORTGAGE	EDITION 11
6/7/2006	AC435400	GRANT OF EASEMENT	EDITION 12
9/10/2006	AC651865	DISCHARGE OF MORTGAGE	
9/10/2006	AC651866	MORTGAGE	EDITION 13

*** END OF SEARCH ***

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FOLIO CANCELLED RESIDUE REMAINS

LAND AND PROPERTY INFORMATION NEW SOUTH WALES - HISTORICAL SEARCH

> SEARCH DATE -----13/6/2008 7:53PM

Fol.IO: 104/430463

First Title(s): OLD SYSTEM Prior Title(s): VOL 5281 FOL 182

eqorded	Number	Type of Instrument	C.T. Issue

1/4/1993		CONVERTED TO COMPUTER FOLIO	FOLIO CREATED CT NOT ISSUED

7/1993 DP831864 DEPOSITED PLAN

*** END OF SEARCH ***

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Title Search

LEAP Legal An Approved LPI NSW Information Beoker

LAND AND PROPERTY INFORMATION NEW SOUTH WALES - TITLE SEARCH

FOLIO: 9/876102

SEARCH DATE	TIME	EDITION NO	DATE
13/6/2008	7:48 PM	1	7/5/1998

LAND

LOT 9 IN DEPOSITED PLAN 876102 AT TERRIGAL LOCAL GOVERNMENT AREA GOSFORD PARISH OF KINCUMBER COUNTY OF NORTHUMBERLAND TITLE DIAGRAM DP876102

FIRST SCHEDULE

JOHN MICHAEL OLZOMER PAMELA ANN OLZOMER AS JOINT TENANTS

SECOND SCHEDULE (2 NOTIFICATIONS)

1 RESERVATIONS AND CONDITIONS IN THE CROWN GRANT(S)

2 W440640 MORTGAGE TO AUSTRALIA AND NEW ZEALAND BANKING GROUP LIMITED

NOTATIONS

NOTE: THE CERTIFICATE OF TITLE FOR THIS FOLIO OF THE REGISTER DOES NOT INCLUDE SECURITY FEATURES INCLUDED ON COMPUTERISED CERTIFICATES OF TITLE ISSUED FROM 4TH JANUARY, 2004. IT IS RECOMMENDED THAT STRINGENT PROCESSES ARE ADOPTED IN VERIFYING THE IDENTITY OF THE PERSON(S) CLAIMING A RIGHT TO DEAL WITH THE LAND COMPRISED IN THIS FOLIO. UNREGISTERED DEALINGS: NIL

*** END OF SEARCH ***

ERM - Terrigal ALSP

PRINTED ON 13/6/2008

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Historical Search

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LAND AND PROPERTY INFORMATION NEW SOUTH WALES - HISTORICAL SEARCH

SEARCH DATE 13/6/2008 7:51PM

FOLIO: 9/876102

First Title(s): OLD SYSTEM Prior Title(s): 15/873969

Recorded	Number	Type of Instrument	C.T. Issue
Annonen	******		
7/5/1998	DP876102	DEPOSITED PLAN	FOLIO CREATED
			EDITION 1

*** END OF SEARCH ***

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FOLIO CANCELLED RESIDUE REMAINS

LEAP Legal

Page 1 of 1

LAND AND PROPERTY INFORMATION NEW SOUTH WALES - HISTORICAL SEARCH

> SEARCH DATE -----13/6/2008 7:54PM

FOLIO: 15/873969

First Title(s): OLD SYSTEM Prior Title(s): 6/37914

CA59095

Recorded	Number	Type of Instrument	C.T. Issue
20/1/1998	CA59095	CONVERSION ACTION	FOLIO CREATED EDITION 1
7/5/1998	DP876102	DEPOSITED PLAN	FOLIO CANCELLED

*** END OF SEARCH ***

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LAND AND PROPERTY INFORMATION NEW SOUTH WALES - HISTORICAL SEARCH

SEARCH DATE 13/6/2008 7:55PM

FOLIO: 6/37914

First Title(s): SEE PRIOR TITLE(S) Prior Title(s): VOL 14240 FOL 183

Recorded	Number	Type of Instrument	C.T. Issue
21/8/1988		TITLE AUTOMATION PROJECT	LOT RECORDED FOLIO NOT CREATED
1/12/1988		CONVERTED TO COMPUTER FOLIO	FOLIO CREATED CT NOT ISSUED
23/2/1989	¥195654	REQUEST	EDITION 1
19/1/1998	DP873969	DEPOSITED PLAN	FOLIO CANCELLED

