

ATTACHMENT B



Plate 1 – Offices on the eastern portion of the site, adjacent to Christie Street.



Plate 2 – Broken concrete piled adjacent to the eastern boundary of the site.



Plate 3 – Drainage line through the central portion of the site from the western boundary.



Plate 4 – Along the western boundary of the site viewed from the north.

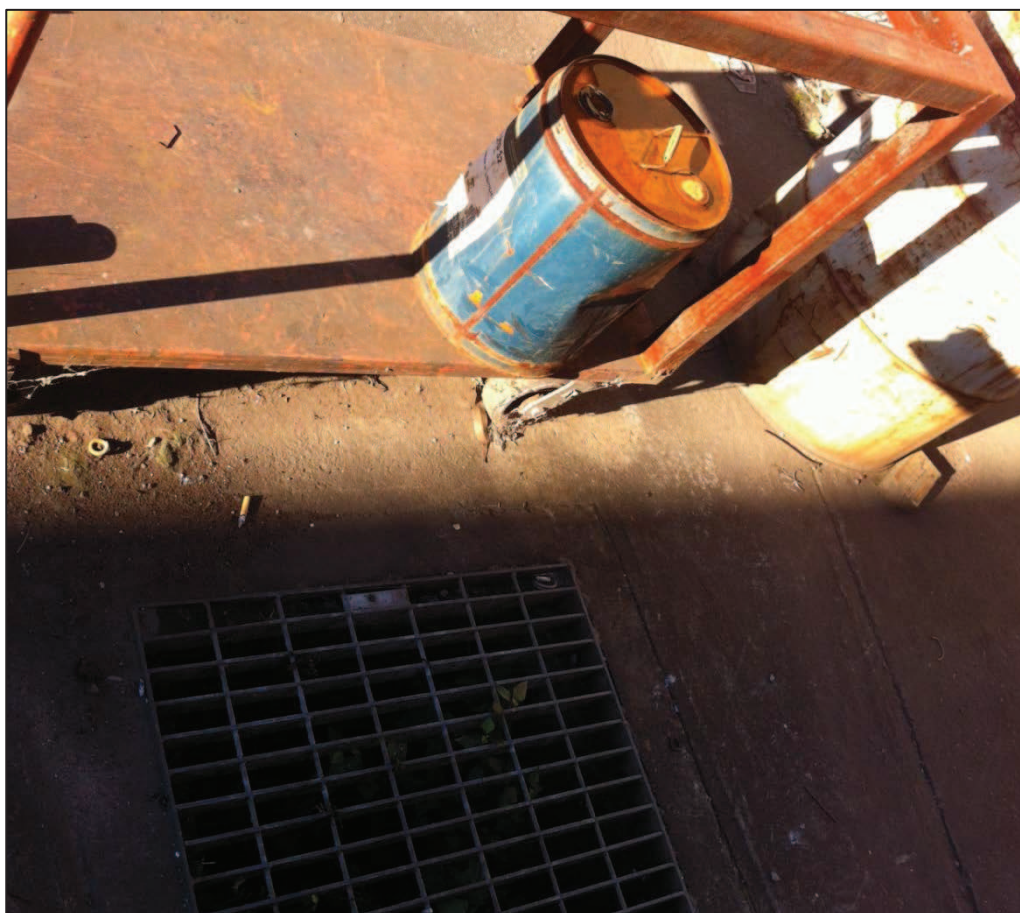


Plate 5 – Location 11 with a 20L hydraulic oil tin and stormwater drain.



Plate 6 – Location 12, flammable shed north of the Coils Factory.



Plate 7 – 200L paint thinner AST (AST 1) inside the flammables shed.



Plate 8 – Dark staining around machinery inside the Leaf Springs Shed.



Plate 9 – Inside the Leaf Springs Shed.



Plate 10 – Dark staining around machinery inside the Leaf Springs Shed.



Plate 11 – Dark staining around machinery inside the Leaf Springs Shed.



Plate 12 – Open tank filled with approximately 1,000L of tempering oil at Location 15, in the central portion of the Leaf Springs Shed



Plate 13 – Locations 16 and 17, scrap metal and a hopper (part of air extraction system for Coils Factory) between the Leaf Springs Shed and Coils Factory on the southern portion of the site.



Plate 14 – Empty paint tins adjacent to the western corner of the Coils Factory.



Plate 15 – The old ammunition bunkers on the eastern portion of the site.



Plate 16 – The metal shed adjoining the western wall of the western bunker.



Plate 17 – Location 21, painting shed in the central portion of the site, west of the bunkers.



Plate 18 – Drums west of the painting shed.



Plate 19 – Inside the painting shed.



Plate 20 – Metallic items in the dry drainage channel north of the bunkers.



Plate 21 – The area of the decommissioned UST (UST 1) with a store shed (Location 24) beyond.



Plate 22 – 2,500L diesel AST (AST 3) adjacent north of the eastern portion of the Coils Factory (Location 27).



Plate 23 – Dark staining underneath AST 3 in Location 27.



Plate 24 – Drain in Location 28 adjacent to the western wall.



Plate 25 – Old salt bath in Location 28, adjacent to the southern wall.



Plate 26 – Location 28, adjacent to the northern wall.



Plate 27 – The northern corner of the western half of the Coils Factory.



Plate 28 – Dark staining around machinery in the Coils Factory.



Plate 29 – The eastern half of the Coils Factory.



Plate 30 – Dark staining around machinery in the eastern half of the Coils Factory.



Plate 31 – Broken drain east of the Coils Factory.



Plate 32 – Boring location B5.



Plate 33 – Boring location B6.



Plate 34 – Boring location B7.



Plate 35 – Boring location B8.



Plate 36 – Boring location B10.



Plate 37 – Boring location B11.



Plate 38 – Boring location B12.



Plate 39 – Boring location B14.



Plate 40 – Boring location B15.



Plate 41 – Boring location B16.



Plate 42 – Boring location B17.



Plate 43 – Boring location B18 with boring location B19 beyond.



Plate 44 – Boring location B19.



Plate 45 – Boring location MW1.



Plate 46 – Boring location B20.



Plate 47 – Boring location B21.



Plate 48 – Boring location B22.



Plate 49 – Boring location B4.



Plate 50 – Boring location B24.

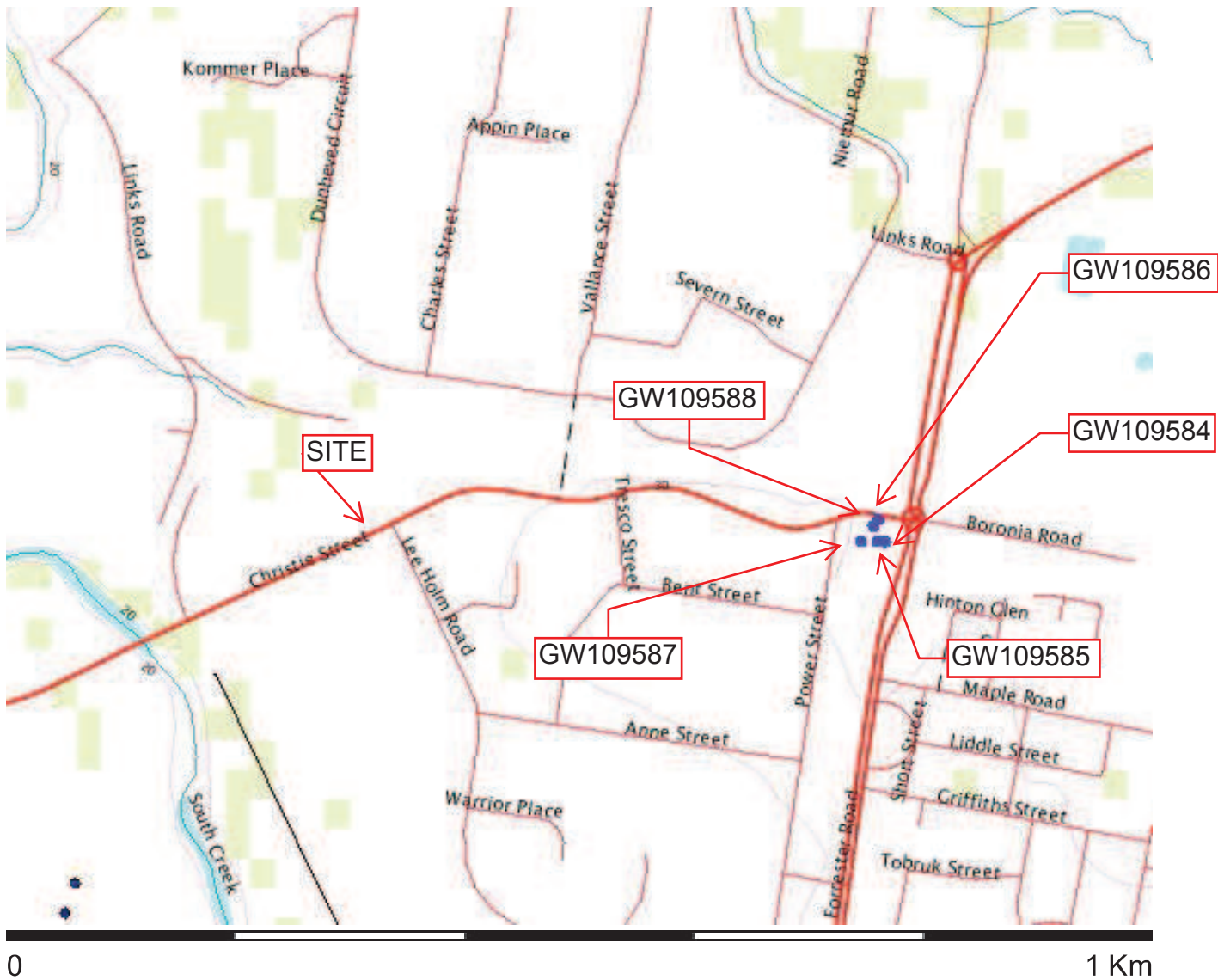


Plate 51 – Boring location B24 and diesel AST.

ATTACHMENT C

Map from the NSW Natural Resource Atlas

Map created with NSW Natural Resource Atlas - <http://www.nratlas.nsw.gov.au>
Wednesday, May 30, 2012



Legend

Symbol	Layer	Custodian
	Cities and large towns	renderImage: Cannot build image from features
	Populated places	renderImage: Cannot build image from features
	Towns	
	Groundwater Bores	
	Catchment Management Authority boundaries	
	Major rivers	



Topographic base map

Copyright © 2012 New South Wales Government. Map has been compiled from various sources and may contain errors or omissions. No representation is made as to its accuracy or suitability.

Groundwater Works Summary

For information on the meaning of fields please see [Glossary](#)
Document Generated on Wednesday, May 30, 2012

Print Report

[Works Details](#) [Site Details](#) [Form A](#) [Licensed](#) [Construction](#) [Water Bearing Zones](#) [Drillers Log](#)

Work Requested -- GW109584

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

GROUNDWATER NUMBER	GW109584
LIC-NUM	10BL163661
AUTHORISED-PURPOSES	MONITORING BORE
INTENDED-PURPOSES	MONITORING BORE
WORK-TYPE	Well
WORK-STATUS	
CONSTRUCTION-METHOD	Hand Auger
OWNER-TYPE	Private
COMMENCE-DATE	
COMPLETION-DATE	2003-01-14
FINAL-DEPTH (metres)	8.20
DRILLED-DEPTH (metres)	8.20
CONTRACTOR-NAME	
DRILLER-NAME	
PROPERTY	MOBIL OIL
GWMA	-
GW-ZONE	-
STANDING-WATER-LEVEL	2.89
SALINITY	
YIELD	

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

REGION	10 - SYDNEY SOUTH COAST
RIVER-BASIN	
AREA-DISTRICT	
CMA-MAP	
GRID-ZONE	
SCALE	
ELEVATION	
ELEVATION-SOURCE	
NORTHING	6263554.00
EASTING	294075.00
LATITUDE	33 44' 53"

LONGITUDE 150 46' 37"
GS-MAP
AMG-ZONE 56
COORD-SOURCE
REMARK

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

COUNTY CUMBERLAND
PARISH ROOTY HILL
PORTION-LOT-DP 51//774585

Licensed [\(top\)](#)

COUNTY CUMBERLAND
PARISH ROOTY HILL
PORTION-LOT-DP 51 774585

Construction [\(top\)](#)

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

HOLE- NO	PIPE- NO	COMPONENT- CODE	COMPONENT- TYPE	DEPTH-FROM (metres)	DEPTH-TO (metres)	OD (mm)	ID (mm)	INTERVAL	DETAIL
1		Hole	Hole	0.00	8.20	95			Hand Auger
1	1	Casing	P.V.C.	0.00	0.00	50			

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

FROM-DEPTH (metres)	TO-DEPTH (metres)	THICKNESS (metres)	ROCK- CAT-DESC	S- W-L	D- D-L	YIELD	TEST-HOLE- DEPTH (metres)	DURATION	SALINITY
0.00	0.00	0.00		2.89					

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

FROM	TO	THICKNESS	DESC	GEO-MATERIAL	COMMENT
0.00	0.20	0.20	CONCRETE		
0.20	0.70	0.50	CLAY		
0.70	1.60	0.90	CLAY,GREY,ORANGE		
1.60	2.20	0.60	GRAVELLY CLAY,HARD , DRY		
2.20	5.50	3.30	CLAY,MOISTURE,FIRM		
5.50	8.20	2.70	SHALE,BEDROCK,DARK GREY		

Warning To Clients: This raw data has been supplied to the Department of Infrastructure, Planning and Natural Resources (DIPNR) by drillers, licensees and other sources. The DIPNR 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.

Groundwater Works Summary

For information on the meaning of fields please see [Glossary](#)
Document Generated on Wednesday, May 30, 2012

Print Report

[Works Details](#) [Site Details](#) [Form A](#) [Licensed](#) [Construction](#) [Water Bearing Zones](#) [Drillers Log](#)

Work Requested -- GW109585

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

GROUNDWATER NUMBER GW109585
LIC-NUM 10BL163661
AUTHORISED-PURPOSES MONITORING BORE
INTENDED-PURPOSES MONITORING BORE
WORK-TYPE Well
WORK-STATUS
CONSTRUCTION-METHOD
OWNER-TYPE Private
COMMENCE-DATE
COMPLETION-DATE 2003-01-14
FINAL-DEPTH (metres) 8.20
DRILLED-DEPTH (metres)
CONTRACTOR-NAME
DRILLER-NAME
PROPERTY MOBIL OIL
GWMA -
GW-ZONE -
STANDING-WATER-LEVEL 2.40
SALINITY
YIELD

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

REGION 10 - SYDNEY SOUTH COAST
RIVER-BASIN
AREA-DISTRICT
CMA-MAP
GRID-ZONE
SCALE
ELEVATION
ELEVATION-SOURCE
NORTHING 6263554.00
EASTING 294062.00
LATITUDE 33 44' 53"

LONGITUDE 150 46' 36"
GS-MAP
AMG-ZONE 56
COORD-SOURCE
REMARK

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

COUNTY CUMBERLAND
PARISH ROOTY HILL
PORTION-LOT-DP 51//774585

Licensed [\(top\)](#)

COUNTY CUMBERLAND
PARISH ROOTY HILL
PORTION-LOT-DP 51 774585

Construction [\(top\)](#)

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

HOLE- NO	PIPE- NO	COMPONENT- CODE	COMPONENT- TYPE	DEPTH-FROM (metres)	DEPTH-TO (metres)	OD (mm)	ID (mm)	INTERVAL	DETAIL
1		Hole	Hole	0.00	8.20	125			Hand Auger

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

no details

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

FROM	TO	THICKNESS	DESC	GEO-MATERIAL	COMMENT
0.00	0.20	0.20	CONCRETE		
0.20	0.60	0.40	FILL,CLAY		
0.60	3.90	3.30	CLAY,MOTTLED RED,BROWN		
3.90	6.20	2.30	GRAVELLY CLAY		
6.20	8.20	2.00	SHALE		

Warning To Clients: This raw data has been supplied to the Department of Infrastructure, Planning and Natural Resources (DIPNR) by drillers, licensees and other sources. The DIPNR 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.

Groundwater Works Summary

For information on the meaning of fields please see [Glossary](#)
Document Generated on Wednesday, May 30, 2012

Print Report

[Works Details](#) [Site Details](#) [Form A](#) [Licensed](#) [Construction](#) [Water Bearing Zones](#) [Drillers Log](#)

Work Requested -- GW109586

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

GROUNDWATER NUMBER	GW109586
LIC-NUM	10BL163661
AUTHORISED-PURPOSES	MONITORING BORE
INTENDED-PURPOSES	MONITORING BORE
WORK-TYPE	Well
WORK-STATUS	
CONSTRUCTION-METHOD	Hand Auger
OWNER-TYPE	Private
COMMENCE-DATE	
COMPLETION-DATE	2003-01-15
FINAL-DEPTH (metres)	1.50
DRILLED-DEPTH (metres)	1.50
CONTRACTOR-NAME	
DRILLER-NAME	
PROPERTY	MOBIL OIL
GWMA	-
GW-ZONE	-
STANDING-WATER-LEVEL	
SALINITY	
YIELD	

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

REGION	10 - SYDNEY SOUTH COAST
RIVER-BASIN	
AREA-DISTRICT	
CMA-MAP	
GRID-ZONE	
SCALE	
ELEVATION	
ELEVATION-SOURCE	
NORTHING	6263598.00
EASTING	294063.00
LATITUDE	33 44' 52"

LONGITUDE 150 46' 36"
GS-MAP
AMG-ZONE 56
COORD-SOURCE
REMARK

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

COUNTY CUMBERLAND
PARISH ROOTY HILL
PORTION-LOT-DP 51//774585

Licensed [\(top\)](#)

COUNTY CUMBERLAND
PARISH ROOTY HILL
PORTION-LOT-DP 51 774585

Construction [\(top\)](#)

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

HOLE- NO	PIPE- NO	COMPONENT- CODE	COMPONENT- TYPE	DEPTH-FROM (metres)	DEPTH-TO (metres)	OD (mm)	ID (mm)	INTERVAL	DETAIL
1		Hole	Hole	0.00	1.50	125			Hand Auger
1	1	Casing	P.V.C.	0.00	0.00	50			

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

no details

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

FROM	TO	THICKNESS	DESC	GEO-MATERIAL	COMMENT
0.00	0.20	0.20	CONCRETE		
0.20	0.70	0.50	FILL,CLAY		
0.70	1.50	0.80	CLAY,FIRM TO STIFF		

Warning To Clients: This raw data has been supplied to the Department of Infrastructure, Planning and Natural Resources (DIPNR) by drillers, licensees and other sources. The DIPNR 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.

Groundwater Works Summary

For information on the meaning of fields please see [Glossary](#)
Document Generated on Wednesday, May 30, 2012

Print Report

[Works Details](#) [Site Details](#) [Form A](#) [Licensed](#) [Construction](#) [Water Bearing Zones](#) [Drillers Log](#)

Work Requested -- GW109587

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

GROUNDWATER NUMBER GW109587
LIC-NUM 10BL163661
AUTHORISED-PURPOSES MONITORING BORE
INTENDED-PURPOSES MONITORING BORE
WORK-TYPE Well
WORK-STATUS
CONSTRUCTION-METHOD Hand Auger
OWNER-TYPE Private
COMMENCE-DATE
COMPLETION-DATE 2003-01-15
FINAL-DEPTH (metres) 8.20
DRILLED-DEPTH (metres) 8.20
CONTRACTOR-NAME
DRILLER-NAME
PROPERTY MOBIL OIL
GWMA -
GW-ZONE -
STANDING-WATER-LEVEL 6.70
SALINITY
YIELD

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

REGION 10 - SYDNEY SOUTH COAST
RIVER-BASIN
AREA-DISTRICT
CMA-MAP
GRID-ZONE
SCALE
ELEVATION
ELEVATION-SOURCE
NORTHING 6263554.00
EASTING 294035.00
LATITUDE 33 44' 53"

LONGITUDE 150 46' 35"
GS-MAP
AMG-ZONE 56
COORD-SOURCE
REMARK

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

COUNTY CUMBERLAND
PARISH ROOTY HILL
PORTION-LOT-DP 51//774585

Licensed [\(top\)](#)

COUNTY CUMBERLAND
PARISH ROOTY HILL
PORTION-LOT-DP 51 774585

Construction [\(top\)](#)

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

HOLE- NO	PIPE- NO	COMPONENT- CODE	COMPONENT- TYPE	DEPTH-FROM (metres)	DEPTH-TO (metres)	OD (mm)	ID (mm)	INTERVAL	DETAIL
1		Hole	Hole	0.00	8.20	125			Hand Auger
1	1	Casing	P.V.C.	0.00	0.00	50			

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

FROM-DEPTH (metres)	TO-DEPTH (metres)	THICKNESS (metres)	ROCK- CAT-DESC	S- W-L	D- D-L	YIELD	TEST-HOLE- DEPTH (metres)	DURATION	SALINITY
0.00	0.00	0.00		6.70					

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

FROM	TO	THICKNESS	DESC	GEO-MATERIAL	COMMENT
0.00	0.20	0.20	CONCRETE		
0.20	0.40	0.20	FILL		
0.40	3.50	3.10	CLAY,VERY STIFF		
3.50	5.00	1.50	GRAVELLY CLAY		
5.00	7.50	2.50	CLAY,FIRM BROWN		
7.50	8.20	0.70	SHALE,WHITE,GREY		

Warning To Clients: This raw data has been supplied to the Department of Infrastructure, Planning and Natural Resources (DIPNR) by drillers, licensees and other sources. The DIPNR 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.

