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the laws relating to fires or with the by-laws or regulations of the Board of Fire Commissioners of New South Wales or such like authority or with any Acts or Regulations affecting the water supply or sewerage or the Board of Health or with the Factories Act or present or future laws or ordinances affecting the Shire or Municipality within which the demised premises are or may be situated or which may increase or contribute to the increase of the yearly premium payable on any Policy of Insurance against fire now or at any time hereafter to be effected by the Lessor that nothing herein contained shall impose upon the Lessee any responsibility or liability to effect or carry out any work of a structural nature.

HEATING:

- (1) The Lessee shall not use such methods of heating which shall conflict with the requirements of the Underwriters of the Fire Association of New South Wales. The method of heating of the demised premises used by the Lessee shall be first approved by the Lessor such approval not to be unreasonably withheld.

LESSEE TO INDEMNIFY LESSOR FOR NEGLIGENCE FIRE DAMAGE ETC:

- (m) The Lessee will and does hereby indemnify the Lessor from and against all actions claims demands losses damages costs and expenses for which the Lessor shall or may be or become liable in respect of or arising from:-
- (a) the negligent use misuse or abuse by the Lessee or any servant agent sub-tenant invitee of or any other person claiming through or under the Lessee of the water

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gas electricity lighting and other services and facilities of the demised premises;

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- (b) overflow or leaking of water (including rain water) in or from the premises caused or contributed to by any act or omission on the part of the Lessee his servants agents sub-tenants invitees or other persons claiming through or under the ~~LESSEE~~ Lease;

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- (c) loss damage or injury from any cause whatsoever to property or person caused or contributed to by the use of the premises by the Lessee or any servant agent sub-tenant invitee claiming through or under the ~~LESSEE~~ Lease;

- (d) loss damage or injury from any cause whatsoever to property or person within or without the premises occasioned or contributed to by any act omission neglect breach or default of the Lessee or any servant agent sub-tenant invitee or other person as aforesaid;

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PROVIDED THAT the Lessee will not indemnify the Lessor from and against any actions, claims, demands, losses, damages, costs and expenses which are caused or contributed to by the wilful or negligent acts or omissions of the Lessor or any servant, agent, invitee or any other person claiming through or under the ~~LESSEE~~ Lease.

NO ENCUMBRANCES:

- (n) That the Lessee will not mortgage lien or in any way charge or encumber his interest in this Lease without the written consent of the Lessor first had and obtained.
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LEGAL COSTS:

- (o) That the Lessee will on demand pay the Lessor's solicitor's reasonable costs charges and expenses of and incidental to the preparation and completion of this Lease, including Stamp Duty, Mortgagee's solicitor's costs and fees and registration fee payable to obtain a registered copy of the Lease.

NO AUCTION SALE:

- (p) That the Lessee will not carry on or permit or cause to be carried on or be party or privy to any sale or sales by auction on the demised premises or any part thereof.

LIGHT FITTINGS:

- (q) That the Lessee shall keep and maintain all light fittings in proper working order and condition and replace all tubes and parts thereof needful for the effective operation and use thereof.

OVERLOADING:

- (r) That the Lessee shall not do permit or suffer to be done upon the said premises anything in the nature of overloading the floors thereof whereby the said premises or any part thereof may be strained or the walls or floors caused to sag or deflect from the right line or as to damage the said premises or any part thereof respectively and shall not bring any iron safe or heavy machinery or goods into the said premises without the consent of the Lessor first had and obtained, in writing.

NOTICE OF SALE OR RE-LETTING:

- (s) That the Lessee will at anytime during **three**
(3) months prior to the expiration of this Lease or any continuation thereof or during the period of any holding over hereunder permit the

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Lessor to affix and exhibit any notice in or about the demised premises indicating the premises to be available for sale or lease and shall permit access to the Lessor its agents or prospective purchaser or lessees upon reasonable notice.

ELECTRICAL FIXTURES:

- (t) The Lessee shall at his own expense install all electrical fixtures and fittings wiring and other things (if any) necessary for the installation of the electric light and power in the leased premises and all such fixtures and fittings and wiring and other things installed by the Lessee shall at the termination of this Lease be and become the property of the Lessor PROVIDED that any such installations shall not be made without the written consent of the Lessor's first had and obtained and provided that any such installation shall be approved and passed (if required) by the Fire Underwriters Association of New South Wales, the Sydney and Local County Council and such other Public Authority as shall be necessary.

PAYMENT OF CHARGES:

- (u) The Lessee covenants to pay the proper authorities all charges for the telephone used and for electricity and gas consumed on the premises and for all trade waste and water and drainage usage in accordance with accounts rendered and if the Lessee makes default in the payment thereof it shall be optional for the Lessor to pay the same and in addition to the Lessor's other remedies it shall be lawful for the Lessor to recover the amount so paid as if same was overdue rent hereunder.

TENANTS FIXTURES:

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- (v) All other fixtures plant machinery utensils shelving counters safes and other material or articles brought onto the premises by the Lessee shall be trade or tenant's fixtures and subject to the tenant rights and the Lessee may at or prior to the expiration or sooner determination of the Lease take remove and carry away the same from the premises but the Lessee shall in such removal do no damage to the premises and shall forthwith make good any damage which he may occasion thereto. The Lessee's obligations to observe or perform this covenant shall survive the expiration or other termination of this Lease. Any trade or tenant's fixtures not removed at or prior to the expiration or sooner determination of the Lease shall be deemed to form part of the freehold property.