*** END OF SEARCH ***

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LAND AND PROPERTY INFORMATION NEW SOUTH WALES - TITLE SEARCH

FOLIO: 4/37914

SEARCH DATE	TIME	EDITION NO	DATE
13/6/2008	7:49 PM	5	30/8/2005

LAND

LOT 4 IN DEPOSITED PLAN 37914 LOCAL GOVERNMENT AREA GOSFORD PARISH OF KINCUMBER COUNTY OF NORTHUMBERLAND TITLE DIAGRAM DP37914

FIRST SCHEDULE

CRIGHTON PROPERTIES PTY LIMITED

(DD E883233)

SECOND SCHEDULE (3 NOTIFICATIONS)

1 RESERVATIONS AND CONDITIONS IN THE CROWN GRANT(S)

2 0442143 MORTGAGE TO BANK OF SOUTH AUSTRALIA LIMITED

3 AB729338 MORTGAGE TO ST. GEORGE BANK LIMITED

NOTATIONS

UNREGISTERED DEALINGS: NIL

*** END OF SEARCH ***

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Historical Search

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LAND AND PROPERTY INFORMATION NEW SOUTH WALES - HISTORICAL SEARCH

SEARCH DATE 13/6/2008 7:52PM

FOLIO: 4/37914

First Title(s): SEE PRIOR TITLE(S) Prior Title(s): VOL 14255 FOL 175

Recorded	Number	Type of Instrument	C.T. Issue
21/8/1988		TITLE AUTOMATION PROJECT	LOT RECORDED FOLIO NOT CREATED
1/12/1988		CONVERTED TO COMPUTER FOLIO	FOLIO CREATED CT NOT ISSUED
31/10/1989	¥678566	TRANSMISSION APPLICATION	EDITION 1
11/8/1992 11/8/1992	E671264 E671265	TRANSFER	EDITION 2
6/11/1992 6/11/1992		DEPARTMENTAL DEALING MORTGAGE	EDITION 3
8/8/1995 8/8/1995 8/8/1995	0442141 0442142 0442143	DISCHARGE OF MORTGAGE DISCHARGE OF MORTGAGE MORTGAGE	EDITION 4
30/8/2005	AB729338	MORTGAGE	EDITION 5

*** END OF SEARCH ***

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ha	m 2 of 2 pages)	Ym	Vol. 14240 Fol.183
NOTE: ENTRIES RULED THROUGH AND AUTHENTICATED BY THE SEAL OF THE REGISTR		SECOND SCHEDULE (continued) INSTRUMENT PARTICULARS M440640 ^D Mortcage to Austialia and New Zealand Banking Gooup Limited Registered 5-8-1986	FIRST SCHEDULE (continued) Registered Providence Registered 11-3 John Michael Olzoner and Pamela Ann Olzoner as joint tenants by Transfer V277295 Registered 16-8-1984 SEE AUTO FOLIO SEE AUTO FOLIO
E REGISTRAR GENERAL ARE CANCELLED		REGISTERAD	
		Biganere of Register General	NATURE MODER
		CANCELLATION	KEQISTRAED
		LATION	Signature of Registere General



/Req: B440054 /Doc: CT 14255-175 /Prt: 16-Jun-2008

EIST SCHEDULE (continued)	FIRST SCHEDULE (continued)
	Registrary of a
Signature of a	All of the second secon
	CANCE

	97 eq: B440052 bc: DL E671264	TRA	ANSFER	
	t: 16-Jun-2008	P	Property Act, 1900	671264 0
		00178		1.44 - 149-18-1
Ŵ	LAND TRANSFERRED Show no more than 20 References to Title. If appropriate, specify the share transferred.	FOLIO I	DENTIFIER 4/37914	
(8)	LODGED BY	L.T.O. Box 2-8A	Name, Address or DX and Teleph Phono: 303 - 1011 DK 340, REFERENCE (max. 15 character)	TANCO- GEE
(C)	TRANSFEROR	NORMA LYNET	te gee	
(D)	acknowledges receipt of the considera			-
(E)	and as regards the land specified abov subject to the following ENCUMBRAN	NTT		
(F) (G)		HTON PROPERTIES	PTY LIMITED (ACN No. ent, Green Point as joint tenants/tenants in a	
010	We certify this dealing correct for the Signed in my presence by the transfer Mul $P \leftarrow Williess$ $P \leftarrow W - J A^{o}f A$ Name of Wilness (BLOCK LE $S/112 - Me \in SPLA$ Address of Witness	Tector SINHA	ewn to me.	EXECUTION
	Signed in my presence by the transfer Signature of Witness Name of Witness (BLOCK LE		THE COMMON S	
	Address of Winness	SEAL	Secreting	Signature obligation 31/7/92 35
_	INSTRUCTIONS FOR FILLING OUT THIS FOR	M ARE AVAILABLE FROM	THE LAND-TITLES OFFICE	CHECKED BY (office use only)
~~	adoc Commercial and Low Stationers 1991			