Groundwater Works Summary

For information on the meaning of fields please see [Glossary](#)
Document Generated on Wednesday, May 30, 2012

Print Report

[Works Details](#) [Site Details](#) [Form A](#) [Licensed](#) [Construction](#) [Water Bearing Zones](#) [Drillers Log](#)

Work Requested -- GW109588

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

GROUNDWATER NUMBER	GW109588
LIC-NUM	10BL163661
AUTHORISED-PURPOSES	MONITORING BORE
INTENDED-PURPOSES	MONITORING BORE
WORK-TYPE	Well
WORK-STATUS	
CONSTRUCTION-METHOD	Hand Auger
OWNER-TYPE	Private
COMMENCE-DATE	
COMPLETION-DATE	2003-01-16
FINAL-DEPTH (metres)	8.20
DRILLED-DEPTH (metres)	8.20
CONTRACTOR-NAME	
DRILLER-NAME	
PROPERTY	MOBIL OIL
GWMA	-
GW-ZONE	-
STANDING-WATER-LEVEL	2.62
SALINITY	
YIELD	

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

REGION	10 - SYDNEY SOUTH COAST
RIVER-BASIN	
AREA-DISTRICT	
CMA-MAP	
GRID-ZONE	
SCALE	
ELEVATION	
ELEVATION-SOURCE	
NORTHING	6263585.00
EASTING	294055.00
LATITUDE	33 44' 52"

LONGITUDE 150 46' 36"
GS-MAP
AMG-ZONE 56
COORD-SOURCE
REMARK

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

COUNTY CUMBERLAND
PARISH ROOTY HILL
PORTION-LOT-DP 51//774585

Licensed [\(top\)](#)

COUNTY CUMBERLAND
PARISH ROOTY HILL
PORTION-LOT-DP 51 774585

Construction [\(top\)](#)

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

HOLE- NO	PIPE- NO	COMPONENT- CODE	COMPONENT- TYPE	DEPTH-FROM (metres)	DEPTH-TO (metres)	OD (mm)	ID (mm)	INTERVAL	DETAIL
1		Hole	Hole	0.00	8.20	125			Hand Auger
1	1	Casing	P.V.C.	0.00	0.00	50			

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

FROM-DEPTH (metres)	TO-DEPTH (metres)	THICKNESS (metres)	ROCK- CAT-DESC	S- W-L	D- D-L	YIELD	TEST-HOLE- DEPTH (metres)	DURATION	SALINITY
0.00	0.00	0.00		2.62					

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

FROM	TO	THICKNESS	DESC	GEO-MATERIAL	COMMENT
0.00	0.20	0.20	CONCRETE		
0.20	0.70	0.50	FILL,CLAY		
0.70	2.60	1.90	CLAY,FIRM,ORANGE		
2.60	4.20	1.60	GRAVELLY CLAY		
4.20	7.20	3.00	CLAY,FIRM,BROWN,SOME GRAVEL		
7.20	8.20	1.00	SHALE,GREY,HARD		

Warning To Clients: This raw data has been supplied to the Department of Infrastructure, Planning and Natural Resources (DIPNR) by drillers, licensees and other sources. The DIPNR 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.

ATTACHMENT D



Job No 5499703

Phone: 1100
www.1100.com.au

Caller Details

Contact: Miss Jenna Seymour
Company: Geo-Logix Pty Ltd
Address: Unit 2309 4 Daydream St
WARRIEWOOD NSW 2102

Caller Id: 926297
Mobile: Not Supplied
Email: jseymour@geo-logix.com.au
Phone: 0299791722
Fax: 0299791222

Dig Site and Enquiry Details

WARNING: The map below only displays the location of the proposed dig site and does not display any asset owners' pipe or cables. The area highlighted has been used only to identify the participating asset owners, who will send information to you directly.



© MapData Services Pty Ltd 1998-2012

User Reference: Not Supplied
Working on Behalf of: Not Supplied
Enquiry Date: 30/05/2012
Start Date: 02/06/2012
End Date: 03/06/2012
Address: 61 Christie St
St Marys NSW 2760
Job Purpose: Excavation
Onsite Activity: Vertical Boring
Location of Workplace: Private Property
Location in Road: Not Supplied

- Check that the location of the dig site is correct. If not you must submit a new enquiry.
- Should the scope of works change, or plan validity dates expire, you must submit a new enquiry.
- Do NOT dig without plans. Safe excavation is your responsibility. If you do not understand the plans or how to proceed safely, please contact the relevant asset owners.

Notes/Description of Works:
Not Supplied

Your Responsibilities and Duty of Care

- If plans are not received within 2 working days, contact the asset owners directly & quote their Sequence No.
- ALWAYS perform an onsite inspection for the presence of assets. Should you require an onsite location, contact the asset owners directly. Please remember, plans do not detail the exact location of assets.
- Pothole to establish the exact location of all underground assets using a hand shovel, before using heavy machinery.
- Ensure you adhere to any State legislative requirements regarding Duty of Care and safe digging requirements.
- If you damage an underground asset you MUST advise the asset owner immediately.
- By using this service, you agree to Privacy Policy and the terms and disclaimers set out at www.1100.com.au
- For more information on safe excavation practices, visit www.1100.com.au

Asset Owner Details

The assets owners listed below have been requested to contact you with information about their asset locations within 2 working days. Additional time should be allowed for information issued by post. It is **your responsibility** to identify the presence of any underground assets in and around your proposed dig site. Please be aware, that not all asset owners are registered with the Dial Before You Dig service, so it is **your responsibility** to identify and contact any asset owners not listed here directly.

** Asset owners highlighted by asterisks ** require that you visit their offices to collect plans.

Asset owners highlighted with a hash require that you call them to discuss your enquiry or to obtain plans.

Seq. No.	Authority Name	Phone	Status
25250443	Endeavour Energy (formerly Integral)	0298534161	NOTIFIED
25250444	Telstra NSW, Central	1800653935	NOTIFIED
25250445	Jemena Gas West	1300880906	NOTIFIED
25250446	Sydney Water	132092	NOTIFIED
END OF UTILITIES LIST			

Lodge Your Free Enquiry Online – 24 Hours a Day, Seven Days a Week

Head Office: 51 Huntingwood Drive Huntingwood NSW 2148

ENDEAVOUR ENERGY

DBYD Underground Search Report

Date: 31/05/2012

DBYD Sequence No: 25250443

DBYD Job No: 5499703

To:	Miss Jenna Seymour	Company:	Geo-Logix Pty Ltd
Address:	Unit 2309 4 Daydream St, Warriewood, Nsw 2102		
Cust. ID:	926297	Email:	jseymour@geo-logix.com.au
Phone:	0299791722	Mobile:	Not Supplied
		Fax:	0299791222
Enquiry Location: 61 Christie St, St Marys, NSW 2760			

Our Search has shown that:

UNDERGROUND CABLES ARE PRESENT on our plans within the nominated enquiry location. This search is based on the graphical position of the excavation site as denoted in the DBYD customer confirmation sheet.

In conjunction with the disclaimer as shown on our plan, persons are expected to exercise all due care especially in the vicinity of Padmount and Pole Substation, Transmission Poles and Towers as Underground Earth Grids may exist but are not shown on our plans.

WARNING:

The customer must obtain a new set of plans from Endeavour Energy if work has not been started or completed within twenty (20) working days of the original plan issue date.

All electrical apparatus shall be regarded as live until proved de-energised. Contact with live electrical apparatus will cause severe injury or death.

In accordance with the Electricity Supply Act 1995, YOU ARE OBLIGED TO REPORT ANY DAMAGE TO ENDEAVOUR ENERGY'S ASSETS IMMEDIATELY BY CALLING 131003.

NOTE:

For the safety of our customers, plans are provided as a free service and if further clarification of information is required, call 02 9853 4161.

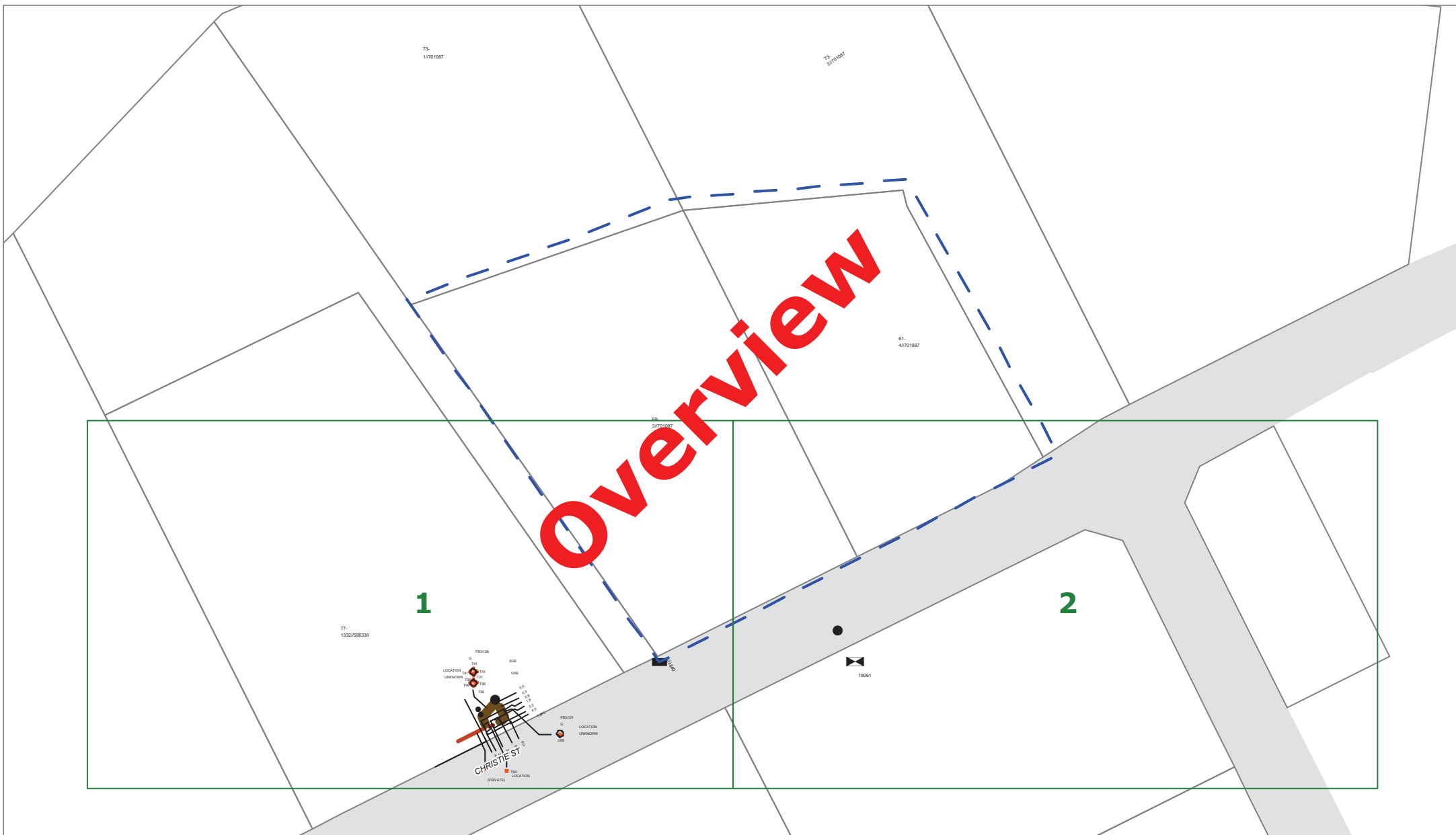
Endeavour Energy's assets are generally located in the road reserve. Endeavour Energy's plan does not show any underground customer service mains or information relating to service mains within private property.

All plans must be printed and made available at the worksite where excavation is to be undertaken. These plans must be reviewed and understood by the crew on site prior to excavation commencing.

The excavator must carry out work in accordance with the WorkCover Authority's 'Work Near Underground Asset Guideline'. This guideline can be downloading at http://www.workcover.nsw.gov.au/formspublications/publications/Pages/WC01419_WorkNearUndergroundAssets.aspx

If you are unable to print the plans, call 02 9853 4161 for assistance and arrange for plans to be collected from Head Office. Endeavour Energy does not mail the hard copy of plans.

Endeavour Energy thanks you for your assistance in the protection of Critical Infrastructure and your DBYD enquiry



ENDEAVOUR ENERGY WARNING

This plan shows the approximate location of underground cables relative to fixtures existing when the cables were laid, and has been prepared solely for Endeavour Energy's own use. Endeavour Energy has taken all reasonable steps to ensure that the information is accurate as possible but will accept no liability for inaccuracies in the information shown on such plans from any cause whatsoever arising. Persons excavating are expected to exercise all due care in the vicinity where cables are indicated and will be held responsible for any damage caused to Endeavour Energy's property.

ALL ELECTRICAL APPARATUS SHALL BE CONSIDERED LIVE UNTIL PROVED DE-ENERGISED.
Contact with live electrical apparatus will cause severe injury or death.



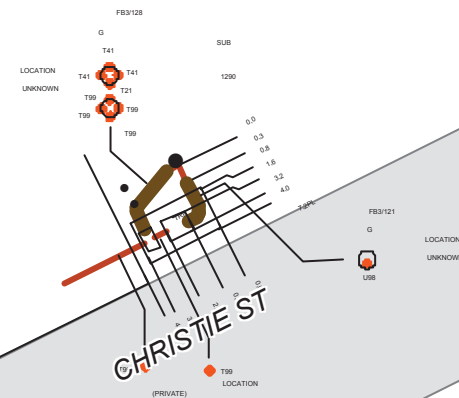
DO NOT SCALE

DBYD Sequence Number:	25250443
Issued Date:	31/05/2012

69
3/701087

1

77-
1332//586330



103840



ENDEAVOUR ENERGY WARNING

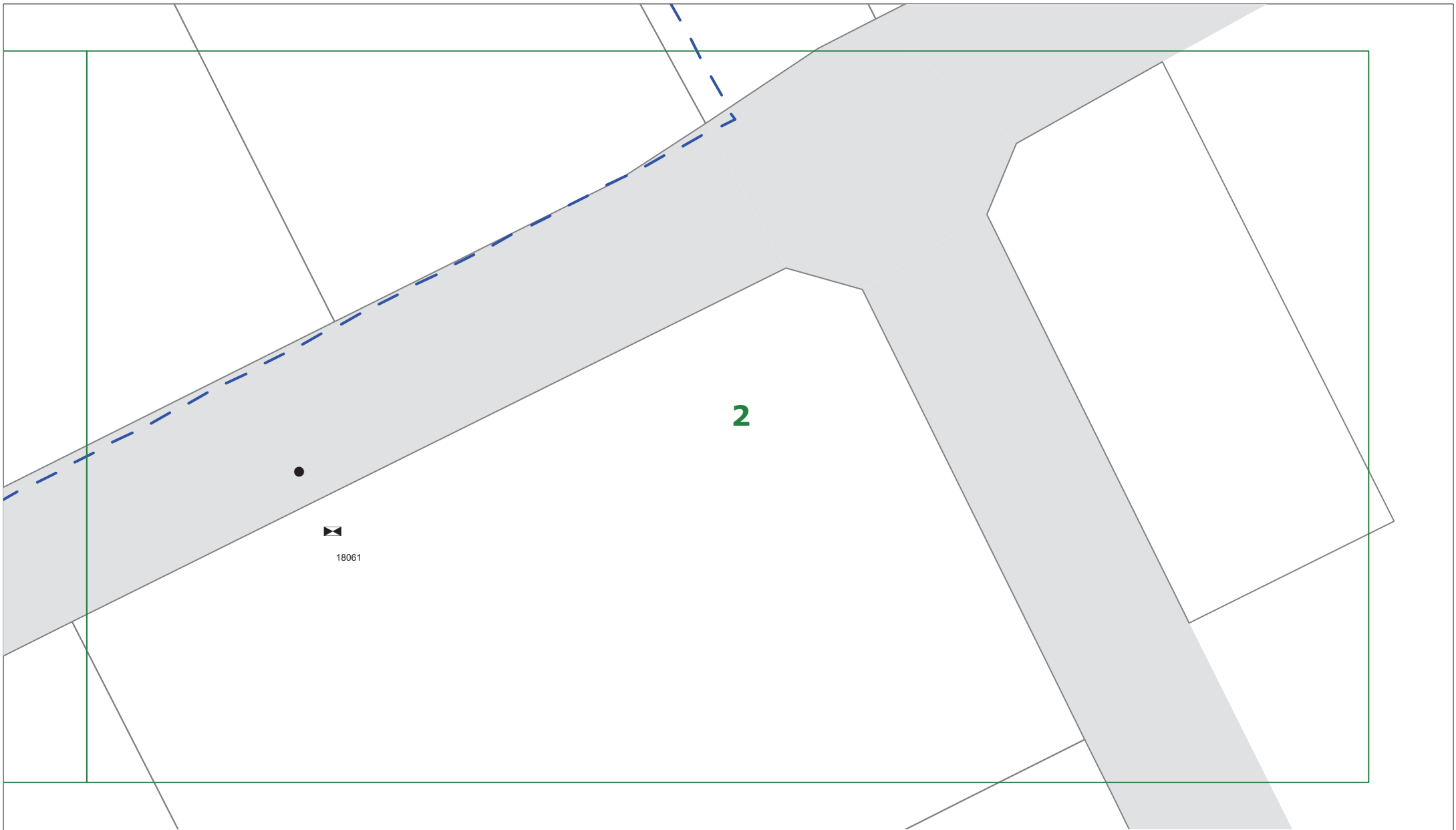
This plan shows the approximate location of underground cables relative to fixtures existing when the cables were laid, and has been prepared solely for Endeavour Energy's own use. Endeavour Energy has taken all reasonable steps to ensure that the information is accurate as possible but will accept no liability for inaccuracies in the information shown on such plans from any cause whatsoever arising. Persons excavating are expected to exercise all due care in the vicinity where cables are indicated and will be held responsible for any damage caused to Endeavour Energy's property.

ALL ELECTRICAL APPARATUS SHALL BE CONSIDERED LIVE UNTIL PROVED DE-ENERGISED.
Contact with live electrical apparatus will cause severe injury or death.



DO NOT SCALE

DBYD Sequence Number:	25250443
Issued Date:	31/05/2012



ENDEAVOUR ENERGY WARNING

This plan shows the approximate location of underground cables relative to fixtures existing when the cables were laid, and has been prepared solely for Endeavour Energy's own use. Endeavour Energy has taken all reasonable steps to ensure that the information is accurate as possible but will accept no liability for inaccuracies in the information shown on such plans from any cause whatsoever arising. Persons excavating are expected to exercise all due care in the vicinity where cables are indicated and will be held responsible for any damage caused to Endeavour Energy's property.

ALL ELECTRICAL APPARATUS SHALL BE CONSIDERED LIVE UNTIL PROVED DE-ENERGISED.
Contact with live electrical apparatus will cause severe injury or death.



DO NOT SCALE

DBYD Sequence Number:	25250443
Issued Date:	31/05/2012

IMPORTANT INFORMATION READ BEFORE EXCAVATING

Background

Endeavour Energy is able to make available plans of its underground assets to persons who intend to undertake excavation works in Endeavour Energy's distribution area.

We have set out below important information regarding the recommended procedures that should be followed when using this service and also the extent of our responsibility in respect of any plans provided.

Any plans provided to you are made available subject to the provisions set out below.

It is very important that you read and understand all the information and disclaimers provided below before making a request for plans.

Information Provided by Endeavour Energy

- Any plans provided pursuant to this service are intended to show the approximate location of underground cables relative to fixtures when cables were laid.
- Such plans have been prepared solely for use by Endeavour Energy staff for design, construction and maintenance purposes.
- All enquiry details and results are kept in a register.

DISCLAIMER

Whilst Endeavour Energy has taken all reasonable steps to ensure that the information contained in the plans is as accurate as possible it will accept no liability for inaccuracies in the information shown on such plans.

CUSTOMER REQUESTS AND RESPONSIBILITIES:

- If you intend to undertake any excavation work in Endeavour Energy's distribution area, it is your responsibility to contact **1100 – Dial Before You Dig or www.1100.com.au** and request plans, at least three working days prior to the proposed excavation date.
- Endeavour Energy expects to be able to provide relevant plans within 48 hours after a request is made.
- Endeavour Energy plans are frequently updated to record changes to underground assets. All plans are valid for **20** working days only from the date of issue therefore excavation should take place as soon as possible after the plans have been received. All plans provided by Endeavour Energy are subject to the warning set out below.
- Endeavour Energy retains copyright over all plans and details provided in response with customer's request.
- Persons excavating are expected to exercise all due care in the vicinity where cables are indicated and will be held responsible for any damage to any underground assets (including any Endeavour Energy property) or any other loss caused (including consequential losses) as a result of such excavations. All underground assets should be visually located by hand digging (pot holing).

- **Any damage to Endeavour Energy's assets must be reported to it on [131003](tel:131003) immediately.**

Further Information:

- Individual customer service cables are not shown on Endeavour Energy's plans.
- For further clarification on cable locations or the correct interpretation of the plan or for assistance with printing plans, please contact **02 98534161** between 8.00am – 4.30pm, Monday to Friday.
- For information concerning proposed works affecting your property contact Endeavour Energy's Contestable Works Administrators nearest Service Centre.