LESSEE TO ASSUME PUBLIC RISK:

- (w) The Lessee agrees to occupy use and keep the premises at the risk of the Lessee and hereby releases to the full extent permitted by law the Lessor and its agents, servants, contractors and employees except to the extent of any wilful or negligent acts or omissions on their part from all claims and demands of every kind resulting from any accident, damage or injury occurring therein and the Lessee expressly agrees that the Lessor shall have no responsibility or liability for any loss or damage to stock-in-trade fittings, fixtures, signs or personal property of the Lessee or loss of profits by the Lessee unless caused or contributed to by the wilful or negligent acts or omissions of the Lessor or its servants, agents, invitees or other persons claiming

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through or under the Lessor.

LESSOR NOT LIABLE FOR DAMAGES:

- (x) Subject to clause 4 hereof Notwithstanding any implications or rule of law to the contrary the Lessor shall not be liable for any damages or loss the Lessee may suffer by any act, default or neglect of the Lessor, or any other person in carrying out the powers, authorities and provisions herein contained or otherwise with respect to the premises or the building or by reason of the Lessor neglecting to do something to the premises or to the building and which as between the Lessor and the Lessee it might be legally liable to do unless the Lessee has given the Lessor written notice to do such thing and the Lessor has without reasonable cause failed within a reasonable time thereafter to take proper steps to comply therewith.

COVENANTS BY THE LESSOR:

LESSEE'S FIXTURES:

4. The Lessor covenants and agrees with the Lessee as follows:
- (i) to pay all rates and ^{TAXES} ~~taxes~~ in respect of the premises by the due date;
 - (ii) to effect building and public liability insurance in respect of the premises;
AND
 - (iii) maintain the premises and carry out structural repairs as and when required.

VARIATION OF RENT AND INCREASE IN OUTGOINGS:

RENT:

5. (a) Notwithstanding anything hereinbefore contained the annual rental hereinbefore specified and the instalments by which such rental is payable ~~shall be increased in the same proportion that~~

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~~the Index Number at the commencement of any~~
year of the term period bears to the Index
Number as at the commencement of the term. Each
year shall be calculated from the date of
commencement of this Lease and subsequent
annual anniversaries thereof. In this clause
the words "Index Number" shall mean the
Consumer Price Index for Sydney published from
time to time in the Commonwealth Statisticians
Summary of Australian Statistics. In the event
that there is a suspension or discontinuance of
the Consumer Price Index for Sydney by the
Commonwealth Authorities then the annual rental
hereinbefore specified and the instalments by
which such rental is payable shall be the mean
of the rental as determined as the fair market
rental value of the premises by two (2) Real
Estate Valuers nominated by the then Secretary
of the Real Estate Institute of New South Wales
~~whose decision shall be conclusive and binding.~~

ADJOINING PREMISES:

6. It is hereby agreed and declared by and between the said Lessor and the said Lessee that in the event of any building or buildings being erected on any property adjoining the said premises in such manner that the light now obtained from any window or windows in the demised premises be shut off then the Lessor will not be held responsible to the Lessee nor will the matter be a subject for compensation or reduction of rent.

LESSEE'S DEFAULT:

7. (a) If the rent hereby reserved or any part thereof or any other monies due pursuant to this Lease shall be unpaid for the space of **fourteen (14)** days after any of the days of which the same ought to have been paid although no formal

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demand shall have been made therefore;

OR

- (b) If any Lessee being a Company shall pass an effective resolution to wind up (other than for the purposes of reconstruction) or shall be ordered by the Court to be wound up, or if any steps whatsoever be taken for the winding up whether compulsorily or otherwise;

OR

- (c) If the Lessee or any future Assignee of the Lessee being a person or persons of his, her for their estate or estates shall be declared bankrupt or if he, she or they shall compound with or assign his, her or their estate or estates for the benefit of his, her or their creditors, or if he, she or they shall suffer execution to be levied upon the demised premises on the term hereby created;

OR

- (d) In the case of breach or non-compliance or non-performance of any of the covenants conditions provisions or agreements hereby contained or implied and on the Lessee to be performed and observed THEN and in any such case it shall be lawful for the Lessor at anytime thereafter and whilst such neglect or default continues and without further notice or demand to enter (forcibly if necessary) into and upon the demised premises or any part thereof in the name of the whole and to reposes the same as of his former estate and expel the Lessee and those claiming under him and remove his effects from off the demised premises without being taken or deemed guilty of any manner of trespass or wrong but without prejudice to any action or right of action or remedy of the

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Lessor in respect of any breach of the Lessee's covenants herein contained or implied and that thereupon this Lease shall if the Lessor so elects determine cease and be at an end and the Lessee shall be and remain liable for the rent and any other money payable pursuant to this Lease to the date of such entry at the rate hereinbefore reserved PROVIDED THAT the Lessor must mitigate its loss.

- (e) Notwithstanding anything herein contained upon the Lessor becoming entitled to re-enter or determine this Lease the residue of the said term for the time being unexpired shall at the option of the Lessor immediately upon Notice of the exercise of such Option being given to the Lessee be reduced to **one (1) week** and thereafter the tenancy thereby created shall be and remain a tenancy from week to week at a weekly rent equal to **one (1) weeks** proportion of the rent payable at that time commencing from the date of service of such notice and shall be determinable by **one (1) weeks** notice to quit terminating any day of the week.
- (f) The Lessor may, but shall not be obliged to, remedy at any time without notice any default by the Lessee under this Lease and whenever the Lessor so elects all costs and expenses incurred by the Lessor (including legal costs and expenses) in remedying a default shall so constitute a liquidated debt and shall be paid by the Lessee to the Lessor on demand.
- (g) If the rent hereby reserved or any part thereof or any other monies payable by the Lessee to the Lessor hereunder shall not be paid on the day upon which the same shall become due (whether any formal or legal demand therefore

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shall have been made or not) then the Lessee shall pay to the Lessor interest at the rate of **FIFTEEN (15%) PERCENTUM PER ANNUM** to the date on which such monies are paid or recovered by the Lessor as the case may be. The Lessor shall be entitled to recover such interest from the Lessee as if such interest was rent in arrears. Nothing contained in this Clause shall be deemed to restrict limit or prejudice any right power or remedy of the Lessor in respect of such monies.