CERTIFICATE OF TITLE. few South Wales. (C.) REGISTER BOOK. 1892 . 201 [App So. 1393.4] W.e. W Lydney Eight Methical in fring Afflication monthed sugar a new the to of an whole on for comple states of muchate to the Elen it in the grant hornersthe refunct to And the infect 1) Wales had poor of Land situalit a niched horse ing looks and freeing of the bush Timunde 4 had so 1 by hat land Sec. Look cally for I 1 Stat la and to Maple The ford of dark red being 14 flow & When Seen by been hard fild at white product them they and to have requested on they to over one to a filler to over one to a filler to over the set that the regularity day of technica and terminal ant aght handred 1 Aller Some by Which and bank we deliveded in the palls way of the and find spalled on the lighthand flinds and Cighbeenth and Is witness whereas, I have become algoed my same and affired my Seal, this one through this hundred and ergel? all W. R.L 190. 21 Signed the Jay of in the presence of find. + mil Deputy Registrar General. NOTIFICATION REFERRED TO. NO. 523383 MORTOACE DATED 6 anne 190 < FROM THE SAID Menery Dese feweller and nuriel aronson whey sale -105 106 NOT: 110 april PRODUCED & ENTERED 1009AT /Trub & CL NOON 834(7*) 103 110 WERT'S ul 1 Mill Courts ACPUTY REGISTRAS GENERAL Land Silver and and stands and surgers 501 20523383 J.A.Danson 13 February Predator sier in the alter mea. to. BATT. ind) CONTRACTOR OF ALL PAGE

the Elisible Board & De good of March 1922 From Concord Signay Love for the formatrical Bank of Authalia Limited the second entered 25th Ach Qan Los 1914 W De Antheleaun) REALSTRAF HEREIMAL DINCHARGENT wisin Nortgogo dated 23nd Octor 1824 2400 Octor 1824 SULSOUS Re. BiBibish Preduced____ 210. Cables 10211 at least at 120 clack in the attac moon. ALT -An Eleaster) REDISTRAN DENERAL 27 Colder 1221 Produced and entered 21 Colder See a 20 With in NEOFSTRAN STALKS And WHICO ROATOROE dates 211 1000 1021 a int pl is interesting REGISTRAN OF LEASE DISCHARGE of within Hortgage No. 8. 20.16.16 serves_ 10 = Riquel 182 Ber and entered Produced. TREES a p'aldes in the stall at and Theand 3 REGISTRAR GENERAL, APPLICATION BY TRANSMISSION \$2 0282 hig Sent of through Transmille Alin luder Preserverse's of the Lord within preservices in particulation of the above Providences, Produced AL, Preservices 1925 and enteres Set Transmission 1927 (1928) THEF .8087. d. a conce in - 253 Artillance) RECORDER OF SCREAK and attention and and Red CHARGES 2 H. Bataler 18.29 Proswere and antived 18 Hotober 1219 at 22 - A fit 20 block in the after Jak Shayton MUSSITIA OLY AN Ro I L L TRANSFER Sale Jac 1911 af the land within do Produces fill and and entered in the same live 194/ a 10 a'don't in the door and fo be tand in this burner Billion & ernt Bet MALE INT. U.S. RECUTHER STRING

Applied on by Termine as the Papyron The visite And the manufact and a line of the second wide and the second sec in particula as of the signed sectoral of 395 00 REDEFTRE STRUCTLY.