WARNING:

Endeavour Energy's plans show only the presence of cables and their position relative to road boundaries, property fences and other structures at the time of installation. Endeavour Energy does not warrant or hold that such plans are accurate.

A person who undertakes excavation work is subject to duties and responsibilities under the *Occupational Health and Safety Act 2000*. The WorkCover Authority has prepared the *Work Near Underground Assets Guideline*, which contains practical advice for working near underground utility services and guidance as to how to meet the requirements of the *Occupational Health and Safety Act 2000* when carrying out excavation work.

DO NOT ASSUME DEPTH OR ALIGNMENT of cables as these vary significantly as a result of changes to road widths, road levels, fences or buildings subsequent to installation.

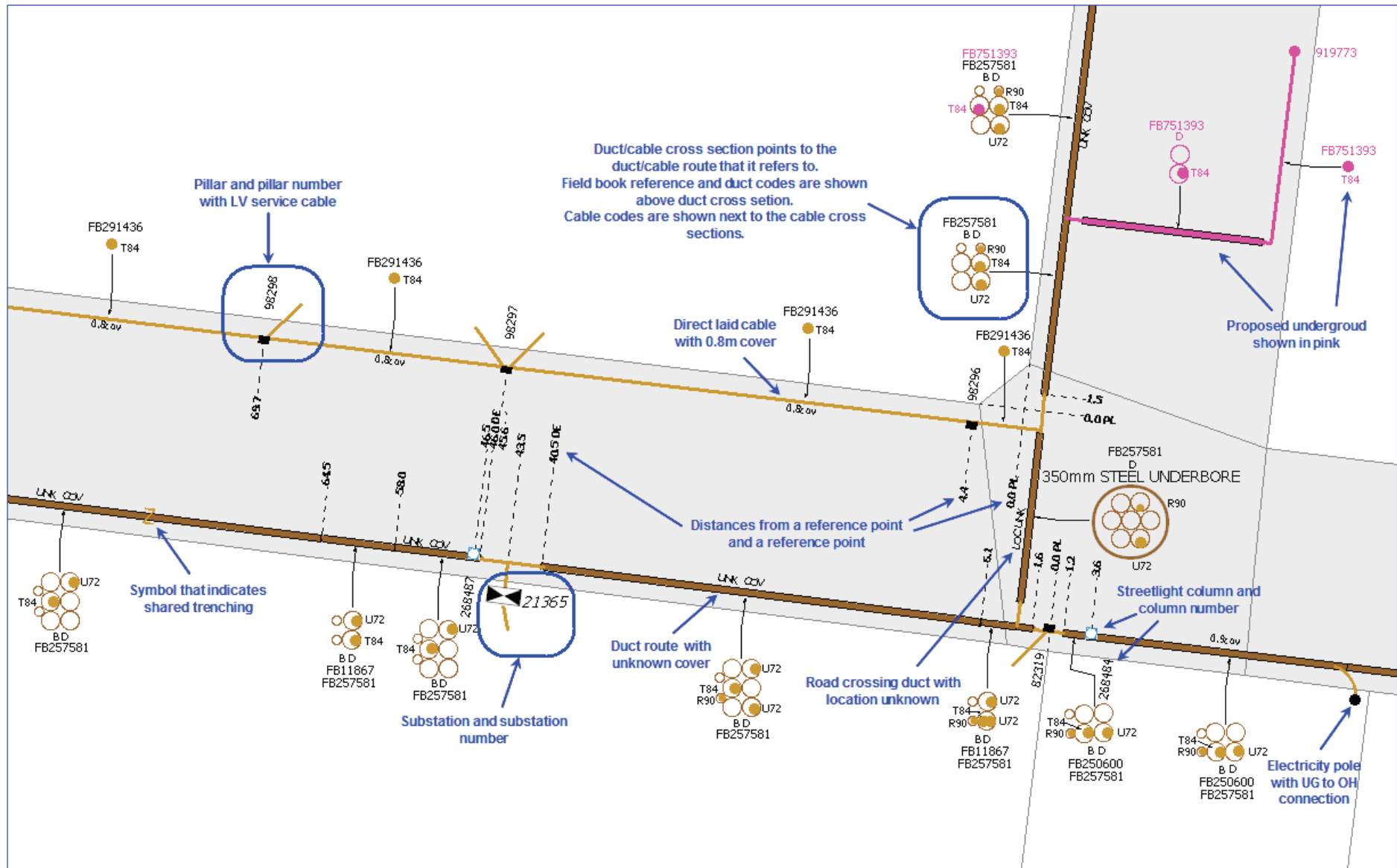
Persons excavating have a **DUTY OF CARE** when excavating near Endeavour Energy's cables. Before using machine excavators, Endeavour Energy's cables **MUST FIRST BE PHYSICALLY EXPOSED BY SOFT DIG** (pot holing) to identify its location.

Those excavating near Endeavour Energy's cables should be aware that asbestos or asbestos-containing material may be present in Endeavour Energy's underground assets and that Organo-Chloride Pesticides (OCP) may be present in some sub-transmission trenches.

ALL ELECTRICAL APPARATUS SHALL BE REGARDED AS LIVE UNTIL PROVED DE-ENERGISED. Contact with live electrical apparatus will cause severe injury or death.

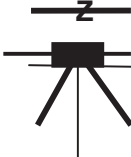
In all cases of electric shock or suspected electric shock the victim shall immediately be transported to hospital or medical centre for treatment.

EXAMPLE OF HOW TO READ ENDEAVOUR ENERGY PLANS



STANDARD UNDERGROUND SYMBOLS / LABELS

NOTE: If symbology has not been provided on the plan use symbols as shown below.

 or 	Street light column
	Padmount substation
 or 	Overground pillar (O.G.Box)
	Underground pit
	Duct run
	Cable run
	Typical duct section
	Typical underbore section
	Blocked duct
	Cable section
	STJ, PBJ
STJ	Straight through joint
PBJ	Parallel branch joint
	Underground to overhead pole
SL	Streetlight conductor
SC	Service cable
SE	Cable sealed end
SF	Service Feeder
OS	Out of Service
O.A.M.	Over awning main
U.A.M.	Under awning main
N.I.S.	Not in service
	Shared trenching
	Service point of attachment

DUCT CODE LABELS

B = 50 mm PVC

D = 125mm PVC

DEPTH & LOCATION LABELS

0.5- 0.7 COV = 500mm – 700mm
Standard Depth (Not Shown on Plans)

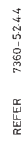
0.9 COV = 900mm Depth

UNK COV = Depth Unknown

LOC UNK = Location Unknown

0.6 PL = Standard Location 600mm from
Property Line (Not Shown on Plans)

0.9 PL = Located 900mm from Property Line



This plan shows the approximate location of relative to fixtures existing when the cables were laid, and has been prepared solely for Endeavour's own use. It has taken all reasonable steps to ensure that the information is as accurate as possible but will accept no liability for inaccuracies in the information shown on such plans from any cause whatsoever.

Persons excavating are expected to exercise all due care in the vicinity where cables are indicated and will be held responsible for any damage caused to Endeavour Energy's Property.

All Electrical apparatus shall be considered de-energised. Contact with live electrical apparatus may result in severe injury or death.

[illegible]

In reply to your enquiry, there are **High Pressure Gas Mains** in the vicinity of your intended work, as generally illustrated on the attached map. There may also be other mains or services at the location, as discussed in the warning below. For an explanation of the map, please see the key below.

The following excavations guidelines apply:

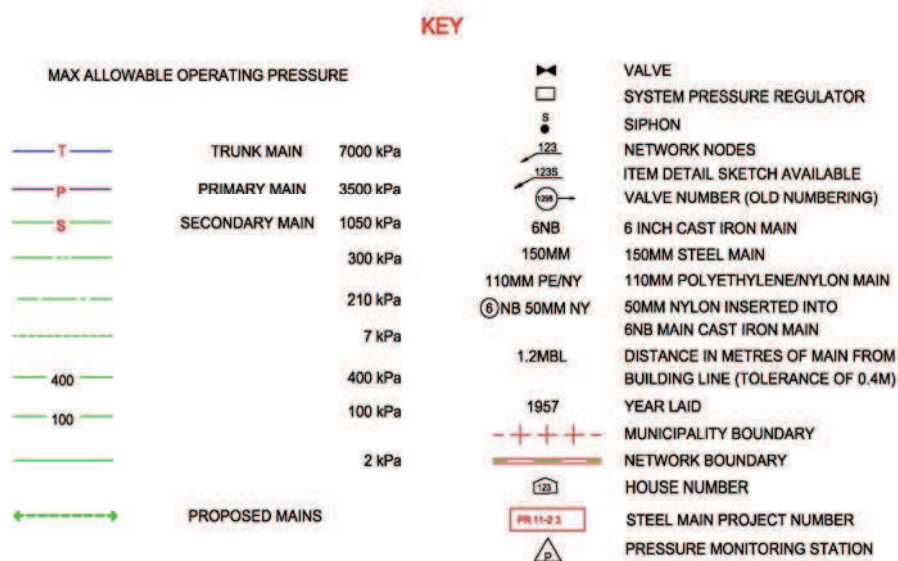
Excavation Guidelines:

Prior to **any** excavations in this area, you **must** contact the High Pressure Response Coordinator on **1300 665 380**. **(Please note that a minimum two working days notice is required)** to arrange a survey.

For all works in the vicinity of High Pressure Gas Mains you must arrange for a Pipeline Technician to attend and supervise all excavations. Charges apply for attendance of any works outside the hours of 7am to 4pm, Monday to Friday ("**Standard Business Hours**") and for any attendance during Standard Business Hours that is longer than 2 hours.

In accordance with clause 34D(1) of the Gas Supply (Safety and Network Management) Regulation 2008 (NSW), you should be informed that all excavation, (including pot-holing by hand to confirm the location of pipes) should be performed in accordance with "**Work Near Underground Assets Guideline**" published in 2007 by the Work Cover Authority.

A copy of this Guideline is available at: www.workcover.nsw.gov.au



Warning: The enclosed plans show the position of Jemena Gas Networks (NSW) Ltd's underground gas mains and installations in public gazetted roads only. **Individual customers' services and services belonging to other third parties are not included** on these plans. These plans have been prepared solely for the use of Jemena Gas Networks (NSW) Ltd and Jemena Asset Management Pty Ltd (together "**Jemena**") and any reliance placed on these plans by you is entirely at your own risk. The plans may show the position of underground mains and installations relative to fences, buildings etc., as they existed at the time the mains etc were installed. The plans may not have been updated to take account of any subsequent change in the location or style of those features since the time at which the plans were initially prepared. Jemena makes no warranty as to the accuracy or completeness of the enclosed plans and does not assume any duty of care to you nor any responsibility for the accuracy, adequacy, suitability or completeness of the plans or for any error, omission, lack of detail, transmission failure or corruption in the information provided. Jemena does not accept any responsibility for any loss that you or anyone else may suffer in connection with the provision of these plans, however that loss may arise (including whether or not arising from the negligence of Jemena, its employees, agents, officers or contractors). The recipient of these plans must use their own care and diligence in carrying out their works and must carry out further surveys to locate services at their work site. Persons excavating or carrying out other earthworks will be held responsible for any damage caused to Jemena's underground mains and equipment. Jemena advises that you may be required to carry out potholing by hand if required by a Pipeline Technician to confirm the location of Jemena's main and installations. This must also be performed by you under the supervision of a Pipeline Technician and be carried out in accordance with the Working Near Underground Assets Guideline published in 2007 by Work Cover Authority

In case of Emergency Phone 131 909 (24 hours)

Sinem
9397 9401

Jemena Asset Management Pty Ltd ABN 53 086 013 461
for and on behalf of Jemena Gas Networks (NSW) Ltd ABN 87 003 004 322

THIS MAP UPDATED ON 2/01/10
THIS PLAN IS DIAGRAMATIC ONLY. DISTANCES
SCALED FROM THIS PLAN MAY NOT BE ACCURATE.
DATE ALTERED: BY:

ADJOINING MAPS

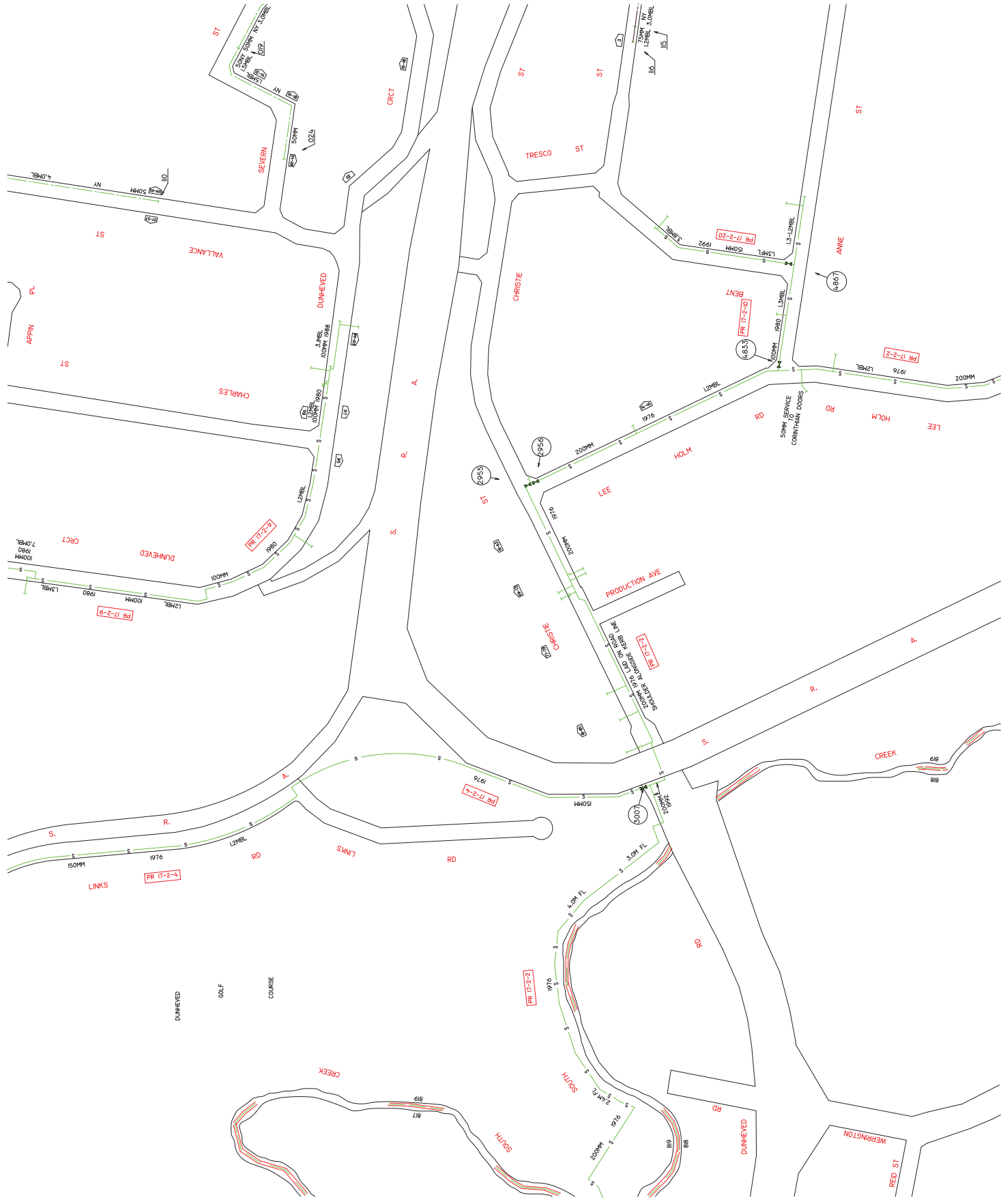
KEY
MAX ALLOWABLE OPERATING PRESSURE

Pressure (kPa)	Line Type	Location
7000	Trunk	Main
3500	Primary	Main
1050	Secondary	Main
300	Secondary	Main
210	Trunk	Branch
7	Trunk	Branch
400	Trunk	Branch
100	Trunk	Branch
2	Trunk	Branch

PROPOSED MAINS

PR 2 3	STEEL MAIN PROJECT NUMBER	YEAR LAID
A	PRESSURE MONITORING STATION VALVE	1957
S	SYSTEM PRESSURE REGULATOR	- + - + -
RA	SIPHON	MUNICIPALITY BOUNDARY
RA	NETWORK NODES	HOUSE NUMBER
RA	ITEM DETAIL SKETCH AVAILABLE	
RA	VALVE NUMBER (OLD NUMBERING)	
6NB	6 INCH CAST IRON MAIN	
150MM	150MM STEEL MAIN	
100MM PE/ANY	100MM POLYETHYLENE/NYLON MAIN	
50MM	50MM NYLON INSERTED INTO	
6NB	6NB MAIN CAST IRON MAIN	
1.2MBL	DISTANCE IN METRES OF MAIN FROM BUILDING LINE (TOLERANCE OF 0.1)	
1957		
- + - + -		
100		

ST MARYS 5B



ATTENTION

Accuracy of plans not to be assumed – see Clause 4. Plans not for conveyancing purposes.

The accompanying plan(s) in relation to Sydney Water's pipelines are forwarded in response to your recent Dial Before You Dig inquiry. Please note the following important information and bases upon which the plan(s) are issued:

1. The accompanying plans have been generated by an automated system. The plans should cover the area highlighted in the "Locality Indication Only" window on your Caller Confirmation. It is that defined area which is used to automatically generate the plans and not UBD or address information or any free text information provided to Dial Before You Dig. It is important, therefore, that you be accurate in defining your dig site when you lodge your enquiry with Dial Before You Dig. It is the enquirer's responsibility to resubmit the enquiry to Dial Before You Dig if the information supplied does not match the proposed dig site.
2. Plans indicate the general position of Sydney Water's pipelines and associated structures and fittings ("pipelines") at the time of their construction. Sydney Water does NOT guarantee that all its existing pipelines are shown on the plans (Particular care should be exercised in newer developments as pipeline details may not yet have been supplied to Sydney Water). Plans have NOT necessarily been adjusted to reflect any subsequent changes to surface levels, road alignments, fences, buildings and the like. Pipeline locations are approximate and, accordingly, the plans are NOT suitable for scaling purposes.
3. Plans do NOT show locations of property services (often called house service lines) belonging to and/or serving individual customers, and which are usually connected to Sydney Water's pipelines.
4. You accept the plans on the understanding that Sydney Water does not warrant their accuracy or completeness. This means that you cannot rely solely on the plans as a conclusive record of the location of Sydney Water's pipes nor the location of any other underground pipes or cables. The safe and proper excavation and exposure of underground pipes and cables is your responsibility. No liability will accrue to Sydney Water for damage, loss or injury as a consequence of excavation undertaken by you or your employees or agents. You are also referred to the warning below.
5. To determine their precise location, Sydney Water's pipelines MUST first be exposed by pot-holing using hand-held tools or vacuum techniques i.e. before any mechanical means of excavation are employed.
6. Asbestos cement pipelines may form part of Sydney Water's water and sewerage reticulation systems and, if damaged, can pose a risk to health.
7. Persons excavating in the vicinity of Sydney Water's pipelines MUST exercise care and suitably protect Sydney Water's pipelines. Protection may include timbering, sheet piling, support and/or bracing or tommying to prevent movement.
8. Any movement in a pipeline could result in joint failure, flooding and death or injury to persons (in addition to damaged assets). The protection of Sydney Water's pipelines benefits the safety of workers.
9. Constructors are legally responsible for any damage and financial loss resulting from their interfering with Sydney Water's pipelines. **In an emergency, call 13 20 90 (24 hours, 7 days).**
10. Minimum clearances MUST be maintained between Sydney Water's pipelines and underground services belonging to other parties.
11. Plans MUST be approved by Sydney Water (usually signified by stamping) prior to landscaping and/or building over or adjacent to any Sydney Water asset.
12. Backfilling of excavation work in the immediate vicinity of Sydney Water's pipelines MUST comply with Sydney Water's standards.

Further information and guidance is available on Sydney Water's website at www.sydneywater.com.au / Building Developing and Plumbing where the following documents can be found under Dial Before You Dig :

- Avoid Damaging Water and Sewer Pipelines
- Water Main Symbols
- Sewer Symbols
- Depths of Mains
- Guidelines for Building Over/Adjacent to Sydney Water Assets
- Clearances Between Underground Services

or call 13 20 92 for Customer Enquiries.

NOTE:

If you lodged your enquiry via telephone or facsimile, be aware that on-line enquiries 24 hours per day 7 days per week to www.dialbeforeyoudig.com.au will enable you to receive colour plans in .pdf format 24/7 via email.

The plans were prepared primarily for Sydney Water's internal business needs and for the primary purpose of recording the approximate location of Sydney Water's pipes. You are referred to the disclaimer above.

The plans do not indicate any other pipes or cables, for example, electrical cables, whether owned by Sydney Water or others. You must ensure that any proposed excavation is conducted safely and in compliance with all relevant safety and other laws.

NOTICE: This communication is confidential. If you are not the nominated recipient, please destroy all copies immediately. Sydney Water Corporation prohibits unauthorised copying and/or distribution of this communication.