(h) That upon the Lessor becoming entitled to re-enter the premises pursuant to any provision of this Lease the Lessee shall forthwith remove from the premises all goods (which expression where hereinafter used shall include personal property over every description) which may be thereon or therein and in default of the Lessee effecting such removal the Lessor upon entering into possession of the premises may remove all such goods from the premises to such place or places as the Lessor may see fit and shall be deemed to have the authority of the Lessee to deposit the same and at the expense of the Lessee with a warehouseman selected by the Lessor and in doing so the Lessor shall not be liable or responsible for loss or damage to or warehousing expenses in respect of the whole or any part of such goods which shall be at the Lessee's risk and expense at all times and all costs and expenses incurred by the Lessor in such removal and deposit shall notwithstanding that this Lease shall then have terminated be and be deemed to be a liquidated debt payable by the Lessee to the Lessor upon demand.

(i) No consent or waiver expressed or implied by

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the Lessor to or of any breach of any covenant condition or duty of the Lessee shall be construed as a consent or waiver to any other breach of the same or any other covenant of condition or duty.

HOLDING OVER:

MONTHLY HOLDING OVER:

8. It is hereby **FURTHER MUTUALLY AGREED AND DECLARED** as follows:

- (a) In the event of the Lessee holding over after the expiration or prior determination of the term granted by this demise with the consent of the Lessor, the Lessee shall become a monthly tenant only of the Lessor at a monthly rental being a monthly proportion of the annual rent payable hereunder ~~but varied as provided by Clause 5 hereof~~ and otherwise on the same terms and conditions as those herein contained as far as applicable.

NOTICES AND INTERPRETATIONS:

- 9 (a) That the covenants powers and provisions implied in Leases by Sections 84, 85, 133 and 133A of the Conveyancing Act, 1919-1958 shall not apply to and are hereby excluded from this Lease.
- (b) That any demand or notice to be given by either party to the other shall be deemed to be duly given in writing signed by that party or their agent and delivered to the other party personally or sent by post addressed to the other party at their last known address, or at the premises in the case of the Lessee.
- (c) Where the context so admits in the construction of any covenant or proviso or other provision contained or implied in this Lease words importing the singular or plural number or the

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masculine gender shall be read as also importing and including the plural or singular number and the feminine gender as the case may require, and a covenant, proviso or provision in which more persons than one are by the context deemed to covenant agree or appoint, shall be deemed to bind and extend to such persons and any two of them severally (whenever a corporation shall be a party hereto either as Lessor or Lessee the words "Lessor", "Lessee" or "Persons" whenever herein used shall be deemed to mean and include such corporation, its successors, assignees and transferees) and the word "Lessee" or "Guarantor" shall include his executors, administrators, successors and permitted assignees and the word "Lessor" shall mean and include the Lessor's executors, administrators, successors and assigns.

DEEMED AGREEMENT UNDER SEAL:

10. That this document shall be deemed an agreement under seal for the granting of such a Lease as is hereby purported to be granted and the covenants and conditions herein contained shall be deemed to bind the parties in the same manner as if THIS DOCUMENT WERE REGISTERED NOTWITHSTANDING THAT IT MAY BE held that no estate passes hereunder PROVIDED that should the Lessee require registration the Lessor will procure the same but any necessary survey and the registration of such Lease and the obtaining of all necessary consents thereto shall be at the cost or expense of the Lessee.
11. The Lessee shall advise the Lessor and the Managing Agent of the building for the time being of the private address and telephone number of the Lessee or if the Lessee shall be a corporation of the Manager thereof or if there shall be more than one

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Lessee of each of them. The Lessor and the Managing Agent shall be promptly informed of any change of such address and telephone number.

PEST CONTROL:

12. The Lessor reserves the right from time to time to arrange for pest control examination of the premises and if any service is required as a result of such examination then the total cost for such examination and service shall be borne by the Lessee.

AIR CONDITIONING:

13. The Lessee covenants with the Lessor that the following provisions shall apply to the plant and machinery and equipment, for heating cooling or circulating air (herein called "Air Conditioning Plant") installed on the premises:

- (i) the Lessee shall at all times use and regulate the same to ensure that the air conditioning plant is employed to the best advantage and under conditions from time to time prevailing and shall keep such air conditioning plant in good repair and condition and shall pay all costs of maintaining and operating the same;
- (ii) the Lessors shall not be under any liability to the Lessee or to any other person arising from any breakdown of or any inability or failure to operate and maintain the air conditioning plant at any time or times for any reason whatsoever.

BUSINESS CONTROL:

14. The Lessee will not enter into any partnership or arrangement in relation to the business carried out on the subject demised premises without the consent in writing of the Lessor such consent not to be unreasonably withheld.

LOCK UP:

15. The Lessee will use his best endeavour to protect and keep safe the demised premises and any property

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contained therein from theft or robbery and shall keep all doors windows and other openings closed and securely fastened when either the Lessors or any responsible employee or agent of the Lessee is not present on the demised premises or the demised premises are not open for business and the Lessee may maintain such security or other services as may be necessary for this purpose.