Annex D

Results of 2km Borehole Search

Date/Time :27-Jun-2008 3:50 PM User :PCLARKE 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

GW014427

<u>GW014427</u>			-	Conver	ted From HYDSYS
Licence :20BL122149 Work Type :Well Work Status :(Unknown) Construct. Method :Hand Dug Owner Type :Private		Aut DOI	ence Status Lapsed horised Purpose(s) MESTIC IGATION OCK	Intended Purpos STOCK	e(s)
Commenced Date : Completion Date :	Final Depth : Drilled Depth :	3.00 m 3.00 m			
Contractor Name : Driller : Assistant Driller's Name :					
Property : - N/A GWMA : - GW Zone : -		Stand	ling Water Level : Salinity : Yield :	(Unknown)	
Site Details					
Site Chosen By	Form A :N	ounty ORTHUMBERLAND ORTHUMBERLAND	Parish KINCUMBER KINCUMBER	Portion/Lot DP 122 PT122	
Region :10 - SYDNE River Basin :212 - HAWI Area / District :			CMA Map :9131-2S Grid Zone :56/1	GOSFORD Scale :1:25,000	
Elevation : Elevation Source :(Unknown)			Northing :6296670 Easting :352239	Latitude (S) :33° Longitude (E) :151	
GS Map :0055B2	MGA Zone :56	Coord	inate Source :GD.,PR. MA	AP	
Construction Negative depths H-Hole;P-Pipe;OD-Outside Diameter;ID-Inside Generation: 1 1 Casing Timber	Diameter;C-Cemented;SL-Slot Leng	gth;A-Aperture;GS-Grain Siz D (mm) Interval Details (Unknown)	e;Q-Quantity;PL-Placement of G	Gravel Pack;PC-Pressure Cemented;S	-Sump;CE-
Water BearingZonesFrom (m)To (m)Thickness (m)3.003.000.00	WBZ Type Unconsolidated	S.W.L. (m) I 0.60	D.D.L. (m) Yield (L/s) 0.38	Hole Depth (m) Duration (hr)	Salinity (mg/L) (Unknown)
DrillersLogFrom (m)To (m)Thickness(m)0.003.043.04Soil We			Geological Material Soil	Comments	

Remarks

*** End of GW014427 ***

Converted From HYDSYS

GW024553

Licence :20BL015203 Licence Status Active Authorised Purpose(s) Intended Purpose(s) Work Type :Bore open thru rock DOMESTIC GENERAL USE Work Status :(Unknown) Construct. Method :Rotary Air **Owner Type :**Private **Commenced Date :** Final Depth : 30.40 m 30.50 m Completion Date :01-May-1965 **Drilled Depth : Contractor Name :** Driller : Assistant Driller's Name : Property : - N/A **Standing Water Level :** GWMA :603 - SYDNEY BASIN Salinity : (Unknown) GW Zone : -Yield : Site Details Site Chosen By County Parish Portion/Lot DP Form A :NORTHUMBERLAND KINCUMBER 94 Licensed :NORTHUMBERLAND KINCUMBER PT 94 Region :10 - SYDNEY SOUTH COAST GOSFORD CMA Map :9131-2S River Basin :212 - HAWKESBURY RIVER Scale :1:25,000 Grid Zone :56/1 Area / District : **Elevation :** Northing :6296835 Latitude (S) :33° 27' 28" Elevation Source :(Unknown) Easting:353264 Longitude (E) :151° 25' 16" GS Map :0055B2 MGA Zone:56 Coordinate Source :GD., PR. 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-Gentralisecomponent Type To (m) OD (mm) ID (mm) Interval Details From (m) (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 Commer	ıts
0.00	0.30	0.30 Soil	Soil	
0.30	7.62	7.32 Clay	Clay	
7.62	13.71	6.09 Sandstone	Sandstone	
13.71	30.48	16.77 Shale	Shale	

Remarks

*** End of GW024553 ***

Converted From HYDSYS

Latitude (S) :33° 27' 45"

Longitude (E) :151° 24' 47"

GW038180

Licence :20BL116875 Licence Status Active Authorised Purpose(s) Intended Purpose(s) Work Type :Bore open thru rock DOMESTIC IRRIGATION STOCK Work Status :(Unknown) Construct. Method :Rotary **Owner Type :**Private **Commenced Date :** Final Depth : 51.80 m Completion Date :01-Jul-1975 **Drilled Depth :** 51.80 m **Contractor Name :** Driller : Assistant Driller's Name : Property : - N/A **Standing Water Level :** GWMA: -Salinity : (Unknown) GW Zone : -Yield : Site Details Site Chosen By County Parish **Portion/Lot DP** Form A :NORTHUMBERLAND KINCUMBER L2 DP101384 (118) Licensed :NORTHUMBERLAND KINCUMBER L2 DP101384 (P+ Por# Region :10 - SYDNEY SOUTH COAST GOSFORD CMA Map :9131-2S River Basin :210 - HUNTER RIVER Scale :1:25,000 Grid Zone :56/1 Area / District :