Hydra Legend

Sewer

Sewer Main (with flow arrow & size type annotation)	
Disused Main	
Pressure Main (Rising Main)	
Maintenance Hole with upstream depth to invert	
Terminal Maintenance Shaft	
Maintenance Shaft	
Maintenance Hole with Overflow Weir	
Rodding Point	
Ventshaft INDUCT	
Ventshaft EDUCT	
Vertical	
Lamphole	
Property Connection Point (with chainage to downstream MH)	
Concrete Encased Section	
Sewer Rehabilitation	
Pumping Station	
Sewer Mining	

Sewer - Low Pressure Sewer

Low Pressure Sewer Main	
Pump Unit (Alarm, Electrical Cable, Pump Unit)	
Property Valve Boundary Assembly	
Stop Valve	
Reducer / Taper	
Flushing Point	

Sewer - Vacuum

Vacuum Sewer Main	
Divisional Valve	
Vacuum Chamber	
Clean Out Point	

Stormwater

Stormwater Pipe	
Stormwater Channel	
Stormwater Gully	
Stormwater Maintenance Hole	

Property Details

Boundary Line	
Lot Number	
House Number	
Development Application Reference	
Easement	
Location of SWC Heritage item - Please call 13 20 92 during office hours and ask for the Heritage Unit.	

Water

Water Main - Potable (with size type annotation)	
Disconnected Main - Potable	
Proposed Main - Potable	
Water Main - Recycled	
Special Supply Conditions - Potable	
Special Supply Conditions - Recycled	
Restrained Joints - Potable	
Restrained Joints - Recycled	
Hydrant	
Maintenance Hole	
Stop Valve	
Stop Valve with By-pass	
Stop Valve with Tapers	
Closed Stop Valve	
Air Valve	
Valve	
Scour	
Reducer / Taper	
Vertical Bends	
Reservoir	

Symbols for Recycled Water as per Potable above. Main and Symbol colour as indicated.

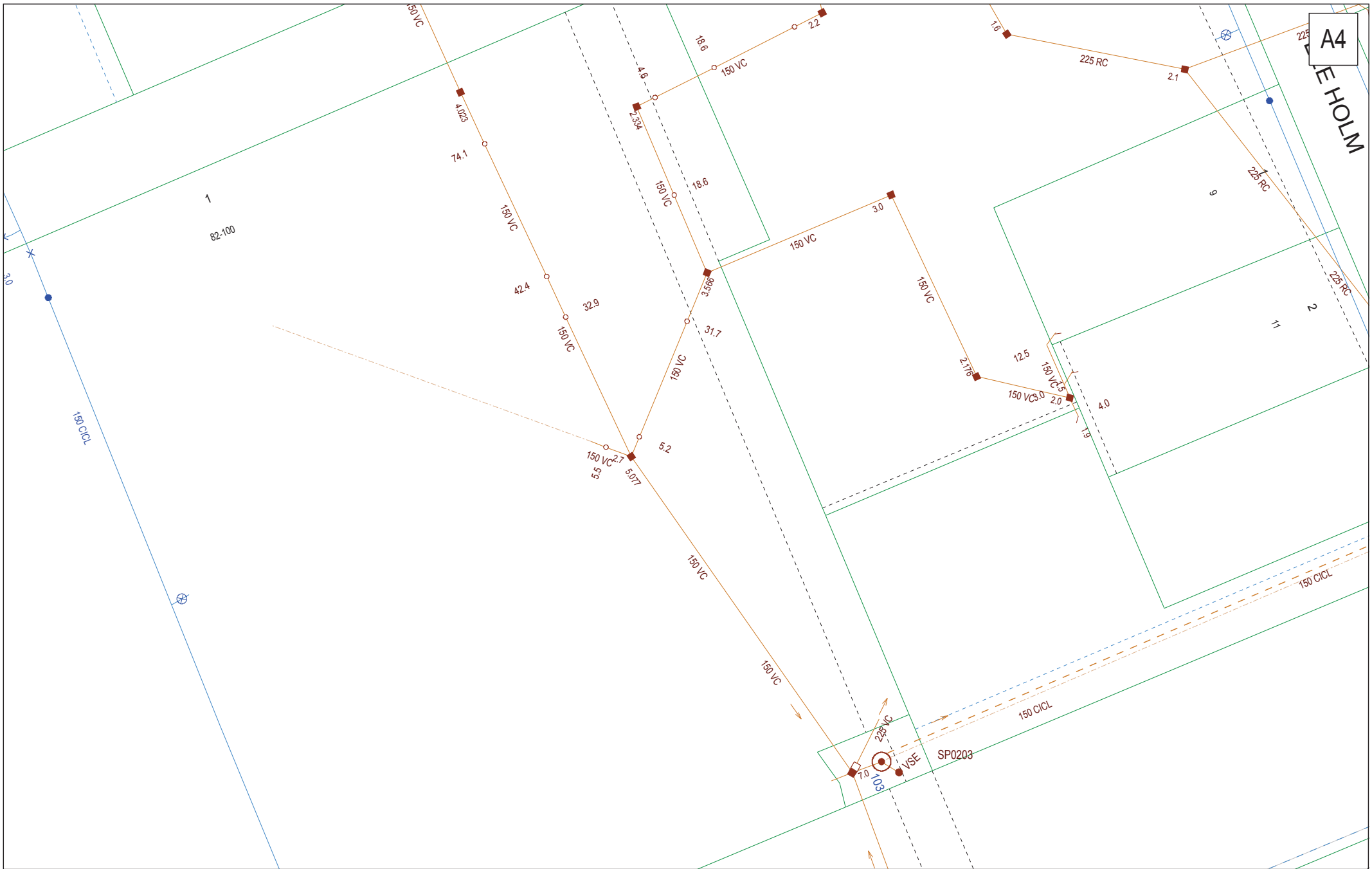
Private Mains

Potable Water Main	
Recycled Water Main	
Sewer Main	

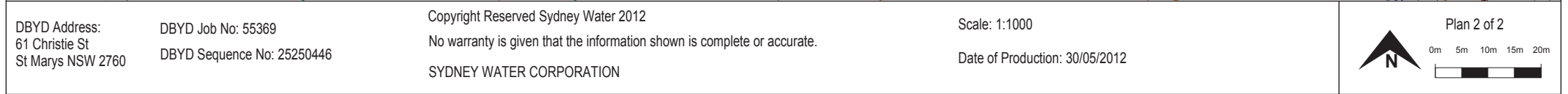
Symbols for Private Mains shown grey. Main colour as indicated.

PIPELINE MATERIAL ABBREVIATIONS

ABBREVIATION	INTERPRETATION
ABS	acrylonitrile butadiene styrene
AC	asbestos cement
BRICK	brick
CI	cast iron
CICL	cast iron cement lined
CONC	concrete
COPPER	copper
DI	ductile iron
DICL	ductile iron cement (mortar) lined
EPDM	ethylene propylene diene monomer
EW	earthenware
FIBG	fibreglass
FL BAR	forged locking bar
GI	galvanised iron
GRP	glass reinforced polyester
HDPE	high density polyethylene
MS	mild steel
MSCL	mild steel cement lined
PE	polyethylene
PP	polypropylene
PVC	polyvinylchloride
PVC-M	polyvinylchloride modified
PVC-O	polyvinylchloride oriented
PVC PW	polyvinylchloride profile wall
PVC SW	polyvinylchloride smooth wall
PVC-U	polyvinylchloride unplasticised
RC	reinforced concrete
S	steel
SCL	steel cement (mortar) lined
SGW	salt glazed ware
SS	stainless steel
STONE	stone
VC	vitrified clay
WI	wrought iron
WS	woodstave



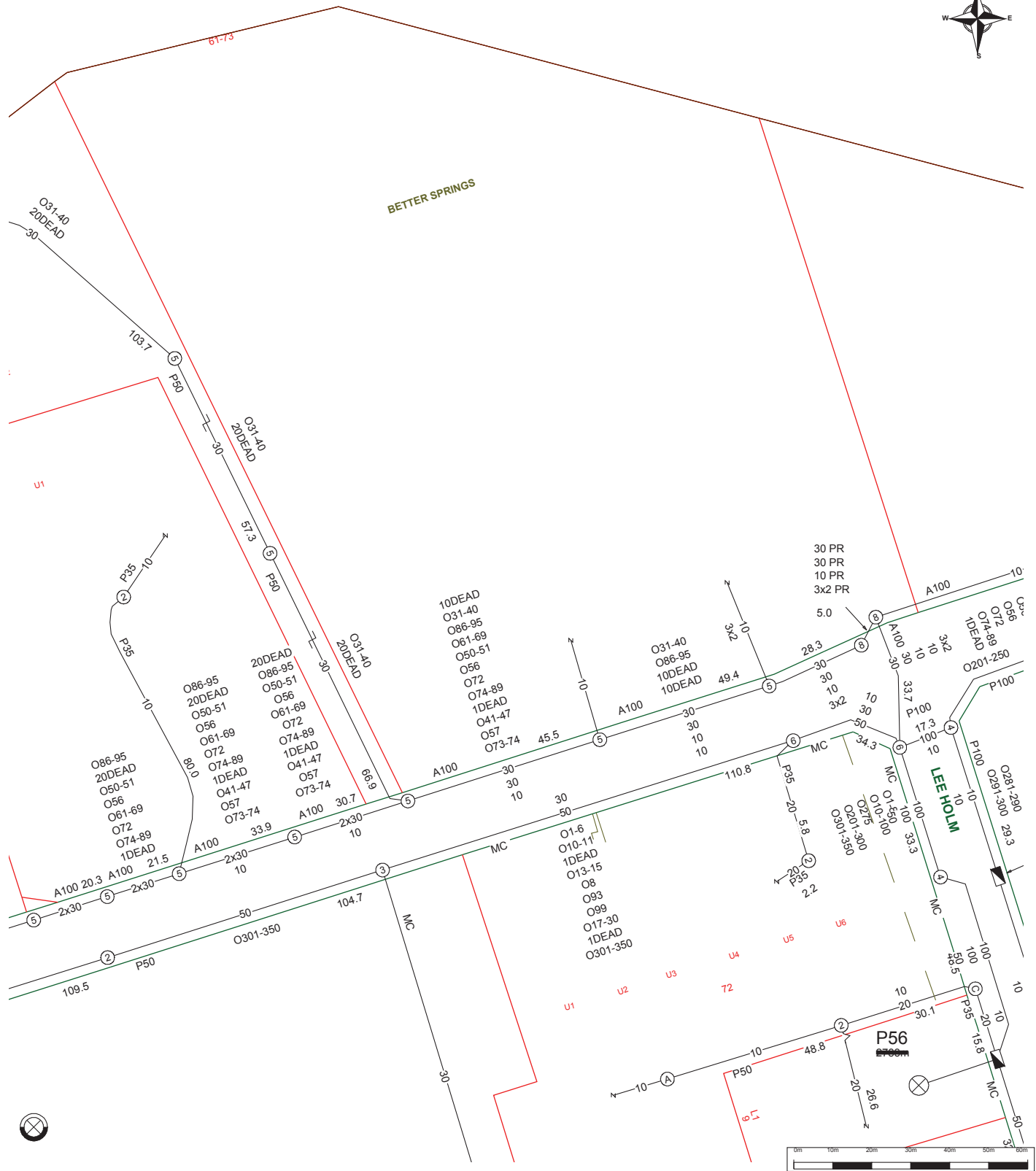
A4



Plan 2012

0m 5m 10m 15m 20m

N



TELSTRA CORPORATION LIMITED A.C.N. 051 775 556

Sequence Number: 25250444

CAUTION: Fibre optic and/ or major network present in plot area. Please read the Duty of Care and contact Telstra Plan Services should you require any assistance.

The above plan must be viewed in conjunction with the Mains Cable Plan on the following page

WARNING - Due to the nature of Telstra underground plant and the age of some cables and records, it is impossible to ascertain the precise location of all Telstra plant from Telstra's plans. The accuracy and/or completeness of the information supplied can not be guaranteed as property boundaries, depths and other natural landscape features may change over time, and accordingly the plans are indicative only. Telstra does not warrant or hold out that its plans are accurate and accepts no responsibility for any inaccuracy shown on the plans.

It is your responsibility to locate Telstra's underground plant by careful hand pot-holing prior to any excavation in the vicinity and to exercise due care during that excavation.

Please read and understand the information supplied in the duty of care statement attached with the Telstra plans. TELSTRA WILL SEEK COMPENSATION FOR LOSS CAUSED BY DAMAGE TO ITS PLANT.

Telstra plans and information supplied are valid for 60 days from the date of issue. If this timeframe has elapsed, please reapply for plans.

c2:M501-700 20
CA3:B10N-200 1
c3007:FC/D/1-24 2
c3002:CA/D/1-12 1
c3002:W/D/1-12 6
2xDIST
PLANNED SMOF T/



CAUTION: Fibre optic and/ or major network present in plot area. Please read the Duty of Care and contact Telstra Plan Services should you require any assistance.

Page 2 of 2

Telstra Accredited Plant Locators - New South Wales (Central Region)

If a physical location is required please contact a Telstra accredited locator from the list below. (fees apply)

Name & areas covered	Contact details
Abitek Pty Ltd - Rouse Hill	(02) 4580 9883 or 0413 327 243 Fax: (02) 4580 9884
Absolute Locating Services Pty Ltd - Pennant Hills	(02) 9939 6978 or 0425 257 147 Fax: (02) 9484 7313
Ace Pipe Locating - Chester Hill <i>All Areas, Sydney, Parramatta, Penrith, Ryde, Liverpool, Sutherland Shire, Bankstown, Wollongong, Central Coast</i>	0467 002 222 Fax: (02) 9644 2308
Action Locating <i>Sydney, Newcastle, Wollongong</i>	0415 228 466 (02) 9671 5600
Advanced Ground Locations - Maitland <i>Newcastle, Hunter Valley, Central Coast</i>	(02) 4930 3195 or 0412 497488 Fax: (02) 4930 3222
Australian Utilities Management Pty Ltd- Frenchs Forest	0424 537 952
Australian Underground Survey Solutions Pty Ltd- Narre Warren <i>All Areas</i>	(03) 9700 2311 or 0419 488 883 Fax: (03) 9314 1568
All About Pipes - Leppington	(02) 9606 2320 or 0408 790 010 Fax: (02) 9606 2325
Aquabend - Mirrabooka	0488 925 432
Aquatek Australia Pty Ltd <i>All Areas</i>	0418 612 445 (02) 9971 1294
Australian Locating Services <i>All Areas</i>	1300 761 545 or 0412 227 434 Fax (02) 9531 2169
Barry Bros Specialised Servcies - Milperra	(02) 8723 8777 or 0417 374 252 Fax (02) 9773 0777
Bedrock Bobcat & Excavation Pty Ltd - Minnamurra	(02) 4237 5659 Fax (02) 4237 8029
Bradmac Locating Services - Winmalee	0434 157 409 Fax (02) 4754 3735
Cable & Pipe Locations <i>Coffs Harbour, Yamba, Dorrigo, Grafton, Nambucca, Kempsey</i>	0408 730 430 Fax: (02) 6649 1236
Cardno Australian Underground Services <i>All Areas</i>	1300 224 664 or (02) 9627 5988
CCTS Telecommunications Construction Pty Ltd- Sandgate <i>Newcastle Area</i>	0419 223 199 or (02) 4920 6615 Fax (02) 4967 6572
Chris Bates and Associates - Tighes Hill <i>Mid North Coast, Newcastle, Hunter Valley and Central Coast</i>	0408 427 391 Fax (02) 4969 4028
Civil Directions Pty Ltd - Ourimbah <i>Central Coast, Newcastle, Hunter Valley, Lake Macquarie, Hornsby Area</i>	(02) 4362 8503 or 0412 360 921
Civilscan Pty Ltd <i>Greater Sydney</i>	0416 068 060
Dags Location Services - Glenwood	0417 147 945 Fax: (02) 8824 5667
Down Under Consulting - Westleigh	0408 150 345
Down Under Detection Services - Rose Bay	(02) 9371 7744
Down Under Pipeline Surveys Pty Ltd - Orangeville	(02) 4653 1286 or 0418 675 374 Fax (02) 4653 1747
Durkin Construction Pty Ltd- Auburn <i>All Areas</i>	(02) 9712 0308 or 0413 158 255 Fax (02) 9712 0206
Georadar - Moorooka	(07) 3103 9464 or 0411 725 724 Fax: (07) 3848 7610
Ground Scan Locating <i>Bathurst & Central West</i>	0414 640 640 Fax (02) 6332 2599
Groundsearch <i>Blacktown</i>	(02) 9829 1479 0417 411 569
Hi-Tech Locations - Barnsley <i>Newcastle, Hunter Valley, North Coast, South Coast</i>	(02) 4953 4226 or 0466 583 962 Fax: (02) 4953 4227
Hunter Ground Search - Cameron Park <i>Central Coast, Hunter Valley, Newcastle</i>	(02) 4953 1244 or 0418 684 819

Hunter Smith Management NSW & ACT	(02) 8090 2695 or 0422 224 761 Fax (02) 8282 5056
Hunter Valley Excavations Pty Ltd - Muswellbrook Singleton, Muswellbrook, Aberdeen, Scone, Murrumbidgee, Merriwa	0427 949 507 Fax: (02) 6541 5280
Kerr Technologies - Wollongong Wollongong, Southern Highlands, South Coast to Bega, West to Wagga, North to Newcastle Inc Sydney/West Sydney	(02) 4262 2009 or 0417 622 009 Fax (02) 4262 0364
Jacksons Utility Location Service - Pakenham	0417 511 114
Lambert Locations - Gold Coast South East Queensland, Northern NSW	1300 150 035 or 0418 150 035
Laneyrie Electrical Pty Ltd - Dapto Helensburg to Uladulla, Southern Highlands	(02) 4262 5166 or 0412 079 079 Fax (02) 4262 8167
Lend Lease Infrastructure Services - Seven Hills	1300 484 008 Fax: (02) 9620 9516
Locaters Sydney, Penrith, Richmond, Macarthur	0418 262 025
Locaters - Wollongong Wollongong, Macarthur	0409 113 313
Lyntet Communications - Dubbo Dubbo, Forbes, Grenfell, Parkes, Bourke, Bourke North, Nyngan, Coonabarabran, Coonamble, Mudgee, Narramine, Wellington, Orange, Bathurst, Molong, Yeoval, Coolah, Dunedoo, Gilgandra, Mendooran	0409 811 673 Fax (02) 6882 9856
Metro Resources Group Pty Ltd - Revesby	(02) 9773 3700 Fax: (02) 9792 4912
Mia Pipe & Cable Layers Pty Ltd - Griffith	(02) 6964 0083 or 0418 501 050 Fax: (02) 6964 7877
O'Donnell Griffin Pty Ltd - Mitchell Canberra, Queanbeyan, Yass	(02) 6204 3300 or 0428 227 608 Fax: (08) 6209 9761
Online Pipe & Cable Locating - Girraween	1300 665 384 or 0418 402 234 Fax (02) 9676 6127
Pipeline Technology Services	(08) 8351 7000 or 0419 878 220 Fax: (08) 8159 7537
Point Locations - East Corimal Sydney & Surrounding areas, Wollongong, Southcoast, Southern highlands	0417 683 939
Riteway Traffic Control - Charmhaven Central Coast - Newcastle/Hunter	0419 212 969 email: kbrowne@ritewaytc.com.au
Riverina Horizontal Boring Pty Ltd - Wodonga	(02) 6059 1788 or 0419 149 153 Fax: (02) 6059 5090
Rock Drilling Australia Pty Ltd - Upper Coomera	(07) 5573 1578 or 0407 319 997 Fax: (07) 5665 7233
Rubicof - Cessnock Gosford, Newcastle, Taree, Bathurst	(02) 4990 5718 or 0418 683 451 Fax: (02) 4991 2600
Rutherford Electrical Engineering Services - Rutherford	(02) 4932 7344 Fax (02) 4932 5219
Seek Locations Pty Ltd - Tuncurry Forster, Gloucester, Taree, Port Macquarie, Karuah, Kempsey	(02) 6555 8550 or 0407 256 858 Fax (02) 6555 2548
Safe Dig Vacuum Excavation - Greenbank	0439 220 076 or 0408 880 262 Fax: (07) 3297 6639
Shamrock Civil - Birkdale	0424 605 497
Signal Support Services - Goulburn Goulburn, Southern Highlands, Canberra	(02) 4821 8334 or 0418 237 668 Fax: (02) 4821 0203
Siteline Projects Pty Ltd - Fairlight Greater Sydney, Newcastle	1300 788 814 or 0418 215 441 Fax: (02) 9938 3172
Suk Truk Services Pty Ltd - Branxton Lower & Upper Hunter Valley, Mid North Coast, Central Coast, Newcastle	0419 125 551 Fax: (02) 4938 3418
Suresearch Aust - Wentworthville Sydney, Penrith, Richmond, Wollongong, Katoomba, Macarthur, Central Coast, Newcastle, Maitland, Hunter Valley, Port Macquarie	1300 884 520 or 0408 221 046 Fax: (02) 8915 1487
Sydwide Concrete Saw & Pipe Locators Pty Ltd	0400 815 095 Fax: (02) 9822 7048
Tamworth Precision Excavations - Tamworth	(02) 6760 7722 or 0428 668 728 Fax: (08) 6760 7755
Underground Service Locations Pty Ltd - Gosford Central Coast	(02) 4324 7496 or 0408 677584 Fax: (02) 4323 2626

Vac-U-Digga Pty Ltd - Ormeau

1300 822 834
Mob: 0409 468 711
Fax: 07 3807 5599



Telstra Corporation Limited

DUTY OF CARE

IMPORTANT:

Please read and understand all the information and disclaimers provided below.