LESSEE'S INDEMNITY:

16. Unless caused or contributed to by the wilful or negligent acts or omissions of the Lessor or its servants, agents, invitees or any other persons claiming through or under the Lessor the Lessee will indemnify and hold harmless the Lessors from and against all damages sums of money costs charges expenses actions claims and demands which may be sustained or suffered or recovered or made against the Lessors by any person for any loss damage or injury such person may sustain when using or entering portion of the premises whether in the occupation of the Lessor, the Lessee or any other person whether or not such injury arises or has arisen as a result of any act or omission neglect breach or default by the Lessee or any servant agent clerk workman employee or invitee of the Lessee or as a result of the creation of some dangerous thing or state of affairs by the Lessee or by any clerk servant agent workman employee or invitee of the Lessee and whether the existence of such dangerous thing or state of affairs was or ought to have been known to the Lessor or not. It is hereby expressly agreed and declared that the Lessors shall not be liable for any damage the Lessee or its clerks servants licensees invitees workmen employees agents customers or visitors of the Lessee may suffer by reason of any injury or damage to any person or

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property who or that may be at any time in the premises arising from any cause or reason whatsoever but including the overflow of water supply or rain water which may leak into the demised premises or any premises attached to or connected with the same or from any parts of the demised premises or any building attached to or connected with the same or arising from any defects in gas, electric or water supply connection or fittings or appliances used in connection thereof except where that injury or damage is caused or contributed to by the wilful or negligent acts or omissions of the Lessor or its servants, agents, invitees or persons claiming through or under the Lessor.

17. The Lessee will during the said term well and sufficiently repair and maintain and keep the said premises with the appurtenances in good and substantial repair including painting and all fixtures fittings gas electric and otherwise locks and keys and all things thereto belonging or which at any time during the said term shall be erected and made by the Lessors when and where and so often as need be with reasonable wear and tear and damage by fire, not attributable to any act or omission by the Lessee or omission by the Lessee's servants, agents or workmen invitees lightning flood and tempest only excepted. Provided that the Lessee shall take all reasonable measures and precautions to ensure that any damage defect or dilapidation which has been or at any time shall be occasioned by reasonable wear and tear shall not give rise to or cause or contribute to any substantial injury to the demised premises. The Lessee will at all times during the continuance of this Lease keep and at the expiration or sooner determination of the said term peaceably surrender and yield up unto the Lessors

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the said premises with the appurtenances and all building erections fixtures erected or made by the Lessors thereon and all the Lessors fixtures and fittings water gas electric light or otherwise locks and keys in good and substantial repair and condition having regard to the condition thereof at the commencement of this Lease reasonable wear and tear and damage by fire not attributable to any act or omission or commission by the Lessees agents servants or workmen or invitees, lightning flood and tempest only excepted. Provided that the Lessee shall take all reasonable measures and precautions to ensure that any damage defect or dilapidation which has been or at any time shall be occasioned by reasonable wear and tear shall not give rise or cause or contribute to any substantial injury to the demised premises.

ASSIGNMENT:

18. The Lessee will not during the continuance of this Lease assign transfer or sublet part with or share the possession of or grant any license affecting or mortgage charge or otherwise deal or dispose of the demised premises or any part thereof or any estate or interest therein or by any act or deed procure the demised premises or any part thereof or any estate or interest to be assigned transferred demised sublet unto share or put into possession of any person or persons licensed mortgaged charges or otherwise dealt with or disposed of unless:

- (i) The Lessee gives to the Lessor not less than one (1) months notice in writing of its desire to deal with the premises in manner aforesaid;
- (ii) The Lessee is not at the time of giving such notice or thereafter in default in the observance or performance of the covenants and agreements on the Lessees part herein contained

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or implied;

(iii) The Lessee proposes to assign transfer sub-let or grant a license to a person or entity who not less than **fourteen (14) days** prior to any such assignment transfer sub-lease or grant:-

(aa) proves to the satisfaction of the Lessor that he is a respectable, responsible and solvent person of stature and experience comparable to that of the Lessee and capable of adequately carrying on the business proposed to be carried on by him in the premises;

(bb) enters into a covenant with the Lessor in the form required by the Lessor that he will duly perform and keep the covenants and agreements on the Lessees part herein contained;

(cc) furnishes to the Lessor such guarantee or guarantees of the performance of his obligations under this Lease as the Lessor shall require;

(dd) pays to the Lessor a reasonable fee to cover administrative expenses and also its proper costs and disbursements of and incidental to the giving of its consent;

and in any case with the prior written consent of the Lessor and subject to the Lessee complying with all the foregoing provisions of this sub-clause such consent shall not be unreasonably withheld.

RENT:

19. The Lessee shall pay to the Lessor the annual rental of **ONE HUNDRED AND TWENTY THOUSAND DOLLARS (\$120,000.00)** payable calendar monthly in advance to the Lessor or as he may direct by calendar monthly

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instalments of **TEN THOUSAND DOLLARS (\$10,000.00)**
each.

OPTION:

20. It is hereby expressly agreed and declared that if the Lessee shall desire to take a renewed Lease of the demised premises for a further term of **FOUR (4) YEARS** from the expiration of the term of this Lease and of such desire shall prior to the expiration of the said term give to the Lessor not less than **THREE (3) CALENDAR MONTHS PREVIOUS NOTICE IN WRITING** and shall in the meantime duly and punctually pay the rent reserved by this Lease at the time herein appointed for payment and shall duly perform and observe the covenants and agreements by and on the part of the Lessee contained in this Lease up to the expiration of the term hereby granted including covenant to pay rent the Lessor will at the cost of the Lessee demise to the Lessee the said premises hereby demised for a further term of **FOUR (4) YEARS** at a rental to be determined by either of the following methods whichever is the greater:-

(i) by increasing the rent in the same proportion that the Index Number as at the expiration of the term of the Lease increases in relation to the Index Number as at the commencement of the term of this Lease. In this Clause the words "**Index Number**" shall mean the Consumer Price Index for Sydney published from time to time in the Commonwealth Statisticians Summary of Australian Statistics. In the event that there is any suspension or discontinuance of the Consumer Price Index by the Commonwealth Authorities then "**Index Number**" shall mean the New South Wales Male Basic Wage applicable in the City of Sydney.