Northing :6296300

Easting :352529

Coordinate Source :GD.,PR. MAP

Elevation :

Elevation Source :(Unknown)

GS Map :0055B2 **MGA Zone :**56

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- **Gtentr#lise@mponent Type** From (m) To (m) OD (mm) Interval Details 1 1 Casing P.V.C. 0.20 12.30 127 Driven into Hole

Water Bearing Zones

From (m) 44.10		To (m) Thickness (m) WBZ Type 44.10 0.00 Consolidated	S.W.L. (m) 22.50	D.D.L. (m)	Yield (L/s) 0.82	Hole Depth (m)	Duration (hr)	Salinity (mg/L) (Unknown)
Drillers	; Log	1						
From (m)	To (m)	Thickness(m) Drillers Description			Geological Material	Commer	nts	
0.00	0.22	0.22 Soil			Soil			
0.22	1.37	1.15 Clay Stones			Clay			
1.37	6.70	5.33 Clay			Clay			
6.70	7.62	0.92 Ironstone			Ironstone			
7.62	10.36	2.74 Clay			Clay			
10.36	13.41	3.05 Sandstone			Sandstone			
13.41	36.57	23.16 Shale Water Supply			Shale			
36.57	51.81	15.24 Sandstone			Sandstone			

Remarks

*** End of GW038180 ***

GW047585

Converted From HYDSYS

011047505							
Licence :20BL141597			Licence Status Active Authorised Purpose(s) DOMESTIC		Intended Purpose(s)		
Work Type :Bore open thru Work Status :(Unknown) Construct. Method :Rotary Owner Type :Private	rock)
Commenced Date :30-May-1980 Completion Date :31-May-1980	Final Depth : Drilled Depth :	58.00 m 58.00 m					
Contractor Name : Driller : Assistant Driller's Name :							
Property : - N/A GWMA : - GW Zone : -		St	anding Wate	er Level : Salinity : Yield :	18.00 m (U 4.40 L/s	nknown)	
Site Details							
Site Chosen By	Form A :N	ounty ORTHUMBERLAN ORTHUMBERLAN		ish ICUMBER ICUMBER	Portion/Lo L155 DP19 155 1976		
Region : 10 - SYDNEY River Basin : 212 - HAWKE Area / District :				Map :9131-2S one :56/1	GOSFORD Scale :1:25,000		
Elevation : Elevation Source :(Unknown)				ning :6299320 ting :352024		le (S) :33° 26 e (E) :151° 2	
GS Map : 0055B2	MGA Zone :56	Co	ordinate Sou	irce :			
Construction Negative depths inc H-Hole;P-Pipe;OD-Outside Diameter;ID-Inside D Gentrallis@camponent Type F	iameter;C-Cemented;SL-Slot Len	D (mm) Interval Details		ty;PL-Placement of Gr	avel Pack;PC-Pressure (Cemented;S-Su	mp;CE-
	VBZ Type onsolidated onsolidated	S.W.L. (m) 18.00 18.00	D.D.L. (m)	Yield (L/s) 2.20 2.20	Hole Depth (m) Du	ration (hr)	Salinity (mg/L) (Unknown) (Unknown)
Drillers Log From (m) To (m) Thickness(m) Drillers Deg 0.00 1.00 1.00 Soil 1.00 Soil 1.00 12.00 11.00 Clay Sha Sandston 30.00 39.00 9.00 Shale 39.00 Sandston	e Interlayere			Geological Material Soil Clay Sandstone Shale Sandstone	Comments		

0.00 1.00 1.00 Soil 1.00 12.00 11.00 Clay Shale Interlayere 12.00 30.00 18.00 Sandstone 30.00 39.00 9.00 Shale
12.00 30.00 18.00 Sandstone
30.00 39.00 9.00 Shale
39.00 58.00 19.00 Sandstone Water Supply