Sketches and Plans provided by Telstra are circuit diagrams only and indicate the presence of telecommunications plant in the general vicinity of the geographical area shown; exact ground cover and alignments cannot be given with any certainty and cover may alter over time. Telecommunications plant seldom follow straight lines and careful on site investigation is essential to uncover and reveal its exact position.

Due to the nature of Telstra plant and the age of some cables and records, it is impossible to ascertain the location of all Telstra plant. The accuracy and/or completeness of the information can not be guaranteed and, accordingly Telstra plans are intended to be indicative only.

"DUTY OF CARE"

When working in the vicinity of telecommunications plant you have a legal "Duty of Care" that must be observed.

It is the responsibility of the owner and any consultant engaged by the owner, including an architect, consulting engineer, developer, and head contractor to design for minimal impact and protection of Telstra plant. Telstra will provide plans and sketches showing the presence of its network to assist at this design stage.

It is the owner's (or constructor's) responsibility to:-

- a) request plans of Telstra plant for a particular location at a reasonable time before construction begins. If you have any doubts as to the exact location of Telstra Plant, we strongly recommend that you engage an Accredited plant Locator in your area;
- b) visually locate Telstra plant by hand digging or using non destructive water jet method (pot holing) where construction activities may damage or interfere with Telstra plant (see "Essential Precautions and Approach Distances" section for more information); and
- c) contact Telstra's **Plan Services** (see below for details) if Telstra plant is wholly or partly located near planned construction activities.

DAMAGE:

ANY DAMAGE TO TELSTRA'S NETWORK MUST BE REPORTED TO 132203 IMMEDIATELY.

The owner is responsible for all plant damage when works commence prior to obtaining Telstra plans, or failure to follow agreed instructions.

Telstra reserves all rights to recover compensation for loss or damage to its cable network or other property including consequential losses.

EMERGENCY SITUATIONS

Emergency situations are unplanned and include (amongst other things):

- damaged or faulty underground or aerial power cables / poles
- burst/leaking water mains
- burst/leaking sewer mains.
- burst/leaking gas pipes
- any other emergency situation that may impact Telstra network.

NOTE: failure to lodge requests in time for normal maintenance work is not deemed as an emergency.

During working hours - in emergency situations, urgent requests for plans or information relating to the location of Telstra network are to be made direct to the Dial Before You Dig Service.
Note that a fast response can be provided if a request is made on line with a supplied return email address between 5am-10pm AEST 7days a week.

Outside Normal Business hours or outside hours of automated responses - in emergency situations , urgent requests for plans or information relating to the location of Telstra network are to be made direct to Telstra on phone **1800 801 801**

NATURAL DISASTERS

Natural Disasters include (amongst other things):

- Earthquakes
- Cyclones
- Floods; and
- Tsunami

In the case of such events, urgent requests for plans or information relating to the location of Telstra network can be made directly to Telstra Network Integrity Team Managers as follows:

NSW - Peter Garth 0419 263 445

QLD - Tony Kent 0419 727 397

VIC/TAS - David Povazan 0417 300 947

SA/NT/WA - Dave Ballard 0419 807 901

PLAN SERVICES

For all Telstra DBYD (Dial Before You Dig) map enquiries please contact Telstra Plan Services

email - **Telstra.Plans@team.telstra.com**

fax - **(02) 4961 3714**

phone - **1800 653 935** (for urgent, onsite or optic fibre enquiries)

Please note - to make an enquiry the plans must be current (within 60 days of issue). If your plans have expired you will need to submit a new request via DBYD.

ASSET RELOCATIONS

You are not permitted to relocate or alter any Telstra assets or network under any circumstance.

For all enquiries relating to the relocation of Telstra assets please phone **1800 810 443** or email **F1102490@team.telstra.com**

CONCERNING TELSTRA PLANS:

Please note the following:

- For plans of Telstra locations contact **Dial Before You Dig** at least 2 business days prior to digging. (**www.1100.com.au** or phone **1100**)
- Fast response can be provided by Telstra if an email address is supplied. (if posted, this may take up to one week or longer to receive plans)
- Telstra plans and information provided are **valid for 60 days** from the date of issue.
- Telstra owns and retains the copyright in all plans and details provided in conjunction with the applicant's request. The applicant is authorised to use the plans and details only for the purpose indicated in the applicant's request. The applicant must not use the plans or details for any other purpose. The plans and details should be disposed of by shredding or any other secure disposal method after use.
- Telstra plans or other details are provided only for the use of the applicant, its servants, or agents. **The applicant may not give the plans or details to other parties, and may not generate profit from commercialising the plans or details.**
- Please contact Telstra **Plan Services** (see above for details) immediately should you locate Telstra assets not indicated on these plans.
- Telstra, its servants or agents shall not be liable for any loss or damage caused or occasioned by the use of plans and or details so supplied to the applicant, its servants and agents, and the applicant agrees to indemnify Telstra against any claim or demand for any such loss or damage.
- Please ensure Telstra plans and information provided remains on-site at all times throughout your construction phase.

ESSENTIAL PRECAUTIONS and APPROACH DISTANCES:

NOTE: If the following clearances cannot be maintained, please contact Telstra Plan Services (see above for details) for advice on how best to resolve this situation.

1. On receipt of plans and sketches and before commencing excavation work or similar activities near Telstra's plant, **carefully locate this plant first** to avoid damage. Undertake prior manual exposure such as potholing when intending to excavate or work **closer** to Telstra plant than the following approach distances.

Where Telstra's plant is in an area where road and footpaths are well defined by kerbs or other features a minimum clear distance of 600mm must be maintained from where it could be reasonably presumed that plant would reside.

In non established or unformed reserves and terrain, this approach distance must be at least 1.5 metres.

In country/rural areas which may have wider variations in reasonably presumed plant presence, the following minimum approach distances apply:

- a) Parallel to major plant: 10 metres (for IEN, optic fibre and copper cable over 300 pairs)
- b) Parallel to other plant: 5 metres

NOTE: Even manual pot-holing needs to be undertaken with extreme care, commonsense and employing techniques least likely to damage cables. For example, orientate shovel blades and trowels parallel to the cable rather than digging across the cable.

If construction work is parallel to Telstra plant, then careful hand digging or using non destructive water jet method (pot-holing) at least every 5m is required to establish the location of all plant, hence confirming nominal locations before work can commence.

2. Maintain the following minimum clearance between construction activity and **actual location** of Telstra Plant.

Jackhammers/Pneumatic Breakers	<i>Not within 1.0m of actual location.</i>
Vibrating Plate or Wacker Packer Compactor	<i>Not within 0.5m of Telstra ducts. 300mm compact clearance cover before compactor can be used across Telstra ducts.</i>
Boring Equipment (in-line, horizontal and vertical)	<i>Not within 2.0m of actual location. Constructor to hand dig or use non-destructive water jet method (pot-hole) and expose plant.</i>
Heavy Vehicle Traffic (over 3 tonnes)	<i>Not to be driven across Telstra ducts (or plant) with less than 600mm cover. Constructor to check depth via hand digging.</i>
Mechanical Excavators, Farm ploughing and Tree Removal	<i>Not within 1.0m of actual location. Constructor to hand dig or use non-destructive water jet method (pot-hole) and expose plant.</i>

All Telstra pits and manholes should be a minimum of 1.2m in from the back of kerb after the completion of your work.

All Telstra conduit should have the following minimum depth of cover **after the completion of your work:-**

- **Footway 450mm**
- **Roadway 450mm at drain invert and 600mm at road centre crown**

For clearance distances relating to Telstra pillars, cabinets and RIMs/RCMs please contact Telstra Plan Services (see above for details).

FURTHER ASSISTANCE:

Assistance can be obtained by contacting Telstra **Plan Services**

Where on-site location is provided, the owner is responsible for all hand digging or use non-destructive water jet method (pot-holing) to visually locate and expose Telstra plant.

If plant location plans or visual location of Telstra plant by digging reveals that the location of Telstra plant is situated wholly or partly where the owner plans to work, then **Telstra's Network Integrity Group** must be contacted through Telstra **Plan Services** to discuss possible engineering solutions.

NOTE:

If Telstra relocation or protection works are part of the agreed solution, then payment to Telstra for the cost of this work shall be the responsibility of the principal developer or constructor. The principal developer or constructor will be required to provide Telstra with the details of their proposed work showing how Telstra's plant is to be accommodated and these details must be approved by the Regional Network Integrity Manager prior to the commencement of site works.

RURAL LANDOWNERS - IMPORTANT INFORMATION

Where Telstra owned cable crosses agricultural land, Telstra may provide a once off free on-site electronic cable location. The Telstra Plan Services operator will provide assistance in determining whether a free on-site location is required.

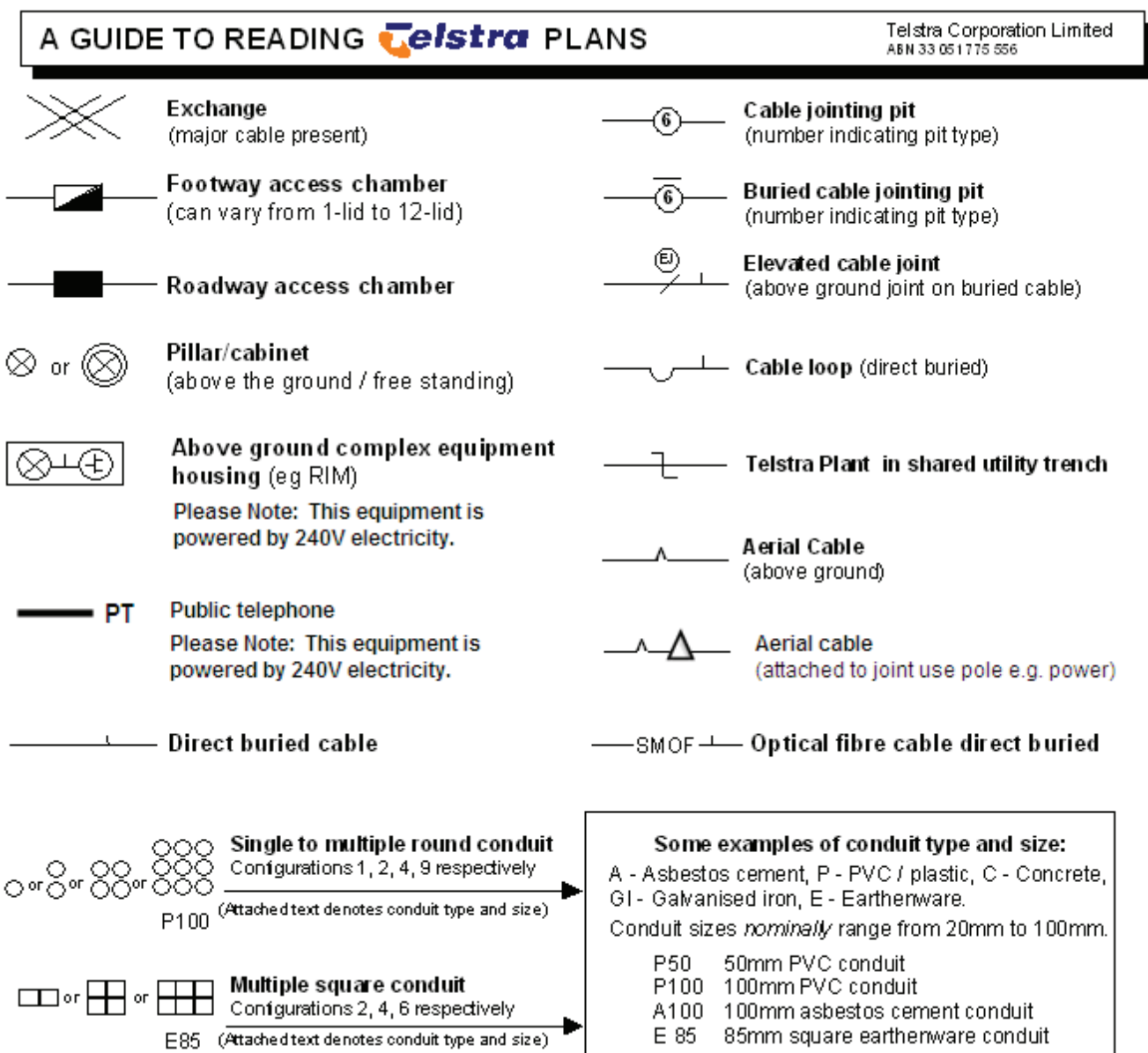
Please note:

- The exact location, including depth of cables can only be verified by pot holing, which is not covered by this service.
- This service is only available to assist private rural land owners.
- This service covers one hour on-site only. Additional time can be purchased directly from the Accredited Plant Locator.

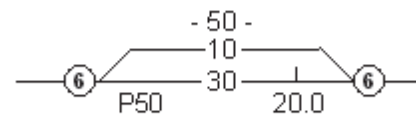
For further information including terms and conditions, please contact Telstra Plan Services on phone **1800 653 935**.

PRIVACY NOTE

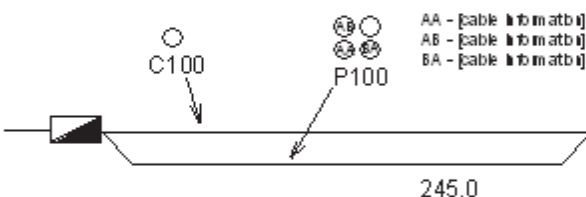
Your information has been provided to Telstra by DBYD to enable Telstra to respond to your DBYD request. Telstra keeps your information in accordance with its privacy statement entitled "Protecting Your Privacy" which can be obtained from Telstra either by calling 1800 039 059 or visiting our website at www.telstra.com.au/privacy



Some examples of how to read Telstra plans:



One 50mm PVC conduit (P50) containing a 50-pair and a 10-pair cable between two 6-pits, 20.0m apart, with a direct buried 30-pair cable along the same route.



Two separate conduit runs between two footway access chambers (manholes) 245m apart. A nest of four 100mm PVC conduits (P100) containing assorted cables in three ducts (one being empty) and one empty 100mm concrete duct (C100) along the same route.

WARNING: Telstra's plans show only the presence of cables and plant. They only show their position relative to road boundaries, property fences etc. at the time of installation and Telstra does not warrant or hold out that such plans are accurate thereafter due to changes that may occur over time.

DO NOT ASSUME DEPTH OR ALIGNMENT of cables or plant as these vary significantly.

The customer has a DUTY OF CARE when excavating near Telstra cables and plant. Before using machine excavators TELSTRA PLANT MUST FIRST BE PHYSICALLY EXPOSED BY SOFT DIG (potholing) to identify its location.

Telstra will seek compensation for damages caused to its property and losses caused to Telstra and its customers.

Electronic plans - PDF and DWF maps

If you have received Telstra maps via email you will have received the maps as either a PDF file (for smaller areas) or DWF file (for larger area requests). If you are unable to launch any one of the softcopy files for viewing and printing, you may need to download and install one or more of the free viewing and printing products such as Adobe Acrobat Reader (for PDF files) or Autodesk Design Review 2010 (for DWF files) available from the internet.

PDF files

PDF is the default softcopy format for all requests that range in size from 0 metres (eg point requests) to requests up to approx *500m in length. (*depends on geographic location of request). The PDF file is formatted to A3 portrait sheet however it can be printed on any size sheet including from A4 to AO, either as the full sheet or selected areas to suit needs and legibility. (to print a selected area zoom up and print "current view"). If there are multiple layers of Telstra network you may receive up to 2 sheets in the single PDF file attachment supplied. There are three types or layers of network normally recorded - local network, mains cables or a combined layer of local and mains (usually displayed in rural or semi rural areas). If mains cable network is present in addition to local cables (ie as separate layer in a particular area), the mains will be shown on a separate sheet. The mains cable information should be read in conjunction with the local cable information.

DWF files

This is the default softcopy format for all requests that are over 500m in length. Maximum length for a DWF automated response is approx 2500m - depending on geographic location of request (non automated longer). The DWF files differ from PDF in that DWF are vector files made up of layers that can be turned on or off and are not formatted to a specific sheet size. This makes them ideal for larger areas and for transmitting over email etc.

How to view Telstra DWF files -

Telstra DWF files come with all layers turned on. You may need to turn individual layers on or off for viewing and printing clarity. Individual layer names are CC (main cable/conduit), DA (distribution or local area network) and sometimes a combined layer - CAC. Layer details can be viewed by either picking off the side menu or by selecting 'window' then 'layers' off the top menu bar. Use 'layers' to turn individual layers off or on. (double click or right click on layer icon.)

How to print Telstra DWF files -

DWF files can be printed on any size sheet. They can be printed in their entirety or by selected areas of interest. Some DWF coverage areas are large and are not suited to printing legibly on a single A4 sheet - you may need several prints if you only have an A4 printer. Alternately an A3, A1 or larger printer should be used. To print, zoom in or out and then by changing the 'print range' settings you can print what is displayed on your screen to suit your paper size. If you only have a small printer eg A4 you may need to zoom until the text legible on your screen for it to be legible on the print. (which is why you may need several prints). To print what is displayed on your screen the 'view' setting should be changed from 'full page' to 'current view'. The 'current sheet' setting should also be selected. You may need to print layers separately for clarity and legibility. (details above on how to turn layers on or off)

How to change the background colour from white to black (when viewing) Telstra DWF files -

If using Autodesk Design Review the background colour can be changed by selecting "Tools" then "options" then "sheet". Tick the box "override published paper colors" and select the colour required using the tab provided.

Further information

If you require further assistance with supplied PDF or DWF plans eg with legibility or you believe there maybe missing information please contact Telstra Plan Services. (contact details above - you will need to supply the Telstra sequence number of the plan request.)

Telstra automated plan service

Telstra provides an automated plan response for the majority of DBYD requests received (currently around 80%). Requestors must supply a current email address on their request to DBYD and must also be able to accept a standard format ie PDF or DWF. An automated response can be provided a lot faster than the alternative which is a mailed hardcopy. This can avoid unnecessary

delays in waiting for plans to arrive. Being softcopy it can easily be sent directly to a worksite and can be available 7 days a week. The automated system can be configured for individual requestors to receive either PDF/DWF (where small requests are PDF and larger requests are DWF) or alternately all in DWF (both small and large requests). Please contact Plan Services for further details or to be configured. Please note all requests over *500m (approx) in size can only be supplied in DWF format and there are size limits on what can be provided. (* actual size depends on geographic location of requested area)

Data Extraction Fees

In some instances a data extraction fee may be applicable for the supply of Telstra information. Typically a data extraction fee may apply to - large projects, requests to be supplied in non standard formats, excessive hardcopy printing or requests for non digging purposes. Further details can be obtained by contacting Telstra Plan Services.

ACCREDITED PLANT LOCATORS (For your area)

On-site assistance should be sought from an **Accredited Plant Locator** if the telecommunications plant cannot be located within 2.5 metres of the locations indicated on the drawings provided.

On-site advice should be obtained from a Telstra accredited Asset Plant Locator who is highly skilled in locating Telstra plant. In the case where Telstra plant is outside a recognised road reserve Telstra recommends that Telstra Plan Services are contacted for assistance prior to engaging an accredited Asset Plant Locator.

Telstra does not permit external parties (non-Telstra) to conduct work on our network. Only Telstra staff or Telstra contractors are allowed to enter our manholes, open our pits, ducts, etc.

Please note it is a criminal offence under the *Criminal Code Act 1995*(Cth) to tamper or interfere with communication facilities owned by a carrier. Heavy penalties may apply for breach of this prohibition, and any damages suffered, or costs incurred by Telstra as a result of any such unauthorised works may be claimed against you.

Should your projects require cable location, you MUST engage an accredited Asset Plant Locator (a list of which is provided with the Dial Before You Dig plans). Alternatively you may seek your own accreditation through our registered training partner Coates Hire Training which is the only approved training provider for Asset Plant Location accreditation for Telstra's network. You may contact Coates Hire Training on

1300 657 867 or visit **www.coateshire.com.au**

For the assistance of customers an accredited Asset Plant Locator can perform any of the following activities if requested to do so by the owner:

- review Telstra's plans to assess the approximate location of Telstra plant;
- advise owners of the approximate location of Telstra plant according to the plans;
- advise owners of the best method for locating Telstra plant;
- advise owners of the hazards of unqualified persons attempting to find the exact location of Telstra plant and working in the vicinity of Telstra plant without first locating its exact position; and
- perform trial hole explorations by hand digging (pot-holing) to expose Telstra plant with a high degree of skill, competence and efficiency and utilising all necessary safety equipment.

A list of Accredited Plant Locators operating in your area is attached. Accredited Plant Locators are certified by Telstra to perform the tasks listed above. Owners may engage Accredited Plant Locators to perform these services, however Telstra does not give any warranty in relation to these services that Accredited Plant Locators are competent or experienced to perform any other services.