(ii) the mean of the rental as determined as the

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fair market rental value of the premises by two
(2) Real Estate Valuers nominated by the then
Secretary of the Real Estate Institute of New
South Wales

PROVIDED ALWAYS that notwithstanding such
determination the rental payable by the Lessee in
respect of the renewed term shall not be less than
the rental for the final year of the term of this
Lease. The said Lease shall be otherwise on the same
terms and conditions as this Lease with the
exception of this Clause.

FUNDAMENTAL TERMS:

21. It is hereby expressly agreed and declared that the
covenants by the Lessee contained or implied in the
provisions dealing with:-

- (a) the payment of rent;
- (b) inter alia, relating to maintenance and repair;
- (c) inter alia, relating to assignment, sub-letting
or otherwise of the demised premises;
- (d) inter alia, relating to the use of the demised
premises;
- (e) inter alia, relating to insurances;

are (subject to the proviso hereinafter contained)
essential and/or fundamental terms of this Lease and
the breach, non-observance or non-performance of any
one or more of such covenants, terms and conditions
shall be deemed to be a fundamental breach of the
provisions of this Lease on the part of the Lessee
to be observed and performed (PROVIDED THAT the
presence of this Clause in this Lease shall not mean
or be construed as meaning that there are no other
fundamental and/or essential terms in this Lease).
Should the Lessor terminate this Lease following any
such fundamental breach or otherwise then without
prejudice to any other right or remedy of the Lessor
herein contained or implied IT IS EXPRESSLY AGREED

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AND DECLARED that the Lessor shall be entitled to recover from the Lessee, as and by way of liquidated damages for such breach the difference between the aggregate of the rent, and any other monies which would have been payable by the Lessee for the unexpired residue of the term but for such determination calculated from the date of such determination to the date of termination of this Lease referred to at the commencement of this Lease less the aggregate of the several rentals and other monies which the Lessor by taking proper steps to re-let the premises shall obtain or could reasonably be expected to obtain by re-letting the premises for the unexpired residue of the term (if any) PROVIDED ALWAYS THAT in so doing the Lessor shall not be required or obliged to offer or accept in respect of such re-letting terms, covenants, conditions or stipulations herein contained or implied.

~~22. Notwithstanding anything else herein contained it is agreed that upon any review of rent referred in this Lease the rent shall not be less than the rent paid for the previous year.~~

23. The Lessee agrees at its expense and in a good and workmanlike manner to carry out the following to the premises at the commencement of the term of this Lease:-

- a. provision of fire prevention sprinkler system;
- b. electrical upgrade for inflammable liquids;
- c. supply of carpet to office area.

The Lessee agrees that upon termination of this Lease the fire prevention sprinkler system, electrical installation and carpet referred to herein shall become landlords fixtures and be and shall remain the property of the Lessors.

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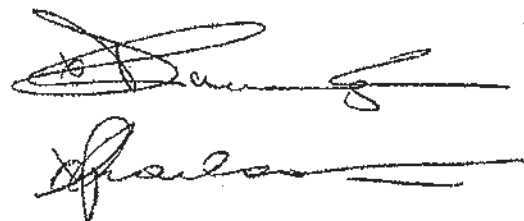
~~25. Notwithstanding anything else herein contained it is
agreed that clause 5 of this Lease shall not apply
for the period 1996 to
2000.~~

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[SEE OVER FOR CLAUSE 26]

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26. (a) The Lessee agrees, and it is an essential term and condition of this Lease, that the Lessee shall during the first term of this Lease at its own cost install a fire sprinkler system in the premises in accordance with all regulations and/or by-laws of any statutory body including the Board of Fire Commissioners of New South Wales or such like authority at an approximate cost of \$70,000.00.
- (b) The Lessee agrees to be responsible at its own expense during the term of this Lease and any renewal thereof for all maintenance and/or servicing of the fire sprinkler system and the Lessee further agrees that at the termination of this Lease the fire sprinkler system shall be and become the property of the Lessor and shall remain part of the property.
- (c) Clause 26(a) shall be deleted from this Lease during any further term.

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CONSENT TO LEASE

Annexure to Lease

From

EVANGELOS DANIAS & DINA DANIAS

To

DREW AUSTRALIA PTY. LIMITED A.C.N. 001 584 523

Dated

11th October, 1996

National Australia Bank Limited A.C.N. 004044937 as Mortgagee under Mortgage(s) No(s)

2775657

HEREBY CONSENTS to the within Lease subject to and without in any way limiting abridging affecting or prejudicing the rights powers and remedies of the Mortgagee under the said Mortgage(s) (or any of them) which rights powers and remedies shall remain in full force and effect as if this consent had not been given Save and Except that so long as the covenants conditions and provisions of the within Lease are duly observed and performed the Mortgagee will in the event of the exercise of the power of sale or other power or remedy of the Mortgagee on default under the said Mortgage(s) (or any of them) exercise the same subject to the then subsisting rights of the Lessee(s) under the within Lease And this limited consent is also given on the express condition that the consent of the Mortgagee is procured in all cases where the consent of the Lessor(s) is necessary under the within Lease that the Mortgagee shall not be obliged to perform any covenant or agreement by the Lessor(s) contained in the within Lease and that all rights powers and remedies of the Lessor(s) under the within Lease shall absolutely vest in and be exercisable and enforceable by the Mortgagee immediately upon the Mortgagee giving notice to the Lessee(s) of demand to enter into receipt of the rents and profits of the leased premises.

Signed at Sydney this

8th

day of

April

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Signed in my presence

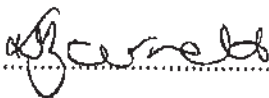
by **Fiona Mary Ferguson**

the Attorney of National Australia Bank Limited
pursuant to

Power of Attorney registered No. 549

Book 3834 who is personally known to me:

) Signed for and on behalf of National Australia
) Bank Limited by its said Attorney who states that he
) has no notice of the revocation of the said Power of
) Attorney at the time of his executing this instrument.