Remarks

*** End of GW047585 ***

Converted From HYDSYS

GW048464

Licence :20BL108042 Licence Status Active Authorised Purpose(s) Intended Purpose(s) Work Type :Bore open thru rock DOMESTIC GENERAL USE STOCK Work Status :(Unknown) Construct. Method :Rotary Air **Owner Type :**Private **Commenced Date :** Final Depth : 30.50 m 30.50 m Completion Date :01-Apr-1978 **Drilled Depth : Contractor Name :** Driller : Assistant Driller's Name : Property : - N/A **Standing Water Level :** GWMA : -Salinity : Good GW Zone : -Yield : Site Details Site Chosen By County Parish **Portion/Lot DP** Form A :NORTHUMBERLAND KINCUMBER L1 (103) Licensed :NORTHUMBERLAND KINCUMBER L1 (P+ Port 103) Region :10 - SYDNEY SOUTH COAST CMA Map :9131-2S GOSFORD River Basin :212 - HAWKESBURY RIVER Scale :1:25,000 Grid Zone :56/1 Area / District : **Elevation :** Northing :6298390 Latitude (S) :33° 26' 38" Elevation Source :(Unknown) Easting :353079 Longitude (E) :151° 25' 10" GS Map :0055B2 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-**Gtentr#lise@mponent Type From (m) To (m) OD (mm) ID (mm) Interval Details**Driven into Hole

Water Bearing Zones

From (m) 15.00	To (1 15.	n) Thickness (m) WBZ Typ 10 0.10 (Unknown		D.D.L. (m) Yield (L/s) 0.10		Salinity (mg/L) (Unknown)
			,			· · · · · · · · · · · · · · · · · · ·
21.40	21.	50 0.10 (Unknowr) 6.40	1.20		Good
Drillers	•					
From (m)		kness(m) Drillers Description		Geological Material	Comments	
0.00	15.00	15.00 Clay		Clay		
15.00	15.10	0.10 Water Supply		(Unknown)		
15.10	21.40	6.30 Sandstone Grey		Sandstone		
21.40	21.50	0.10 Water Supply		(Unknown)		
21.50	30.50	9.00 Sandstone		Sandstone		

Remarks

*** End of GW048464 ***

Converted From HYDSYS

GW058094

Licence :20BL123873 Licence Status Active Authorised Purpose(s) Intended Purpose(s) Work Type :Bore open thru rock DOMESTIC DOMESTIC Work Status :Supply Obtained Construct. Method :Rotary **Owner Type :**Private **Commenced Date :** Final Depth : 20.00 m Completion Date :01-Feb-1983 **Drilled Depth :** 23.00 m **Contractor Name :** Driller : Assistant Driller's Name : **Standing Water Level :** Property : - N/A GWMA : -Salinity : (Unknown) GW Zone : -Yield : Site Details Site Chosen By County Parish **Portion/Lot DP** Form A :NORTHUMBERLAND KINCUMBER L1 DP259809 (176) Licensed :NORTHUMBERLAND KINCUMBER 1 259809 Region :10 - SYDNEY SOUTH COAST CMA Map :9131-2S GOSFORD River Basin :212 - HAWKESBURY RIVER Scale :1:25,000 Grid Zone :56/1 Area / District : **Elevation :** Northing :6298654 Latitude (S) :33° 26' 28" Elevation Source :(Unknown) Easting :351175 Longitude (E) :151° 23' 56" GS Map :0055B2 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;SL-Slot Length;A-Aperture;GS-Grain Size;Q-Quantity;PL-Placement;Q-Quantity;PL-Plac Gentrelisecomponent Type **To (m) OD (mm)** 23.00 0 ID (mm) Interval Details From (m) Backfill Backfill 20.00 1 Casing P.V.C. 1 0.00 12.00 120 Driven into Hole Water Bearing Zones
 To (m)
 Thickness (m)
 WBZ Type

 18.00
 16.00 (Unknown)
 From (m) 2.00 S.W.L. (m) D.D.L. (m) Yield (L/s) Hole Depth (m) Duration (hr) Salinity (mg/L) 6.00 (Unknown) **Drillers Log** Thickness(m) Drillers Description From (m) To (m) Geological Material Comments 2.00 Soil 0.00 2.00 Soil 23.00 21.00 Rock Water Bearing Rock

Remarks

*** End of GW058094 ***

Warning To Clients: This raw data has been supplied to the Department of Natural Resources (DNR) by drillers, licensees and other sources. The DNR does not verify the accuracy of this data. The data is presented for use by you at your own risk. You should consider verifying this data before relying on it. Professional hydrogeological advice should be sought in interpreting and using this data.