The attached list provides the names and contact details for Accredited Plant Locators who service your area and can provide you with assistance in locating Telstra plant on site. These organisations have been able to satisfy Telstra that they have a sound knowledge of telecommunications plant and its sensitivity to disturbance; appropriate equipment for locating telecommunications plant and competent personnel who are able to interpret telecommunications plans and sketches and understand safety issues relevant to working around telecommunications plant. They are also able to advise you on the actions which should be taken if the work you propose will/could result in a relocation of the telecommunications plant and/or its means of support.

We recommend that you engage the assistance of one of these Accredited Plant Locators as a step towards discharging your Duty of Care obligations when seeking the location of Telstra's telecommunications plant.

Please Note:

- Each Accredited Plant Locator is NOT permitted to provide depth of communications plant unless physically exposed by hand digging.
- The details of any contract, agreement or retainer for site assistance to locate telecommunications plant shall be for you to decide and agree with the organisation engaged. Telstra is not a party to any contract entered into between an owner and an Accredited Plant Locator. The Accredited Plant Locators are able to provide guidance concerning the extent of site investigations required.
- Payment for the site assistance will be your responsibility and payment details should be agreed before the engagement is confirmed.
- Telstra does not accept any liability or responsibility for the performance of or advice given by an Accredited Plant Locator. Accreditation is an initiative taken by Telstra towards the establishment and maintenance of competency standards. However, performance and the advice given will always depend on the nature of the individual engagement.
- Each Accredited Plant Locator has been issued with a certificate which confirms the Accreditation. Every 2 years Telstra will reassess the accreditation and where appropriate will issue a letter confirming the accreditation for the next 2 years. You

have the right to request the organisation you engage to show evidence of their ID card.

- Neither the Accredited Plant Locator nor any of its employees are an employee or agent for Telstra and Telstra is not liable for any damage or loss caused by the Accredited Plant Locator or its employees.
- The attached list contains the current names and contact details of Accredited Plant Locators who service your area, however, these details are subject to change.

IDEA FOR CONSIDERATION:

Telstra offer free Cable Awareness Presentations & Advanced Cable Reading Presentations, if you believe you or your company would benefit from this offer please contact Network Integrity on 1800 810 443 or **F1102490@team.telstra.com**

ATTACHMENT E

Monitoring Well Log



Geo-Logix Pty Ltd

Building Q2, Level 3
Unit 2309 / 4 Daydream Street, Warriewood NSW 2102
Ph: (02) 9979 1722 | Fax: (02) 9979 1222
www.geo-logix.com.au

Hole ID. **MW1**
Project Number: **1201037**
Hole Depth: **7.00 m**
Sheet: **1 of 1**

Project Name: **Better Springs - St Marys**
Location / Site: **61-63 and 69-73 Christie St, St Marys NSW**
Client:
Drilling Company: **Epoca Environmental Pty Ltd**
Drill Method: **Solid Stem Auger (Geoprobe)**

Date Started: **23/10/2012**
Date Completed: **23/10/2012**
Level: -----
Easting: -----
Northing: -----

Method	Water Level	Depth (m)	Sample ID	Material Type	USCS Symbol	Graphic Log	Material Description	Moisture	Observations / Comments	Well Details	Well Construction
							Surface: Spray Seal / Asphalt				
		0.05		Fill			Spray Seal / Asphalt - 10% sand, 90% gravel, loose.	damp			
		0.30		CL			FILL - Sandy with Gravel, dark yellowish brown (10YR 4/2), 10% clay, 10% silt, 60% sand, 20% gravel, loose, large pieces of concrete.	damp			
		0.60		CL			CLAY with Sand - moderate yellowish brown (10YR 5/4), 70% clay, 10% silt, 20% sand, soft, low plasticity.	damp			
		0.80		CL			CLAY - moderate yellowish brown (10YR 5/4), 80% clay, 10% silt, 10% sand, soft, low plasticity.	damp			
		1.0		CL			CLAY - dark yellowish orange (10YR 6/6), 90% clay, 10% silt, soft to firm, low plasticity.	damp			
		1.10		CL			CLAY - light brown (5YR 5/6), 90% clay, 10% silt, soft to firm, low plasticity.	damp			
		2.0		CL							
		2.90		Natural			CLAY - pale yellowish brown (10YR 6/2), mottled dark yellowish orange (10YR 6/6), 90% clay, 10% silt, firm, low plasticity.	damp			
		3.0		CL							
		4.0		CL			CLAY - dark yellowish orange (10YR 6/6), 90% clay, 10% silt, soft to firm, low plasticity.	damp			
		4.10		CL							
		5.0		CL			CLAY - pale yellowish brown (10YR 6/2), 90% clay, 10% silt, soft to firm, low plasticity.	damp			
		5.20		CL							
		5.80		Bedrock			Weathered SHALE - pale brown (5YR 5/2).	damp to moist			
		6.0									
		7.0									
							End of Hole at 7.00 m				

Hydrocarbon Odour
H High
M Moderate
L Low
Z Zero
Sample Type
D Disturbed
U Undisturbed

Additional Comments



Log Drawn By: Laurie White
Contact: laurie.white@reumad.com.au

Logged By: **Grant Russell**
Checked By:

Date: **23/10/2012**
Date:

Borehole Log



Geo-Logix Pty Ltd

Building Q2, Level 3
Unit 2309 / 4 Daydream Street, Warriewood NSW 2102
Ph: (02) 9979 1722 | Fax: (02) 9979 1222
www.geo-logix.com.au

Hole ID. **B1**
Project Number: **1201037**
Hole Depth: **1.00 m**
Sheet: **1 of 1**

Project Name: **Better Springs - St Marys**
Location / Site: **61-63 and 69-73 Christie St, St Marys NSW**
Client:
Drilling Company:
Drill Method: **Post Hole Digger (Dingo)**

Date Started: **24/10/2012**
Date Completed: **24/10/2012**
Level: -----
Easting: -----
Northing: -----

Method	Water Level	Depth (m)	Sample Type	HC Odour	Sample ID	PID (ppm)	Material Type	USCS Symbol	Graphic Log	Material Description	Moisture	Observations / Comments
										Surface: Grass		
Post Hole Digger		0.05	D	Z	B1 / 0.1m	0.0	Natural	CL		TOPSOIL. SAND - moderate yellowish brown (10YR 5/4), 10% clay, 10% silt, 80% sand, loose.	dry to damp	
		0.1								CLAY - dark yellowish orange (10YR 6/6), 80% clay, 10% silt, 10% sand, firm, low plasticity.	dry to damp	
		0.2										
		0.3										
		0.40										
		0.5	D	Z	B1 / 1.0m	0.0	Natural	CL		CLAY - dark yellowish orange (10YR 6/6), 80% clay, 10% silt, 5% sand, 5% gravel, firm, low plasticity.	damp	
		0.6										
		0.7										
		0.8										
		0.9										
		1.0										
										End of Hole at 1.00 m		
		1.1										
		1.2										
		1.3										
		1.4										

Hydrocarbon Odour
H High
M Moderate
L Low
Z Zero
Sample Type
D Disturbed
U Undisturbed

Additional Comments



Log Drawn By: Laurie White
Contact: laurie.white@reumad.com.au

Logged By: **Grant Russell**
Checked By:

Date: **24/10/2012**
Date:

GL LOG 2 ST MARYS 1201037.GPJ GL GDT 30/10/12 10:43:43 AM

Borehole Log



Geo-Logix Pty Ltd

Building Q2, Level 3
Unit 2309 / 4 Daydream Street, Warriewood NSW 2102
Ph: (02) 9979 1722 | Fax: (02) 9979 1222
www.geo-logix.com.au

Hole ID. **B2**
Project Number: **1201037**
Hole Depth: **1.00 m**
Sheet: **1 of 1**

Project Name: **Better Springs - St Marys**
Location / Site: **61-63 and 69-73 Christie St, St Marys NSW**
Client:
Drilling Company:
Drill Method: **Post Hole Digger (Dingo)**

Date Started: **24/10/2012**
Date Completed: **24/10/2012**
Level: -----
Easting: -----
Northing: -----

Method	Water Level	Depth (m)	Sample Type	HC Odour	Sample ID	PID (ppm)	Material Type	USCS Symbol	Graphic Log	Material Description	Moisture	Observations / Comments
										Surface: Grass		
Post Hole Digger		0.05	D	Z	B2 / 0.1m	0.0	Natural	CL		TOPSOIL. SAND - moderate yellowish brown (10YR 5/4), 10% clay, 10% silt, 80% sand, loose.	dry to damp	
		0.1								CLAY - dark yellowish orange (10YR 6/6), 80% clay, 10% silt, 5% sand, 5% gravel, firm, low plasticity.	dry to damp	
		0.2										
		0.3										
		0.4										
		0.50										
		0.6	D	Z	B2 / 1.0m	0.0	Natural	CL		CLAY - pale brown (5YR 5/2), 80% clay, 10% silt, 5% sand, 5% gravel, firm, low plasticity.	damp	
		0.7										
		0.8										
		0.9										
		1.0										
										End of Hole at 1.00 m		
		1.1										
		1.2										
		1.3										
		1.4										

Hydrocarbon Odour
H High
M Moderate
L Low
Z Zero
Sample Type
D Disturbed
U Undisturbed

Additional Comments



Log Drawn By: Laurie White
Contact: laurie.white@reumad.com.au

Logged By: **Grant Russell**
Checked By:

Date: **24/10/2012**
Date:

GL LOG 2 ST MARYS 1201037.GPJ GL GDT 30/10/12 10:44:03 AM

Borehole Log



Geo-Logix Pty Ltd

Building Q2, Level 3
Unit 2309 / 4 Daydream Street, Warriewood NSW 2102
Ph: (02) 9979 1722 | Fax: (02) 9979 1222
www.geo-logix.com.au

Hole ID. **B3**
Project Number: **1201037**
Hole Depth: **1.00 m**
Sheet: **1 of 1**

Project Name: **Better Springs - St Marys**
Location / Site: **61-63 and 69-73 Christie St, St Marys NSW**
Client:
Drilling Company:
Drill Method: **Post Hole Digger (Dingo)**

Date Started: **24/10/2012**
Date Completed: **24/10/2012**
Level: -----
Easting: -----
Northing: -----

Method	Water Level	Depth (m)	Sample Type	HC Odour	Sample ID	PID (ppm)	Material Type	USCS Symbol	Graphic Log	Material Description	Moisture	Observations / Comments
										Surface: Grass		
Post Hole Digger		0.05	D	Z	B3 / 0.1m	0.0	Natural	CL		TOPSOIL. SAND - moderate yellowish brown (10YR 5/4), 10% clay, 10% silt, 80% sand, loose.	dry to damp	
		0.1								CLAY - dark yellowish orange (10YR 6/6), 80% clay, 10% silt, 5% sand, 5% gravel, firm, low plasticity.	dry to damp	
		0.2										
		0.30										
		0.4	D	Z	B3 / 1.0m	0.0	Natural	CL		CLAY - light brown (5YR 5/6), 80% clay, 10% silt, 5% sand, 5% gravel, firm, low plasticity.	dry to damp	
		0.5										
		0.6										
		0.7										
		0.8										
		0.9										
		1.0										
										End of Hole at 1.00 m		
		1.1										
		1.2										
		1.3										
		1.4										

Hydrocarbon Odour
H High
M Moderate
L Low
Z Zero
Sample Type
D Disturbed
U Undisturbed

Additional Comments



Log Drawn By: Laurie White
Contact: laurie.white@reumad.com.au

Logged By: **Grant Russell**
Checked By:

Date: **24/10/2012**
Date:

GL LOG 2 ST MARYS 1201037.GPJ GL GDT 30/10/12 10:44:12 AM

Borehole Log



Geo-Logix Pty Ltd

Building Q2, Level 3
Unit 2309 / 4 Daydream Street, Warriewood NSW 2102
Ph: (02) 9979 1722 | Fax: (02) 9979 1222
www.geo-logix.com.au

Hole ID. **B4**
Project Number: **1201037**
Hole Depth: **1.00 m**
Sheet: **1 of 1**

Project Name: **Better Springs - St Marys**
Location / Site: **61-63 and 69-73 Christie St, St Marys NSW**
Client:
Drilling Company:
Drill Method: **Post Hole Digger (Dingo)**

Date Started: **24/10/2012**
Date Completed: **24/10/2012**
Level: -----
Easting: -----
Northing: -----

Method	Water Level	Depth (m)	Sample Type	HC Odour	Sample ID	PID (ppm)	Material Type	USCS Symbol	Graphic Log	Material Description	Moisture	Observations / Comments
										Surface: Concrete		
CC		0.1					Fill			CONCRETE.		
		0.18 0.21	D	Z	B4 / 0.2m	0.0				FILL - SAND, dark yellowish orange (10YR 6/6), 10% clay, 10% silt, 80% sand, very loose.	damp	
		0.3	D	Z	B4 / 0.3m	0.0				CLAY - dark yellowish orange (10YR 6/6), 90% clay, 10% silt, soft to firm.	damp	
Post Hole Digger		0.4					Natural	CL				
		0.5										
		0.6										
		0.7										
		0.8										
		0.9										
		1.0								End of Hole at 1.00 m		
		1.1										
		1.2										
		1.3										
		1.4										

Hydrocarbon Odour
H High
M Moderate
L Low
Z Zero
Sample Type
D Disturbed
U Undisturbed

Additional Comments



Log Drawn By: Laurie White
Contact: laurie.white@reumad.com.au

Logged By: Grant Russell
Checked By:

Date: 24/10/2012
Date:

GL LOG 2 ST MARYS 1201037.GPJ GL GDT 30/10/12 10:44:14 AM

Borehole Log



Geo-Logix Pty Ltd

Building Q2, Level 3
Unit 2309 / 4 Daydream Street, Warriewood NSW 2102
Ph: (02) 9979 1722 | Fax: (02) 9979 1222
www.geo-logix.com.au

Hole ID. **B5**
Project Number: **1201037**
Hole Depth: **1.20 m**
Sheet: **1 of 1**

Project Name: **Better Springs - St Marys**
Location / Site: **61-63 and 69-73 Christie St, St Marys NSW**
Client:
Drilling Company:
Drill Method: **Post Hole Digger (Dingo)**

Date Started: **24/10/2012**
Date Completed: **24/10/2012**
Level: -----
Easting: -----
Northing: -----

Method	Water Level	Depth (m)	Sample Type	HC Odour	Sample ID	PID (ppm)	Material Type	USCS Symbol	Graphic Log	Material Description	Moisture	Observations / Comments
										Surface: Grass		
		0.05	D	Z	B5 / 0.1m	0.0				TOPSOIL. SAND - moderate yellowish brown (10YR 5/4), 10% clay, 10% silt, 75% sand, 5% gravel.	dry to damp	
		0.1								FILL - SAND with Clay, moderate yellowish brown (10YR 5/4), 20% clay, 10% silt, 65% sand, 5% gravel, loose.	damp	
		0.2										
		0.30										
		0.4								FILL - SAND & CLAY, moderate yellowish brown (10YR 5/4), 40% clay, 10% silt, 40% sand, 10% gravel, soft.	damp	
		0.5	D	Z	B5 / 0.5m	0.0	Fill					
		0.60										
		0.7								FILL - CLAY with Sand, moderate yellowish brown (10YR 5/4), 70% clay, 10% silt, 20% sand, 5% gravel, soft.	damp	
		0.8										
		0.9										
		1.00	D	Z	B5 / 1.0m	0.0						
		1.1	D	Z	B5 / 1.1m	0.0	Natural	CL		CLAY - pale brown (5YR 5/2), 80% clay, 10% silt, 10% sand, very soft.	damp	
		1.2										
		1.3								End of Hole at 1.20 m		
		1.4										

Hydrocarbon Odour
H High
M Moderate
L Low
Z Zero
Sample Type
D Disturbed
U Undisturbed

Additional Comments



Log Drawn By: Laurie White
Contact: laurie.white@reumad.com.au

Logged By: **Grant Russell**
Checked By:

Date: **24/10/2012**
Date:

GL LOG 2 ST MARYS 1201037.GPJ GL GDT 30/10/12 10:44:16 AM

Borehole Log



Geo-Logix Pty Ltd

Building Q2, Level 3
Unit 2309 / 4 Daydream Street, Warriewood NSW 2102
Ph: (02) 9979 1722 | Fax: (02) 9979 1222
www.geo-logix.com.au

Hole ID. **B6**
Project Number: **1201037**
Hole Depth: **1.00 m**
Sheet: **1 of 1**

Project Name: **Better Springs - St Marys**
Location / Site: **61-63 and 69-73 Christie St, St Marys NSW**
Client:
Drilling Company:
Drill Method: **Post Hole Digger (Dingo)**

Date Started: **24/10/2012**
Date Completed: **24/10/2012**
Level: -----
Easting: -----
Northing: -----

Method	Water Level	Depth (m)	Sample Type	HC Odour	Sample ID	PID (ppm)	Material Type	USCS Symbol	Graphic Log	Material Description	Moisture	Observations / Comments
										Surface: Grass		
Post Hole Digger		0.05										
		0.1	D	Z	B6 / 0.1m	0.0				TOPSOIL. SAND - moderate yellowish brown (10YR 5/4), 20% clay, 10% silt, 70% sand, loose.	damp	
		0.2								CLAY - moderate yellowish brown (10YR 5/4), 80% clay, 10% silt, 10% sand, soft.	damp	
		0.3										
		0.40										
		0.5	D	Z	B6 / 0.5m	0.0	Natural			CLAY - moderate yellowish brown (10YR 5/4), 90% clay, 10% silt, soft.	damp	
		0.6										
		0.7										
		0.80										
		0.9								CLAY - moderate yellowish brown (10YR 5/4), 90% clay, 10% silt, very soft.	damp	
		1.0	D	Z	B6 / 1.0m	0.0						
		1.1								End of Hole at 1.00 m		
		1.2										
		1.3										
		1.4										

Hydrocarbon Odour
H High
M Moderate
L Low
Z Zero
Sample Type
D Disturbed
U Undisturbed

Additional Comments



Log Drawn By: Laurie White
Contact: laurie.white@reumad.com.au

Logged By: **Grant Russell**
Checked By:

Date: **24/10/2012**
Date:

GL LOG 2 ST MARYS 1201037.GPJ GL GDT 30/10/12 10:44:18 AM

Borehole Log



Geo-Logix Pty Ltd

Building Q2, Level 3
Unit 2309 / 4 Daydream Street, Warriewood NSW 2102
Ph: (02) 9979 1722 | Fax: (02) 9979 1222
www.geo-logix.com.au

Hole ID. **B7**
Project Number: **1201037**
Hole Depth: **1.00 m**
Sheet: **1 of 1**

Project Name: **Better Springs - St Marys**
Location / Site: **61-63 and 69-73 Christie St, St Marys NSW**
Client:
Drilling Company:
Drill Method: **Post Hole Digger (Dingo)**

Date Started: **24/10/2012**
Date Completed: **24/10/2012**
Level: -----
Easting: -----
Northing: -----

Method	Water Level	Depth (m)	Sample Type	HC Odour	Sample ID	PID (ppm)	DUP / TRIP	Material Type	USCS Symbol	Graphic Log	Material Description	Moisture	Observations / Comments
											Surface: Concrete		
CC		0.1						Fill			CONCRETE.		
		0.18 0.20	D	Z	B7 / 0.2m	0.0					FILL - SAND, dark yellowish orange (10YR 6/6), 10% silt, 90% sand, very loose.	damp damp	Possible Fill?
		0.3						CL			CLAY - dark yellowish orange (10YR 6/6), 80% clay, 10% silt, 10% sand, soft.		
		0.4											
		0.50	D	Z	B7 / 0.5m	0.0					CLAY - moderate yellowish brown (10YR 5/4), mottled pale brown (5YR 5/2), 80% clay, 10% silt, 10% sand, very soft.	damp	Possible Fill? Ash?
		0.60											
		0.7											
		0.8											
		0.9											
		1.0	D	Z	B7 / 1.0m	0.0	Dup3 Trip3				CLAY - pale brown (5YR 5/2), 90% clay, 10% silt, very soft.	damp	
											End of Hole at 1.00 m		
		1.1											
		1.2											
		1.3											
		1.4											

Hydrocarbon Odour

H High
M Moderate
L Low
Z Zero

Sample Type
D Disturbed
U Undisturbed

Additional Comments



Log Drawn By: Laurie White
Contact: laurie.white@reumad.com.au

Logged By: Grant Russell
Checked By:

Date: 24/10/2012
Date:

GL LOG 2 ST MARYS 1201037.GPJ GL GDT 30/10/12 10:44:20 AM

Borehole Log



Geo-Logix Pty Ltd

Building Q2, Level 3
Unit 2309 / 4 Daydream Street, Warriewood NSW 2102
Ph: (02) 9979 1722 | Fax: (02) 9979 1222
www.geo-logix.com.au

Hole ID. **B8**
Project Number: **1201037**
Hole Depth: **0.60 m**
Sheet: **1 of 1**

Project Name: **Better Springs - St Marys**
Location / Site: **61-63 and 69-73 Christie St, St Marys NSW**
Client:
Drilling Company:
Drill Method: **Post Hole Digger (Dingo)**

Date Started: **24/10/2012**
Date Completed: **24/10/2012**
Level: -----
Easting: -----
Northing: -----

Method	Water Level	Depth (m)	Sample Type	HC Odour	Sample ID	PID (ppm)	Material Type	USCS Symbol	Graphic Log	Material Description	Moisture	Observations / Comments
										Surface: Concrete		
CC		0.1 0.2 0.26								CONCRETE.		
Post Hole Digger		0.3 0.4 0.5 0.6	D Z		B8 / 0.3m	0.0	Fill			FILL - SAND with Gravel, moderate yellowish brown (10YR 5/4), 10% clay, 10% silt, 60% sand, 20% gravel, loose, with pieces of concrete.	damp	
		0.7 0.8 0.9 1.0 1.1 1.2 1.3 1.4								Refusal at 0.60 m on concrete / rock.		