George St., Sydney

Kylie BARNETT

Bank Officer



RETAIL DOCUMENTATION MANAGER

RP13



①

TRANSFER

Real Property Act, 1900



I
279691 G

00.24

B

Office

£0.24824100 to 001422832/03

(A) LAND TRANSFERRED

Show no more than 20 References to Title.
If appropriate, specify the share transferred.

Folio Identifier AUTO CONSOL 10880-76

(B) LODGED BY

L.T.O. Box

83R

Name, Address or DX and Telephone

FRED A. & JOHN P. NEWNHAM

122 Castlereagh Street

SYDNEY NSW 2000

DX 665 SYDNEY

REFERENCE (max. 15 characters) NHG

Barclays
Bank

Danai's

(C) TRANSFEROR

MILANO PROPERTIES PTY LIMITED A.C.N. 000 303 766

(D) acknowledges receipt of the consideration of ..\$650,000.00

and as regards the land specified above transfers to the transferee an estate in fee simple

(E) subject to the following ENCUMBRANCES 1. 2. 3.

(F) TRANSFEE

T

EVANGELOS DANIAS and DINA DANIAS

as joint tenants/tenants-in-common

(H) We certify this dealing correct for the purposes of the Real Property Act, 1900. DATE OF EXECUTION

Signed in my presence by the transferor who is personally known to me.

The COMMON SEAL of MILANO PROPERTIES PTY

LIMITED was hereunto affixed by the

authority of the Board of Directors in

the presence of:



Name of Witness (BLOCK LETTERS)

SECRETARY/DIRECTOR:

Address of Witness

DIRECTOR:

Signature of Transferor

Signed in my presence by the transferee who is personally known to me.

Signature of Witness

Name of Witness (BLOCK LETTERS)

Address of Witness

Signature of Transferee & SOLICITOR

NEIL H.A. GEMKIE

INSTRUCTIONS FOR FILING OUT THIS FORM ARE AVAILABLE FROM THE LAND TITLES OFFICE

CHECKED BY (office use only)

NEW SOUTH WALES

Appln. No. 823

Prior Titles Vol. 676 Fol. 240
Vol. 744 Fol. 189
Vol. 4570 Fol. 137
Vol. 4570 Fol. 143
Vol. 5198 Fol. 16

CERTIFICATE OF TITLE
CERTY ACT, 1900, as amended.



10880076

Vol. 10880 Fol. 76

Edition issued 10-9-1968

AS L125837

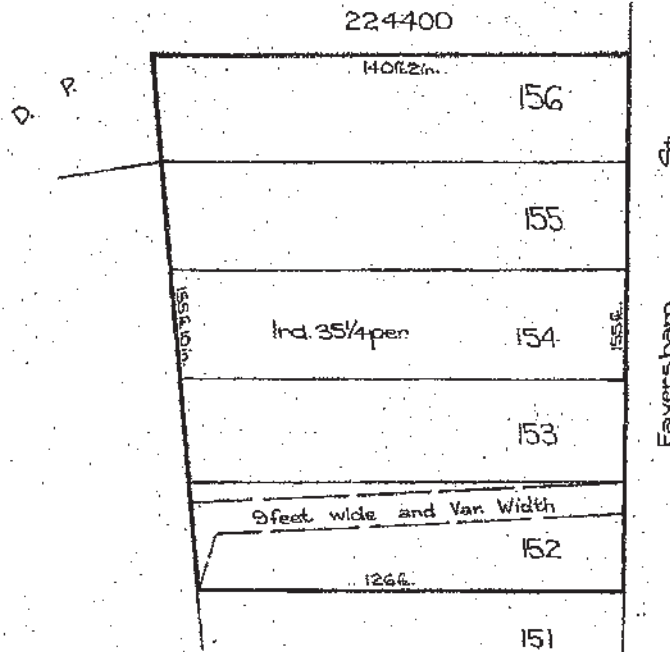
I certify that the person described in the First Schedule is the registered proprietor of the undermentioned estate in the land within described subject nevertheless to such exceptions encumbrances and interests as are shown in the Second Schedule.

Witness *L. Ballinew*

Jawatson
Registrar General.



PLAN SHOWING LOCATION OF LAND



CANCELLED

L125837 *MSA*

Scale: 40 feet to one inch

ESTATE AND LAND REFERRED TO

Estate in Fee Simple in Lots 152 to 156 inclusive in Deposited Plan 761 in the Municipality of Marrickville Parish of Petersham and County of Cumberland being part of 470 acres granted to Thomas Moore on 5-10-1799.

FIRST SCHEDULE (continued overleaf)

MILANO PROPERTIES PTY. LIMITED.

SECOND SCHEDULE (continued overleaf)

1. Reservations and conditions, if any, contained in the Crown Grant above referred to.
2. Easement for Stormwater Drainage created by Resumption No. C944060 affecting the piece of land 9 feet wide and variable width shown in the plan hereon.

Jawatson
Registrar General.