GW059363

Converted From HYDSYS

GW059363					Conver	rtea From HIDSIS
Licence :20BL158560			Licence Statu			
Work Type :Bore open thru rock Work Status :(Unknown) Construct. Method :Cable Tool Owner Type :Private			Authorised Pu STOCK	urpose(s)	Intended Purpo STOCK	se(s)
Commenced Date : Completion Date :01-Jan-1984	Final Depth : Drilled Depth :	26.00 m 26.00 m				
Contractor Name : Driller :1435 ssistant Driller's Name :	ISELT, John Hans					
Property : - N/A GWMA : - GW Zone : -		S	tanding Water S	r Level : Salinity : Yield :	Fresh 0.70 L/s	
Site Details						
ite Chosen By	Form A :	County NORTHUMBERLA NORTHUMBERLA		sh CUMBER CUMBER	Portion/Lot DP LOTB DP938485 B 938485	
Region :10 - SYDNE River Basin :212 - HAWK Area / District :			CMA M Grid Zo	ap :9131-2S one :56/1	GOSFORD Scale :1:25,000	
Elevation : Elevation Source :(Unknown)				ng :6296824 ng :352417	Latitude (S) :33 Longitude (E) :15	
GS Map :0055B2	MGA Zone :56	Co	oordinate Sour	rce :GD.,ACC.MA	AP	
1 Hole Hole 1 1 Casing Welded Steel	dicate Above Ground Level; Diameter;C-Cemented;SL-Slot Le From (m) To (m) OD (mm) 0.00 26.00 152 -0.30 12.50 168	ID (mm) Interval Detail Percus	ls	r;PL-Placement of Gr	avel Pack;PC-Pressure Cemented;	S-Sump;CE-
Water Bearing Zones						
21.90 22.30 0.40	WBZ Type Consolidated Consolidated Consolidated	S.W.L. (m) 18.00 0.00 0.00	D.D.L. (m)	Yield (L/s) 0.18 0.45 0.70	Hole Depth (m) Duration (hr)	Salinity (mg/L) Fresh Fresh Fresh
Drillers Log						
18.50 21.90 3.40 Sandstor 21.90 22.30 0.40 Sandstor 22.30 23.90 1.60 Sandstor 23.90 24.10 0.20 Sandstor	rk Sandy ey Silty ne Yellow ne Yellow Open Water Supp ne Grey ne Grey Open Water Supply	7	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	Geological Material Soil Zlay Sandstone Sandstone Sandstone Sandstone Sandstone Sandstone Sandstone	Comments	

Remarks

PREVIOUS LIC. NO: 127412

*** End of GW059363 ***

GW062137

Licence :20BL142159 Licence Status Active Authorised Purpose(s) Intended Purpose(s) Work Type :Excavation DOMESTIC IRRIGATION Work Status :Supply Obtained STOCK Construct. Method :< 100 sq.m. **Owner Type :**Private **Commenced Date :** Final Depth : 6.00 m Completion Date :01-Jan-1983 **Drilled Depth :** 0.00 **Contractor Name :** Driller : Assistant Driller's Name : Property : - N/A **Standing Water Level :** GWMA : -Salinity : (Unknown) GW Zone : -Yield : Site Details Site Chosen By County Parish Portion/Lot DP Form A :NORTHUMBERLAND KINCUMBER 175 Licensed :NORTHUMBERLAND KINCUMBER PT175 Region :10 - SYDNEY SOUTH COAST GOSFORD CMA Map :9131-2S River Basin :212 - HAWKESBURY RIVER Scale :1:25,000 Grid Zone :56/1 Area / District : **Elevation :** Northing :6299318 Latitude (S) :33° 26' 7" Elevation Source :(Unknown) Easting:352302 Longitude (E) :151° 24' 40" GS Map :0055B2 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-Gentralisecomponent Type To (m) OD (mm) ID (mm) Interval Details From (m)