Hydrocarbon Odour
H High
M Moderate
L Low
Z Zero
Sample Type
D Disturbed
U Undisturbed

Additional Comments



Log Drawn By: Laurie White
Contact: laurie.white@reumad.com.au

Logged By: Grant Russell
Checked By:

Date: 24/10/2012
Date:

Borehole Log



Geo-Logix Pty Ltd

Building Q2, Level 3
Unit 2309 / 4 Daydream Street, Warriewood NSW 2102
Ph: (02) 9979 1722 | Fax: (02) 9979 1222
www.geo-logix.com.au

Hole ID. **B9**
Project Number: **1201037**
Hole Depth: **1.00 m**
Sheet: **1 of 1**

Project Name: **Better Springs - St Marys**
Location / Site: **61-63 and 69-73 Christie St, St Marys NSW**
Client:
Drilling Company:
Drill Method: **Post Hole Digger (Dingo)**

Date Started: **24/10/2012**
Date Completed: **24/10/2012**
Level: -----
Easting: -----
Northing: -----

Method	Water Level	Depth (m)	Sample Type	HC Odour	Sample ID	PID (ppm)	Material Type	USCS Symbol	Graphic Log	Material Description	Moisture	Observations / Comments
										Surface: Concrete		
CC		0.11					Fill			CONCRETE.		
Post Hole Digger		0.2	D	Z	B9 / 0.15m	0.0	CL			CLAY with Sand - dark yellowish orange (10YR 6/6), mottled dark yellowish brown (10YR 4/2), 70% clay, 10% silt, 20% sand, very soft, low plasticity.	damp to moist	Fill?
		0.25										
		0.3								CLAY - pale brown (5YR 5/2), 80% clay, 10% silt, 10% sand, very soft, low plasticity.	moist	Swampy?
		0.4										
		0.5					Natural					
		0.6										
		0.7										
		0.8										
		0.9										
		1.0	D	Z	B9 / 1.0m	0.0	CL					
		1.1								End of Hole at 1.00 m		
		1.2										
		1.3										
		1.4										

Hydrocarbon Odour
H High
M Moderate
L Low
Z Zero
Sample Type
D Disturbed
U Undisturbed

Additional Comments



Log Drawn By: Laurie White
Contact: laurie.white@reumad.com.au

Logged By: **Grant Russell**
Checked By:

Date: **24/10/2012**
Date:

Borehole Log



Geo-Logix Pty Ltd

Building Q2, Level 3
Unit 2309 / 4 Daydream Street, Warriewood NSW 2102
Ph: (02) 9979 1722 | Fax: (02) 9979 1222
www.geo-logix.com.au

Hole ID. **B10**
Project Number: **1201037**
Hole Depth: **0.60 m**
Sheet: **1 of 1**

Project Name: **Better Springs - St Marys**
Location / Site: **61-63 and 69-73 Christie St, St Marys NSW**
Client:
Drilling Company:
Drill Method: **Hand Auger**

Date Started: **24/10/2012**
Date Completed: **24/10/2012**
Level: -----
Easting: -----
Northing: -----

Method	Water Level	Depth (m)	Sample Type	HC Odour	Sample ID	PID (ppm)	Material Type	USCS Symbol	Graphic Log	Material Description	Moisture	Observations / Comments
										Surface: Grass		
Hand Auger		0.05	D	Z	B10 / 0.1m	0.0		CL		TOPSOIL. SAND - moderate yellowish brown (10YR 5/4), 10% clay, 20% silt, 70% sand, loose.	damp	
		0.1								CLAY - dark yellowish orange (10YR 6/6), 80% clay, 10% silt, 10% sand, firm, low plasticity.	dry to damp	
		0.20	D	Z	B10 / 0.5m	0.0		CL		CLAY - dark yellowish orange (10YR 6/6), mottled pale yellowish brown (10YR 6/2), 90% clay, 10% silt, firm, low plasticity.	damp	
		0.3										
		0.4										
		0.5										
		0.6										
		0.7								End of Hole at 0.60 m		
		0.8										
		0.9										
		1.0										
		1.1										
		1.2										
		1.3										
		1.4										

Hydrocarbon Odour
H High
M Moderate
L Low
Z Zero
Sample Type
D Disturbed
U Undisturbed

Additional Comments



Log Drawn By: Laurie White
Contact: laurie.white@reumad.com.au

Logged By: **Grant Russell**
Checked By:

Date: **24/10/2012**
Date:

GL LOG 2 ST MARYS 1201037.GPJ GL GDT 30/10/12 10:43:45 AM

Borehole Log



Geo-Logix Pty Ltd

Building Q2, Level 3
Unit 2309 / 4 Daydream Street, Warriewood NSW 2102
Ph: (02) 9979 1722 | Fax: (02) 9979 1222
www.geo-logix.com.au

Hole ID. **B11**
Project Number: **1201037**
Hole Depth: **1.00 m**
Sheet: **1 of 1**

Project Name: **Better Springs - St Marys**
Location / Site: **61-63 and 69-73 Christie St, St Marys NSW**
Client:
Drilling Company:
Drill Method: **Post Hole Digger (Dingo)**

Date Started: **24/10/2012**
Date Completed: **24/10/2012**
Level: -----
Easting: -----
Northing: -----

Method	Water Level	Depth (m)	Sample Type	HC Odour	Sample ID	PID (ppm)	Material Type	USCS Symbol	Graphic Log	Material Description	Moisture	Observations / Comments
										Surface: Concrete		
CC		0.1								CONCRETE.		
		0.17										
		0.2	D	Z	B11 / 0.2m	0.0	Fill			FILL - SAND, dark yellowish brown (10YR 4/2), 10% clay, 10% silt, 70% sand, 10% gravel, loose, ash present.	damp	
		0.3										
		0.4										
		0.5										
		0.60										
		0.7	D	Z	B11 / 0.7m	0.0	Natural	CL		CLAY - dark yellowish orange (10YR 6/6), 90% clay, 10% silt, very soft, low plasticity.	moist	
		0.8										
		0.9										
		1.0										
		1.1								End of Hole at 1.00 m		
		1.2										
		1.3										
		1.4										

Hydrocarbon Odour
H High
M Moderate
L Low
Z Zero
Sample Type
D Disturbed
U Undisturbed

Additional Comments



Log Drawn By: Laurie White
Contact: laurie.white@reumad.com.au

Logged By: **Grant Russell**
Checked By:

Date: **24/10/2012**
Date:

Borehole Log



Geo-Logix Pty Ltd

Building Q2, Level 3
Unit 2309 / 4 Daydream Street, Warriewood NSW 2102
Ph: (02) 9979 1722 | Fax: (02) 9979 1222
www.geo-logix.com.au

Hole ID. **B12**
Project Number: **1201037**
Hole Depth: **1.00 m**
Sheet: **1 of 1**

Project Name: **Better Springs - St Marys**
Location / Site: **61-63 and 69-73 Christie St, St Marys NSW**
Client:
Drilling Company:
Drill Method: **Post Hole Digger (Dingo)**

Date Started: **24/10/2012**
Date Completed: **24/10/2012**
Level: -----
Easting: -----
Northing: -----

Method	Water Level	Depth (m)	Sample Type	HC Odour	Sample ID	PID (ppm)	Material Type	USCS Symbol	Graphic Log	Material Description	Moisture	Observations / Comments
										Surface: Concrete		
		0.1					Fill			CONCRETE.		
		0.16										
		0.2	D	Z	B12 / 0.2m	0.0				CLAY - moderate yellowish brown (10YR 5/4), 80% clay, 10% silt, 10% sand, soft, low plasticity.	damp to moist	
		0.3					CL					
		0.40										
		0.5					Natural			CLAY - dark yellowish orange (10YR 6/6), 80% clay, 10% silt, 10% sand, soft, low plasticity.	damp to moist	
		0.6										
		0.7					CL					
		0.8										
		0.9										
		1.0	D	Z	B12 / 1.0m	0.0						
		1.1								End of Hole at 1.00 m		
		1.2										
		1.3										
		1.4										

Hydrocarbon Odour
H High
M Moderate
L Low
Z Zero
Sample Type
D Disturbed
U Undisturbed

Additional Comments



Log Drawn By: Laurie White
Contact: laurie.white@reumad.com.au

Logged By: Grant Russell
Checked By:

Date: 24/10/2012
Date:

GL LOG 2 ST MARYS 1201037.GPJ GL GDT 30/10/12 10:43:49 AM

Building Q2, Level 3
Unit 2309 / 4 Daydream Street, Warriewood NSW 2102
Ph: (02) 9979 1722 | Fax: (02) 9979 1222
www.geo-logix.com.au

Hole ID.	B13
Project Number:	1201037
Hole Depth:	2.00 m
Sheet:	1 of 1

Project Name: **Better Springs - St Marys**
 Location / Site: **61-63 and 69-73 Christie St, St Marys NSW**
 Client:
 Drilling Company: **Epoca Environmental Pty Ltd**
 Drill Method: **Solid Stem Auger (Geoprobe)**

Date Started: 23/10/2012
Date Completed: 23/10/2012
Level: -----
Easting: -----
Northing: -----

Method	Water Level	Depth (m)	Sample Type	HC Odour	Sample ID	PID (ppm)	Material Type	USCS Symbol	Graphic Log	Material Description	Moisture	Observations / Comments
CC										Surface: Concrete		
Solid Stem Auger	0.13	D	Z	B13 / 0.15m	0.0	Fill				CONCRETE.		
	0.2											
	0.40											
	0.6											
	0.8											
	1.0											
	1.2											
	1.4											
	1.60											
	1.8											
	2.0	D	Z	B13 / 2.0m	0.0	CL				CLAY - dark yellowish orange (10YR 6/6), 90% clay, 10% silt, soft, low plasticity.	damp	
	2.2											
	2.4											
										End of Hole at 2.00 m		

Hydrocarbon Odour
H High
M Moderate
L Low
Z Zero

Sample Type
D Disturbed
U Undisturbed

Additional Comments

REUMAD

Log Drawn By: Laurie White
Contact: laurie.white@reumad.com.au

Logged By: **Grant Russell**
Checked By:

Date: **23/10/2012**
Date:

GL LOG 2 ST MARYS 1201037.GPJ GL.GDT 30/10/12 10:43:50 AM

Borehole Log



Geo-Logix Pty Ltd

Building Q2, Level 3
Unit 2309 / 4 Daydream Street, Warriewood NSW 2102
Ph: (02) 9979 1722 | Fax: (02) 9979 1222
www.geo-logix.com.au

Hole ID. **B14**
Project Number: **1201037**
Hole Depth: **0.20 m**
Sheet: **1 of 1**

Project Name: **Better Springs - St Marys**
Location / Site: **61-63 and 69-73 Christie St, St Marys NSW**
Client:
Drilling Company:
Drill Method: **Hand Auger**

Date Started: **24/10/2012**
Date Completed: **24/10/2012**
Level: -----
Easting: -----
Northing: -----

Method	Water Level	Depth (m)	Sample Type	HC Odour	Sample ID	PID (ppm)	Material Type	USCS Symbol	Graphic Log	Material Description	Moisture	Observations / Comments
										Surface: Concrete		
CC		0.1 0.12					Fill			CONCRETE.		
HA		0.2	D	Z	B14 / 0.15m	0.0	Nat.	SP		SAND - moderate yellowish brown (10YR 5/4), 10% clay, 10% silt, 80% sand, loose, some organic material and metal wire.	dry to damp	
		0.3								End of Hole at 0.20 m		
		0.4										
		0.5										
		0.6										
		0.7										
		0.8										
		0.9										
		1.0										

Hydrocarbon Odour
H High
M Moderate
L Low
Z Zero
Sample Type
D Disturbed
U Undisturbed

Additional Comments



Log Drawn By: Laurie White
Contact: laurie.white@reumad.com.au

Logged By: **Grant Russell**
Checked By:

Date: **24/10/2012**
Date:

GL LOG 2 ST MARYS 1201037.GPJ GL GDT 30/10/12 10:43:52 AM

Borehole Log



Geo-Logix Pty Ltd

Building Q2, Level 3
Unit 2309 / 4 Daydream Street, Warriewood NSW 2102
Ph: (02) 9979 1722 | Fax: (02) 9979 1222
www.geo-logix.com.au

Hole ID. **B15**
Project Number: **1201037**
Hole Depth: **0.20 m**
Sheet: **1 of 1**

Project Name: **Better Springs - St Marys**
Location / Site: **61-63 and 69-73 Christie St, St Marys NSW**
Client:
Drilling Company:
Drill Method: **Hand Auger**

Date Started: **24/10/2012**
Date Completed: **24/10/2012**
Level: -----
Easting: -----
Northing: -----

Method	Water Level	Depth (m)	Sample Type	HC Odour	Sample ID	PID (ppm)	Material Type	USCS Symbol	Graphic Log	Material Description	Moisture	Observations / Comments
										Surface: Concrete		
CC		0.1 0.12					Fill			CONCRETE.		
HA		0.2	D	Z	B15 / 0.15m	0.0	Nat.	SP		SAND - moderate yellowish brown (10YR 5/4), 10% clay, 10% silt, 75% sand, 5% gravel, loose.	dry	Fill / Topsoil?
		0.3								End of Hole at 0.20 m		
		0.4										
		0.5										
		0.6										
		0.7										
		0.8										
		0.9										
		1.0										

Hydrocarbon Odour
H High
M Moderate
L Low
Z Zero
Sample Type
D Disturbed
U Undisturbed

Additional Comments



Log Drawn By: Laurie White
Contact: laurie.white@reumad.com.au

Logged By: Grant Russell
Checked By:

Date: 24/10/2012
Date:

GL LOG 2 ST MARYS 1201037.GPJ GL GDT 30/10/12 10:43:54 AM

Building Q2, Level 3
Unit 2309 / 4 Daydream Street, Warriewood NSW 2102
Ph: (02) 9979 1722 | Fax: (02) 9979 1222
www.geo-logix.com.au

Hole ID:	B16
Project Number:	1201037
Hole Depth:	2.00 m
Sheet:	1 of 1

Project Name: **Better Springs - St Marys**
 Location / Site: **61-63 and 69-73 Christie St, St Marys NSW**
 Client:
 Drilling Company: **Epoca Environmental Pty Ltd**
 Drill Method: **Solid Stem Auger (Geoprobe)**

Date Started: **23/10/2012**
Date Completed: **23/10/2012**
Level: -----
Easting: -----
Northing: -----

[illegible]

Hydrocarbon Odour
H High
M Moderate
L Low
Z Zero

Sample Type
D Disturbed
U Undisturbed

Additional Comments

REUMAD

Log Drawn By: Laurie White
Contact: laurie.white@reumad.com.au

Logged By: **Grant Russell**
Checked By:

Date: 23/10/2012

GL LOG 2 ST MARYS 1201037.GPJ GL.GDT 30/10/12 10:43:55 AM

Borehole Log



Geo-Logix Pty Ltd

Building Q2, Level 3
Unit 2309 / 4 Daydream Street, Warriewood NSW 2102
Ph: (02) 9979 1722 | Fax: (02) 9979 1222
www.geo-logix.com.au

Hole ID. **B17**
Project Number: **1201037**
Hole Depth: **2.00 m**
Sheet: **1 of 1**

Project Name: **Better Springs - St Marys**
Location / Site: **61-63 and 69-73 Christie St, St Marys NSW**
Client:
Drilling Company: **Epoca Environmental Pty Ltd**
Drill Method: **Solid Stem Auger (Geoprobe)**

Date Started: **23/10/2012**
Date Completed: **23/10/2012**
Level: -----
Easting: -----
Northing: -----

Method	Water Level	Depth (m)	Sample Type	HC Odour	Sample ID	PID (ppm)	Material Type	USCS Symbol	Graphic Log	Material Description	Moisture	Observations / Comments
										Surface: Concrete		
CC		0.13	D	Z	B17 / 0.15m	0.0	Fill			CONCRETE.		
Solid Stem Auger		0.2										
		0.4										
		0.60										
		0.8										
		0.90										
		1.0										
		1.2										
		1.4										
		1.50										
		1.6										
		1.8										
		2.0	D	Z	B17 / 2.0m	0.0	Natural			CLAY with Sand - moderate yellowish brown (10YR 5/4), 70% clay, 10% silt, 20% sand, very soft, low plasticity.	damp	
										CLAY - dark yellowish orange (10YR 6/6), 80% clay, 10% silt, 10% sand, soft, low plasticity.	damp	
										CLAY - dark yellowish orange (10YR 6/6), 90% clay, 10% silt, soft, low plasticity.	damp	
										CLAY - dark yellowish orange (10YR 6/6), mottled pale yellowish brown (10YR 6/2), 90% clay, 10% silt, firm, low plasticity.	damp	
										End of Hole at 2.00 m		
		2.2										
		2.4										

Hydrocarbon Odour
H High
M Moderate
L Low
Z Zero
Sample Type
D Disturbed
U Undisturbed

Additional Comments



Log Drawn By: Laurie White
Contact: laurie.white@reumad.com.au

Logged By: **Grant Russell**
Checked By:

Date: **23/10/2012**
Date:

GL LOG 2 ST MARYS 1201037.GPJ GL GDT 30/10/12 10:43:57 AM

Borehole Log



Geo-Logix Pty Ltd

Building Q2, Level 3
Unit 2309 / 4 Daydream Street, Warriewood NSW 2102
Ph: (02) 9979 1722 | Fax: (02) 9979 1222
www.geo-logix.com.au

Hole ID. **B18**
Project Number: **1201037**
Hole Depth: **4.00 m**
Sheet: **1 of 1**

Project Name: **Better Springs - St Marys**
Location / Site: **61-63 and 69-73 Christie St, St Marys NSW**
Client:
Drilling Company: **Epoca Environmental Pty Ltd**
Drill Method: **Solid Stem Auger (Geoprobe)**

Date Started: **23/10/2012**
Date Completed: **23/10/2012**
Level: -----
Easting: -----
Northing: -----

Method	Water Level	Depth (m)	Sample Type	HC Odour	Sample ID	PID (ppm)	Material Type	USCS Symbol	Graphic Log	Material Description	Moisture	Observations / Comments
										Surface: Concrete		
CC		0.15 0.20					Fill			CONCRETE.		
		0.5 0.60					CL			FILL - SAND with Gravel, moderate yellowish brown (10YR 5/4), 10% clay, 10% silt, 60% sand, 20% gravel, loose.	damp	
		0.90					CL			CLAY with Sand - moderate yellowish brown (10YR 5/4), 70% clay, 10% silt, 20% sand, soft, low plasticity.	damp	
		1.0	D	Z	B18 / 1.0m	0.0	CL			CLAY - moderate yellowish brown (10YR 5/4), 80% clay, 10% silt, 10% sand, soft, low plasticity.	damp	
		1.20					CL			CLAY - dark yellowish orange (10YR 6/6), 90% clay, 10% silt, soft, low plasticity.	damp	
		1.5								CLAY - light brown (5YR 5/6), 90% clay, 10% silt, soft, low plasticity.	damp	
		2.0					Natural					
		2.5					CL					
		3.0										
		3.50										
		4.0	D	Z	B18 / 4.0m	0.0	CL			CLAY - dark yellowish orange (10YR 6/6), mottled pale yellowish brown (10YR 6/2), 90% clay, 10% silt, soft, low plasticity.	damp	
										End of Hole at 4.00 m		

Hydrocarbon Odour
H High
M Moderate
L Low
Z Zero
Sample Type
D Disturbed
U Undisturbed

Additional Comments



Log Drawn By: Laurie White
Contact: laurie.white@reumad.com.au

Logged By: Grant Russell
Checked By:

Date: 23/10/2012
Date:

GL LOG 2 ST MARYS 1201037.GPJ GL GDT 30/10/12 10:43:59 AM

Borehole Log



Geo-Logix Pty Ltd

Building Q2, Level 3
Unit 2309 / 4 Daydream Street, Warriewood NSW 2102
Ph: (02) 9979 1722 | Fax: (02) 9979 1222
www.geo-logix.com.au

Hole ID. **B19**
Project Number: **1201037**
Hole Depth: **4.00 m**
Sheet: **1 of 1**

Project Name: **Better Springs - St Marys**
Location / Site: **61-63 and 69-73 Christie St, St Marys NSW**
Client:
Drilling Company: **Epoca Environmental Pty Ltd**
Drill Method: **Solid Stem Auger (Geoprobe)**

Date Started: **23/10/2012**
Date Completed: **23/10/2012**
Level: -----
Easting: -----
Northing: -----