[illegible][illegible]

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

TITLE SEARCH

Computer Folio Certificate issued under
Section 96D of the Real Property Act 1900

No. 94

Search certified to:

29/4/2014 10:31 AM

COMPUTER FOLIO REFERENCE	
1/999026	
EDITION No. & DATE OF CURRENT CERTIFICATE OF TITLE	
4	25/1/2011

Page 1

LAND

LOT 1 IN DEPOSITED PLAN 999026

AT MARRICKVILLE

LOCAL GOVERNMENT AREA MARRICKVILLE

PARISH OF PETERSHAM COUNTY OF CUMBERLAND

TITLE DIAGRAM DP999026

FIRST SCHEDULE

DANIAS HOLDINGS PTY LIMITED

(T AG23618)

SECOND SCHEDULE (4 NOTIFICATIONS)

- 1 RESERVATIONS AND CONDITIONS IN THE CROWN GRANT(S)
- 2 QUALIFIED TITLE. CAUTION PURSUANT TO SECTION 28J(1) AND 28J(1A)
OF THE REAL PROPERTY ACT, 1900. ENTERED 14.11.1996 BK 4145 NO 65
(LOT 1)
- 3 LIMITED TITLE. LIMITATION PURSUANT TO SECTION 28T(4) OF THE REAL
PROPERTY ACT, 1900. THE BOUNDARIES OF THE LAND COMPRISED HEREIN
HAVE NOT BEEN INVESTIGATED BY THE REGISTRAR GENERAL.
- 4 AG23619 MORTGAGE TO NATIONAL AUSTRALIA BANK LIMITED

NOTATIONS

UNREGISTERED DEALINGS: NIL

*** END OF SEARCH ***

doccop1

PRINTED ON 29/4/2014

94

The Registrar General certifies that at the date and time specified above the person(s) described in the First Schedule was the registered proprietor of an estate in fee simple (or other such estate or interest set out in the Schedule) in the land described, subject to any exceptions, encumbrances, interests, and entries which appear in the Second Schedule.

* ANY ENTRIES PRECEDED BY AN ASTERISK DO NOT APPEAR ON THE CURRENT EDITION OF THE CERTIFICATE OF TITLE
WARNING: THE INFORMATION APPEARING UNDER NOTATIONS HAS NOT BEEN FORMALLY RECORDED IN THE REGISTER.



Registrar General

TITLE SEARCH

Computer Folio Certificate issued under
Section 96D of the Real Property Act 1900

No. 96

Search certified to:

29/4/2014 10:31 AM

COMPUTER FOLIO REFERENCE	
2/999026	
EDITION No. & DATE OF CURRENT CERTIFICATE OF TITLE	
4	25/1/2011

Page 1

LAND

LOT 2 IN DEPOSITED PLAN 999026

AT MARRICKVILLE

LOCAL GOVERNMENT AREA MARRICKVILLE

PARISH OF PETERSHAM COUNTY OF CUMBERLAND

TITLE DIAGRAM DP999026

FIRST SCHEDULE

DANIAS HOLDINGS PTY LIMITED

(T AG23618)

SECOND SCHEDULE (4 NOTIFICATIONS)

- 1 RESERVATIONS AND CONDITIONS IN THE CROWN GRANT(S)
- 2 QUALIFIED TITLE. CAUTION PURSUANT TO SECTION 28J(1) AND 28J(1A) OF THE REAL PROPERTY ACT, 1900. ENTERED 14.11.1996 BK 4145 NO 66 (LOT 2)
- 3 LIMITED TITLE. LIMITATION PURSUANT TO SECTION 28T(4) OF THE REAL PROPERTY ACT, 1900. THE BOUNDARIES OF THE LAND COMPRISED HEREIN HAVE NOT BEEN INVESTIGATED BY THE REGISTRAR GENERAL.
- 4 AG23619 MORTGAGE TO NATIONAL AUSTRALIA BANK LIMITED

NOTATIONS

UNREGISTERED DEALINGS: NIL

*** END OF SEARCH ***

doccop1

PRINTED ON 29/4/2014

96

The Registrar General certifies that at the date and time specified above the person(s) described in the First Schedule was the registered proprietor of an estate in fee simple (or other such estate or interest set out in the Schedule) in the land described, subject to any exceptions, encumbrances, interests, and entries which appear in the Second Schedule.

* ANY ENTRIES PRECEDED BY AN ASTERISK DO NOT APPEAR ON THE CURRENT EDITION OF THE CERTIFICATE OF TITLE
WARNING: THE INFORMATION APPEARING UNDER NOTATIONS HAS NOT BEEN FORMALLY RECORDED IN THE REGISTER.



Registrar General

HISTORICAL TITLE SEARCH

Certificate issued under Section 96G
of the Real Property Act 1900

No. 95

Search certified to: 29/4/2014 10:35AM

Computer Folio Reference: 1/999026

Page 1

First Title(s): OLD SYSTEM

Prior Title(s): CA69444

Recorded -----	Number -----	Type of Instrument -----	C.T. Issue -----
14/11/1996	CA69444	CONVERSION ACTION	FOLIO CREATED EDITION 1
17/2/1999	5611740	DEPARTMENTAL DEALING	
12/8/2004	AA873545	DISCHARGE OF MORTGAGE	
* 12/8/2004	AA873547	TRANSFER	
12/8/2004	AA873548	MORTGAGE	EDITION 2
* 8/3/2010	AF356708	APPLICATION FOR REPLACEMENT CERTIFICATE OF TITLE	EDITION 3
25/1/2011	AG23617	DISCHARGE OF MORTGAGE	
* 25/1/2011	AG23618	TRANSFER	
25/1/2011	AG23619	MORTGAGE	EDITION 4

*** END OF SEARCH ***

doccop1

PRINTED ON 29/4/2014

95

The Registrar General certifies that at the date and time specified above the information set out in this search constitutes the historical record of all dealings recorded in or action taken in respect of the mentioned title which is required to be kept by the Registrar General under section 32(7) of the Real Property Act 1900.