(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 GW062137 ***

Converted From HYDSYS

GW062138

Licence :20BL141391 Licence Status Active Authorised Purpose(s) Intended Purpose(s) Work Type :Well DOMESTIC IRRIGATION Work Status :Supply Obtained STOCK Construct. Method :Hand Dug **Owner Type :**Private **Commenced Date :** Final Depth : 3.50 m Completion Date :01-Jan-1983 **Drilled Depth :** 0.00 **Contractor Name :** Driller : Assistant Driller's Name : Property : - N/A **Standing Water Level :** GWMA : -Salinity : (Unknown) GW Zone : -Yield : Site Details Site Chosen By County Parish Portion/Lot DP Form A :NORTHUMBERLAND KINCUMBER 175 Licensed :NORTHUMBERLAND KINCUMBER PT175 Region :10 - SYDNEY SOUTH COAST GOSFORD CMA Map :9131-2S River Basin :212 - HAWKESBURY RIVER Scale :1:25,000 Grid Zone :56/1

Area / District : Elevation :

Elevation : Elevation Source :(Unknown)

GS Map :0055B2 **MGA Zone :**56

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- **GentraliseGramponent Type From** (m) **To** (m) **OD** (mm) **Interval Details i** 1 Casing Brick 0.00 0.00 0 (Unknown)

S.W.L. (m)

Water Bearing Zones

From (m) To (m) Thickness (m) WBZ Type

(No Water Bearing Zone Details Found)

D.D.L. (m)

Northing :6299317

Easting:352224

Yield (L/s)

Coordinate Source :GD., ACC.MAP

Latitude (S) :33° 26' 7"

Longitude (E) :151° 24' 37"

Hole Depth (m) Duration (hr)

Comments

Salinity (mg/L)

Drillers Log

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

Remarks

*** End of GW062138 ***

GW104444

	Licence :20BL160775			Licence Sta Authorised		Intended Purpose	(s)
Wo Construct	/ork Type :Bore ork Status :Supply Obtained t. Method :Rotary oner Type :Private	I		TEST BOR	· · · /	TEST BORE	(3)
	nced Date : etion Date :22-Aug-2002	Final Depth : Drilled Depth :	50.00 m 50.00 m				
Contrac Assistant Dril	tor Name :J.H. ISELT Driller :1674 ller's Name :	ISELT, Paul John					
	Property : - N/A GWMA : - GW Zone : -			Standing Wa	ter Level : Salinity : Yield :	21.00 m 1.10 L/s	
Site De	tails						
Site Chosen Driller	By		County :NORTHUMBERI :NORTHUMBERI	LAND KI	r ish NCUMBER NCUMBER	Portion/Lot DP LT 86 DP 6650 86 6650	
	Region :10 - SYDNEY iver Basin : a / District :	SOUTH COAST		CMA Grid	Map : Zone :	Scale :	
	Elevation : on Source :				thing :6297101 sting :353645	Latitude (S) :33° 2 Longitude (E) :1 51°	
	GS Map : M	IGA Zone :56		Coordinate So	ource :Map Interpret	ation	
H-Hole;P-Pipe; Ghentralisecompo 1 Hole	nent Type Fi Hole	cate Above Ground Level; ameter;C-Cemented;SL-Slot I 0.00 To (m) OD (mm) 50.00 150	ID (mm) Interval De	Grain Size;Q-Quar etails own Hole Hammer	tity;PL-Placement of Gra	avel Pack;PC-Pressure Cemented;S-S	Sump;CE-
From (m) 45.00	Bearing Zones To (m) Thickness (m) W 45.50 0.50	BZ Type	S.W.L. (r 21.		Yield (L/s) 1.10	Hole Depth (m) Duration (hr) 50.00 1.00	Salinity (mg/L)
Drillers From (m) 0.00 0.30 1.10 5.80 10.40 14.90 32.30 36.80	To (m) Thickness(m) Drillers Dest 0.30 0.30 TOPSOLL 1.10 1.10 0.80 SANDY CLE 5.80 4.70 SANDY CLE 14.90 4.50 MUDSTONE 32.30 17.40 CLAYSTONE 32.30	Y YELLOW Y CG. YELLOW LT. Y YELLOW DK. BROWN FG. GREY LT. CG. YELLOW DK/CLAY			Geological Material Topsoil Sandy Clay Loam Sandy Clay Loam Mudstone Claystone Sandstone Claystone	Comments	

Remarks

Form A Remarks: The bore was backfilled and grouted using a 5% Bentonite/Cement mix.

> *** End of GW104444 *** *** End of Report ***

Annex E

Aerial Photographs













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