Method	Water Level	Depth (m)	Sample Type	HC Odour	Sample ID	PID (ppm)	DUP / TRIP	Material Type	USCS Symbol	Graphic Log	Material Description	Moisture	Observations / Comments
											Surface: Concrete		
CC		0.13						Fill			CONCRETE.		
		0.30									FILL - SAND with Gravel, moderate yellowish brown (10YR 5/4), 10% clay, 10% silt, 60% sand, 20% gravel, loose, with pieces of concrete.	damp	
		0.5									CLAY - moderate yellowish brown (10YR 5/4), 80% clay, 10% silt, 10% sand, soft, low plasticity.	damp	
		0.80									CLAY - dark yellowish orange (10YR 6/6), 90% clay, 10% silt, soft, low plasticity.	damp	
		1.0	D	Z	B19 / 1.0m	0.0					CLAY - moderate brown (5YR 4/4), 90% clay, 10% silt, soft, low plasticity.	damp	
		1.30											
		1.5											
		2.0											
		2.5											
		2.60											
		3.0											
		3.10											
		3.50											
		4.0	D	Z	B19 / 4.0m	0.0	Dup2 Trip2				CLAY - dark yellowish orange (10YR 6/6), mottled pale yellowish brown (10YR 6/2), 90% clay, 10% silt, soft, low plasticity.	damp	
											End of Hole at 4.00 m		

Hydrocarbon Odour

H High
M Moderate
L Low
Z Zero

Sample Type
D Disturbed
U Undisturbed

Additional Comments



Log Drawn By: Laurie White
Contact: laurie.white@reumad.com.au

Logged By: Grant Russell
Checked By:

Date: 23/10/2012
Date:

GL LOG 2 ST MARYS 1201037.GPJ GL GDT 30/10/12 10:44:01 AM

Borehole Log



Geo-Logix Pty Ltd

Building Q2, Level 3
Unit 2309 / 4 Daydream Street, Warriewood NSW 2102
Ph: (02) 9979 1722 | Fax: (02) 9979 1222
www.geo-logix.com.au

Hole ID. **B20**
Project Number: **1201037**
Hole Depth: **0.30 m**
Sheet: **1 of 1**

Project Name: **Better Springs - St Marys**
Location / Site: **61-63 and 69-73 Christie St, St Marys NSW**
Client:
Drilling Company:
Drill Method: **Hand Auger**

Date Started: **24/10/2012**
Date Completed: **24/10/2012**
Level: -----
Easting: -----
Northing: -----

Method	Water Level	Depth (m)	Sample Type	HC Odour	Sample ID	PID (ppm)	Material Type	USCS Symbol	Graphic Log	Material Description	Moisture	Observations / Comments
										Surface: Grass		
Hand Auger		0.05	D	Z	B20 / 0.1m	0.0	Natural	CL		TOPSOIL. SAND - moderate yellowish brown (10YR 5/4), 10% clay, 10% silt, 80% sand, loose.	dry to damp	
		0.1								CLAY - moderate yellowish brown (10YR 5/4), 90% clay, 10% silt, firm, low plasticity.	dry to damp	
		0.2										
		0.3										
		0.4								End of Hole at 0.30 m		
		0.5										
		0.6										
		0.7										
		0.8										
		0.9										
		1.0										

Hydrocarbon Odour
H High
M Moderate
L Low
Z Zero
Sample Type
D Disturbed
U Undisturbed

Additional Comments



Log Drawn By: Laurie White
Contact: laurie.white@reumad.com.au

Logged By: **Grant Russell**
Checked By:

Date: **24/10/2012**
Date:

Borehole Log



Geo-Logix Pty Ltd

Building Q2, Level 3
Unit 2309 / 4 Daydream Street, Warriewood NSW 2102
Ph: (02) 9979 1722 | Fax: (02) 9979 1222
www.geo-logix.com.au

Hole ID. **B21**
Project Number: **1201037**
Hole Depth: **0.30 m**
Sheet: **1 of 1**

Project Name: **Better Springs - St Marys**
Location / Site: **61-63 and 69-73 Christie St, St Marys NSW**
Client:
Drilling Company:
Drill Method: **Hand Auger**

Date Started: **24/10/2012**
Date Completed: **24/10/2012**
Level: -----
Easting: -----
Northing: -----

Method	Water Level	Depth (m)	Sample Type	HC Odour	Sample ID	PID (ppm)	Material Type	USCS Symbol	Graphic Log	Material Description	Moisture	Observations / Comments
										Surface: Leaf Litter		
Hand Auger		0.05	D	Z	B21 / 0.1m	0.0	Natural	CL		TOPSOIL. SAND - moderate yellowish brown (10YR 5/4), 10% clay, 10% silt, 80% sand, loose.	dry to damp	
		0.1								CLAY - dark yellowish orange (10YR 6/6), 90% clay, 10% silt, firm, low plasticity.	dry to damp	
		0.2										
		0.3										
		0.4								End of Hole at 0.30 m		
		0.5										
		0.6										
		0.7										
		0.8										
		0.9										
		1.0										

Hydrocarbon Odour
H High
M Moderate
L Low
Z Zero
Sample Type
D Disturbed
U Undisturbed

Additional Comments



Log Drawn By: Laurie White
Contact: laurie.white@reumad.com.au

Logged By: **Grant Russell**
Checked By:

Date: **24/10/2012**
Date:

GL LOG 2 ST MARYS 1201037.GPJ GL GDT 30/10/12 10:44:06 AM

Borehole Log



Geo-Logix Pty Ltd

Building Q2, Level 3
Unit 2309 / 4 Daydream Street, Warriewood NSW 2102
Ph: (02) 9979 1722 | Fax: (02) 9979 1222
www.geo-logix.com.au

Hole ID. **B22**
Project Number: **1201037**
Hole Depth: **0.30 m**
Sheet: **1 of 1**

Project Name: **Better Springs - St Marys**
Location / Site: **61-63 and 69-73 Christie St, St Marys NSW**
Client:
Drilling Company:
Drill Method: **Hand Auger**

Date Started: **24/10/2012**
Date Completed: **24/10/2012**
Level: -----
Easting: -----
Northing: -----

Method	Water Level	Depth (m)	Sample Type	HC Odour	Sample ID	PID (ppm)	Material Type	USCS Symbol	Graphic Log	Material Description	Moisture	Observations / Comments
										Surface: Leaf Litter		
Hand Auger		0.05	D	Z	B22 / 0.1m	0.0	Natural	CL		TOPSOIL. SAND - moderate yellowish brown (10YR 5/4), 10% clay, 10% silt, 80% sand, loose.	dry to damp	
		0.1								CLAY with Sand - moderate yellowish brown (10YR 5/4), 70% clay, 10% silt, 20% sand, soft, low plasticity.	dry to damp	
		0.2										
		0.3										
		0.4								End of Hole at 0.30 m		
		0.5										
		0.6										
		0.7										
		0.8										
		0.9										
		1.0										

Hydrocarbon Odour
H High
M Moderate
L Low
Z Zero
Sample Type
D Disturbed
U Undisturbed

Additional Comments



Log Drawn By: Laurie White
Contact: laurie.white@reumad.com.au

Logged By: Grant Russell
Checked By:

Date: 24/10/2012
Date:

GL LOG 2 ST MARYS 1201037.GPJ GL GDT 30/10/12 10:44:08 AM

Borehole Log



Geo-Logix Pty Ltd

Building Q2, Level 3
Unit 2309 / 4 Daydream Street, Warriewood NSW 2102
Ph: (02) 9979 1722 | Fax: (02) 9979 1222
www.geo-logix.com.au

Hole ID. **B23**
Project Number: **1201037**
Hole Depth: **0.30 m**
Sheet: **1 of 1**

Project Name: **Better Springs - St Marys**
Location / Site: **61-63 and 69-73 Christie St, St Marys NSW**
Client:
Drilling Company:
Drill Method: **Hand Auger**

Date Started: **24/10/2012**
Date Completed: **24/10/2012**
Level: -----
Easting: -----
Northing: -----

Method	Water Level	Depth (m)	Sample Type	HC Odour	Sample ID	PID (ppm)	Material Type	USCS Symbol	Graphic Log	Material Description	Moisture	Observations / Comments
										Surface: Leaf Litter		
Hand Auger		0.05	D	Z	B23 / 0.1m	0.0	Natural	CL		TOPSOIL. SAND - moderate yellowish brown (10YR 5/4), 10% clay, 10% silt, 80% sand, loose.	dry to damp	
		0.1								CLAY - dark yellowish orange (10YR 6/6), 90% clay, 10% silt, firm, low plasticity.	dry to damp	
		0.2										
		0.3										
		0.4								End of Hole at 0.30 m		
		0.5										
		0.6										
		0.7										
		0.8										
		0.9										
		1.0										

Hydrocarbon Odour
H High
M Moderate
L Low
Z Zero
Sample Type
D Disturbed
U Undisturbed

Additional Comments



Log Drawn By: Laurie White
Contact: laurie.white@reumad.com.au

Logged By: **Grant Russell**
Checked By:

Date: **24/10/2012**
Date:

GL LOG 2 ST MARYS 1201037.GPJ GL GDT 30/10/12 10:44:09 AM

Borehole Log



Geo-Logix Pty Ltd

Building Q2, Level 3
Unit 2309 / 4 Daydream Street, Warriewood NSW 2102
Ph: (02) 9979 1722 | Fax: (02) 9979 1222
www.geo-logix.com.au

Hole ID. **B24**
Project Number: **1201037**
Hole Depth: **1.00 m**
Sheet: **1 of 1**

Project Name: **Better Springs - St Marys**
Location / Site: **61-63 and 69-73 Christie St, St Marys NSW**
Client:
Drilling Company:
Drill Method: **Hand Auger**

Date Started: **24/10/2012**
Date Completed: **24/10/2012**
Level: -----
Easting: -----
Northing: -----

Method	Water Level	Depth (m)	Sample Type	HC Odour	Sample ID	PID (ppm)	Material Type	USCS Symbol	Graphic Log	Material Description	Moisture	Observations / Comments
Hand Auger		0.1	D	Z-L	B24 / 0.1m	0.5	CL			CLAY - dark yellowish brown (10YR 4/2), 90% clay, 10% silt, soft, low plasticity.	damp	Hydrocarbon staining.
		0.20										
		0.3										
		0.4										
		0.5	D	Z	B24 / 0.5m	0.0	Natural			CLAY - dark yellowish orange (10YR 6/6), 90% clay, 10% silt, soft, low plasticity.	damp	
		0.60										
		0.7										
		0.8	D	Z	B24 / 1.0m	0.0	CL			CLAY - dark yellowish orange (10YR 6/6), mottled pale brown (5YR 5/2), 90% clay, 10% silt, soft, low plasticity.	damp to moist	
		0.9										
		1.0										
		1.1								End of Hole at 1.00 m		
		1.2										
		1.3										
		1.4										

Hydrocarbon Odour
H High
M Moderate
L Low
Z Zero
Sample Type
D Disturbed
U Undisturbed

Additional Comments



Log Drawn By: Laurie White
Contact: laurie.white@reumad.com.au

Logged By: **Grant Russell**
Checked By:

Date: **24/10/2012**
Date:

ATTACHMENT F

RENTALS

Equipment Report - MINIRAE 2000 PID

This PID has been performance checked / calibrated* as follows:

Calibration	Actual Value	Reading	Pass?		
Zero – fresh air	0.0 ppm	0.0 ppm	☒		
Span – Isobutylene	98.0 ppm	99.4 ppm	☒		
Set Alarm limits to	High	100 ppm	Low	50 ppm	
Operations Check					
☒ Performance Check (pump, lamp, sensor & battery voltage check)					
☒ Battery Charged	☒ Filters Check	☒ Spare battery Voltage (5.5v minimum) 6 V			
☒ Electrical Safety Tag attached (AS/NZS 3760)		Tag No:		Valid to:	
☒ Bump test 1 Date: 22/10/2012					

* Calibration gas traceability information is available upon request.

This PID has been performance checked / calibrated* as follows:

Date: 22/10/2012 Checked by: MILENKO

Signed: _____

Please check that the following items are received and that all items are cleaned and decontaminated before return. A minimum \$20 cleaning / service / repair charge may be applied to any unclean or damaged items. Items not returned will be billed for at the full replacement cost.

Sent	Returned	Item
☒	☐	MiniRae 2000 PID / Operational Check, plus Battery Voltage @ 5.3V
☒	☐	Lamp Voltage @ 10.6 V Compound Set to: ISOBUTYLENE factor: 1
☒	☐	Protective yellow rubber boot
☒	☐	Inlet probe (attached to PID)
☒	☐	Spare water trap filter(s) Qty 1
☒	☐	Charger 240V to 12V 500mA
☒	☐	Instruction Manual behind foam on the lid of case "
☒	☐	Quick Guide Sheet behind foam on the lid of case "
☒	☐	Spare Alkaline Battery Compartment with batteries
☒	☐	Inline Moisture trap Filter Guide Laminated
☒	☐	Calibration regulator & tubing (optional)
☒	☐	Carry Case
☐	☐	Check to confirm electrical safety (tag must be valid)

Processors Signature/ Initials

MS

Quote Reference	32396	Condition on return
Customer Ref		
Equipment ID	PID MINSR	
Equipment serial no.	110007362	
Return Date	1 1	
Return Time		

"We do more than give you great equipment... We give you great solutions!"

Phone: (Free Call) 1300 735 295		Fax: (Free Call) 1800 675 123		Email: RentalsAU@ThermoFisher.com	
Melbourne Branch 5 Caribbean Drive, Scoresby 3179	Sydney Branch Level 1, 4 Talavera Road, North Ryde 2113	Adelaide Branch 27 Beulah Road, Norwood, South Australia 5067	Brisbane Branch Unit 2/5 Ross St Newstead 4006	Perth Branch 121 Beringarra Ave Malaga WA 6090	

RENTALS

Equipment Report - TPS 90FLMV Water Quality Meter

This Water Quality Meter has been performance checked / calibrated* as follows:

pH ☒ pH 6.88 ☒ pH 7.00 ☒ pH 4.00 ☐ pH 10.00 ☐ pH
 Conductivity ☒ 0.0mS/cm ☒ 2.76mS/cm ☐ 12.88mS/cm ☐ 58.6mS/cm ☐ mS/cm
 TDS ☒ 0.0 ppk ☒ 36 ppk ☐ ppk
 Dissolved Oxygen ☒ 0.00ppm in Sodium Sulphite ☒ 100% Saturation in Air
 Redox (ORP)** ☒ Electrode operability test ²³⁴240mV +/- 10%. Actual: ²³23mV
☒ Electrodes cleaned/checked ☒ Charged ^{8.0}8.0 v (min 7.2V) ☒ Temperature
 Turbidity ^{N/A}N/A 0.0 NTU ☐ 90NTU ☐ 360NTU ☐ NTU

* Calibration solution traceability information is available upon request.

** This meter uses an Ag/AgCl ORP electrode. To convert readings to SHE (Standard Hydrogen Electrode), add 199mV to the mV reading. For further information, refer to www.enviroequip.com/quipnotes/ORP.htm.

Date: 22/10/2012 Checked by: MILENKO

Signed: _____

Please check that the following items are received and that all items are cleaned and decontaminated before return. A minimum \$20 cleaning / service / repair charge may be applied to any unclean or damaged items. Items not returned will be billed for at the full replacement cost.

Sent	Received	Returned	Item
☒	☐	☐	90FLMV Unit. Ops check / Battery Voltage @ ^{8.34} 8.34
☒	☐	☐	pH sensor 5m
☒	☐	☐	Conductivity / TDS / Temperature k=10 sensor 5m
☒	☐	☐	Dissolved Oxygen YSI5739 sensor 5m
☒	☐	☐	Redox (ORP) sensor 5m
☒	☐	☐	Battery charger: 240V AC to 12V DC 200mA
☒	☐	☐	Instruction Manual
☒	☐	☐	Quick Guide
☒	☐	☐	Syringe with storage solution for pH & ORP sensors
☒	☐	☐	Turbidity 5m
☒	☐	☐	Carry Case

Processors Signature/ Initials

MS

Quote Reference	<u>32396</u>	Condition on return
Customer Ref		
Equipment ID	<u>90FLMV SN</u>	
Equipment serial no.	<u>V3539</u>	
Return Date	<u>/ /</u>	
Return Time		

"We do more than give you great equipment... We give you great solutions!"

Phone: (Free Call) 1300 735 295		Fax: (Free Call) 1800 675 123		Email: RentalsAU@Thermofisher.com	
Melbourne Branch 5 Caribbean Drive, Scoresby 3179	Sydney Branch Level 1, 4 Talavera Road, North Ryde 2113	Adelaide Branch 27 Beulah Road, Norwood, South Australia 5067	Brisbane Branch Unit 2/5 Ross St Newstead 4006	Perth Branch 121 Benningra Ave Malaga WA 6090	

ATTACHMENT G



WELL ID# 0761

Weather:

surry a few clouds
warm

$$\frac{(7.404 - 3.485)}{\text{TD(M)}} \times \frac{3}{\text{WL(M)}} \times \frac{2(50\text{mm})}{\text{\# Vols Well}} \text{ or } \frac{7.8(100\text{mm})}{\text{Well}} = \frac{\text{Calculated Purge Volume}}{\text{Liters}}$$

Bailer-Type: _____ X Pump-Type: Geo pump . Depth in meters (BTOC): _____

Time	Depth to Water (Meters)	Total Discharge (Liters)	pH ± 0.1	Conductivity (mS/cm) $\pm 3\%$	Redox mV $\pm 10\text{mV}$	Dissolved Oxygen (mg/L) $\pm 10\%$	Temp $^{\circ}\text{C}$	Salinity (%)	Comments
14:18	3.687	4.5	5.72	24.0mS	71	1.16	20.1		
14:23	3.747	9.0	5.74	23.9	65	0.82	20.0		
14:28	3.780	12.0	5.75	24.1	60	0.47	19.7		
14:33	3.800	14.5	5.75	24.0	57	0.40	20.2		
14:38	3.800	16.5	5.77	24.2	57	0.62	20.2		
14:43	3.800	18.5	5.76	24.2	56	0.56	20.3		
Stabilised									

Company Name: Geo-Logix P/L
Address: Bld Q2 Level 3, 2309/4 Daydream St
 Warriewood
 NSW 2102
Client Job No.: ST MARYS 1201037

Order No.: 485801
Report #: 357043
Phone: 02 9979 1722
Fax: 02 9979 1222

Received: Oct 26, 2012 8:42 AM
Due: Nov 2, 2012
Priority: 5 Day
Contact Name: Grant Russell

mgt-LabMark Client Manager: Jean Heng

Sample Detail					% Moisture	HOLD	mgt-LabMark Suite 7	mgt-LabMark Suite 8
Laboratory where analysis is conducted								
Melbourne Laboratory - NATA Site # 1254 & 14271					X	X	X	X
Sydney Laboratory - NATA Site # 18217								
Brisbane Laboratory - NATA Site # 20794								
External Laboratory								
Sample ID	Sample Date	Sampling Time	Matrix	LAB ID				
	Oct 23, 2012		Soil	M12-Oc23618	X			X
	Oct 23, 2012		Soil	M12-Oc23619	X		X	
	Oct 24, 2012		Soil	M12-Oc23620		X		

ATTACHMENT H

Certificate of Analysis

Geo-Logix P/L
Bld Q2 Level 3, 2309/4 Daydream St
Warriewood
NSW 2102



NATA Accredited
Accreditation Number 1261
Site Number 18217

Accredited for compliance with ISO/IEC 17025.
The results of the tests, calibrations and/or
measurements included in this document are traceable
to Australian/national standards.

Attention: Grant Russell

Report **356804-S**
Client Reference ST MARYS 1201037
Received Date Oct 25, 2012

Client Sample ID			B1/0.1	B1/1.0	B2/0.1	B2/1.0
Sample Matrix			Soil	Soil	Soil	Soil
mgt-LabMark Sample No.			S12-Oc21715	S12-Oc21716	S12-Oc21717	S12-Oc21718
Date Sampled			Oct 24, 2012	Oct 24, 2012	Oct 24, 2012	Oct 24, 2012
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	10	mg/kg	< 10	< 10	< 10	< 10
TRH C10-C14	50	mg/kg	< 50	< 50	< 50	< 50
TRH C15-C28	100	mg/kg	< 100	< 100	< 100	< 100
TRH C29-C36	100	mg/kg	< 100	< 100	< 100	< 100
TRH C10-36 (Total)	100	mg/kg	< 100	< 100	< 100	< 100
Volatile Organic Compounds (VOC)						
1.1-Dichloroethane	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
1.1-Dichloroethene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
1.1.1-Trichloroethane	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
1.1.1.2-Tetrachloroethane	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
1.1.2-Trichloroethane	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
1.2-Dibromo-3-chloropropane	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
1.2-Dibromoethane	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
1.2-Dichlorobenzene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
1.2-Dichloroethane	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
1.2-Dichloropropane	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
1.2.3-Trichloropropane	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
1.2.4-Trichlorobenzene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
1.2.4-Trimethylbenzene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
1.3-Dichlorobenzene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
1.3-Dichloropropane	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
1.3.5-Trimethylbenzene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
1.4-Dichlorobenzene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2-Butanone (MEK)	5	mg/kg	< 5	< 5	< 5	< 5
2-Chlorotoluene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2-Hexanone (MBK)	5	mg/kg	< 5	< 5	< 5	< 5
2-Pentanone	5	mg/kg	< 5	< 5	< 5	< 5
4-Chlorotoluene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
4-Methyl-2-pentanone (MIBK)	5	mg/kg	< 5	< 5	< 5	< 5
Benzene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Bromobenzene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Bromodichloromethane	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Bromoform	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Bromomethane	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Carbon disulfide	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Carbon Tetrachloride	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Chlorobenzene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Chloroethane	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5