Registrar General

HISTORICAL TITLE SEARCH

Certificate issued under Section 96G
of the Real Property Act 1900

No. 97

Search certified to: 29/4/2014 10:35AM

Computer Folio Reference: 2/999026

Page 1

First Title(s): OLD SYSTEM

Prior Title(s): CA69444

Recorded	Number	Type of Instrument	C.T. Issue
-----	-----	-----	-----
14/11/1996	CA69444	CONVERSION ACTION	FOLIO CREATED EDITION 1
17/2/1999	5611762	DEPARTMENTAL DEALING	
12/8/2004	AA873546	DISCHARGE OF MORTGAGE	
* 12/8/2004	AA873547	TRANSFER	
12/8/2004	AA873548	MORTGAGE	EDITION 2
* 8/3/2010	AF356708	APPLICATION FOR REPLACEMENT CERTIFICATE OF TITLE	EDITION 3
25/1/2011	AG23617	DISCHARGE OF MORTGAGE	
* 25/1/2011	AG23618	TRANSFER	
25/1/2011	AG23619	MORTGAGE	EDITION 4

*** END OF SEARCH ***

doccop1

PRINTED ON 29/4/2014 97

The Registrar General certifies that at the date and time specified above the information set out in this search constitutes the historical record of all dealings recorded in or action taken in respect of the mentioned title which is required to be kept by the Registrar General under section 32(7) of the Real Property Act 1900.



Registrar General

Form: 01T
Release: 4.1
www.lpma.nsw.gov.au

(2)

TRANSFER
New South Wales
Real Property Act 1900



AG23618X

PRIVACY NOTE: Section 31B of the Real Property Act 1900 (RP Act) authorises the use of this form for the establishment and maintenance of the Real Property Act Register. Section 96B RP Act requires that the Register is made available to any person for search upon payment of a fee, if any.

STAMP DUTY

Office of State Revenue use only

Office of State Revenue	
NSW Treasury	
Client No: 1411509	2655
Duty: \$10	Trans No: 6062437
Asst details: 12.11.10	

(A) TORRENS TITLE

FOLIO'S 1/999026 and 2/999026

(B) LODGED BY

Document Collection Box 45A	Name, Address or DX, Telephone, and Customer Account Number if any Level 5, Building C 1 Homebush Bay Drive Rhodes NSW 2138	CODES T JT TF TJ TK TW
Reference: 11453102		

(C) TRANSFEROR

NAECOURT PERFECT PAINT PTY LIMITED ABN 42 105 318 189

(D) CONSIDERATION

The transferor acknowledges receipt of the consideration of \$ 1,050,000.00 and as regards

(E) ESTATE

the abovementioned land transfers to the transferee an estate in fee simple

(F) SHARE TRANSFERRED

--

(G)

Encumbrances (if applicable):

(H) TRANSFEE

DANIAS HOLDINGS PTY LIMITED ACN 127 813 781

(I)

TENANCY:

DATE

(J) Certified correct for the purposes of the Real Property Act 1900 and executed on behalf of the corporation named below by the authorised person(s) whose signature(s) appear(s) below pursuant to the authority specified.

Corporation: NAECOURT PERFECT PAINT PTY LIMITED ABN 42 105 318 189

Authority: section 127 of the Corporations Act 2001

Signature of authorised person:

Signature of authorised person:

Name of authorised person:

Name of authorised person:

Office held:

Office held:

STEPHEN BORG
SECRETARY

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

Signature:

Michael Beruaginin

Signatory's name: MICHAEL BERUAGININ

Signatory's capacity:

transferee's solicitor

(K) The transferee certifies that the eNOS data relevant to this dealing has been submitted and stored under

eNOS ID No.

Full name:

Signature:

1008

* only 1 Transfer for Value.

Form: 12PV
Release: 3.0
www.lands.nsw.gov.au

**APPLICATION
FOR REPLACEMENT
CERTIFICATE OF TITLE**



AF356708N

New South Wales
s111 Real Property Act 1900

PRIVACY NOTE: Section 31B of the Real Property Act 1900 (RP Act) authorises the Registrar General to collect the information required by this form for the establishment and maintenance of the Real Property Act Register. Section 96B RP Act requires that the Register is made available to any person for search upon payment of a fee, if any.

(A) CERTIFICATE OF TITLE	1/999026 & 2/999026		
(B) LODGED BY	Document Collection Box 45A	Name, Address or DX, Telephone, and LLPN if any NATIONAL AUSTRALIA BANK LEVEL 5, BUILDING C, 1 HOMEBUSH BAY DRIVE RHODES NSW 2138 LLPN 123011G Reference: C/N 827708768	CODE PV
(C) REGISTERED PROPRIETOR	NAECOURT PERFECT PAINT PTY LIMITED ACN: 105 315 189		
(D) APPLICANT	NATIONAL AUSTRALIA BANK ACN 12 004 044 937		

- (E) The certificate of title referred to above has been—
☒ mislaid ☐ destroyed ☐ stolen ☐ damaged or defaced.
- (F) The applicant—
☐ is a private person who is a registered proprietor of the land in the certificate of title.
☐ is a corporation which is a registered proprietor of the land in the certificate of title.
☒ is a lending institution having a registered first mortgage over the land in the certificate of title.
☐ had custody of the certificate of title at the time it was mislaid, destroyed, etc, and is—
 ☐ a lending institution not having a registered first mortgage over the land in the certificate of title.
 ☐ a trustee institution.
 ☐ a legal practitioner.
 ☐ a licensed conveyancer.
☐ [If other, specify]: _____

The applicant hereby consents to the Department of Lands contacting the relevant authorities to validate any supporting evidence lodged with this application and applies for replacement of the certificate of title referred to above.

DATE 05 March 2010

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

Certified correct for the purposes of the Real Property Act 1900 by the person(s) named below who signed this instrument pursuant to the power of attorney specified.

Signature of witness:

M. Marlborough

Name of witness:

Melissa Marlborough

Address of witness:

1 Homebush Bay Drive
Rhodes NSW 2138

Telephone Number
of the Witness:

02 8754 4771

Signature of attorney:

Joanne Musumeci

Attorney's name:

Joanne Musumeci

Signing on behalf of:

Team Leader

Power of attorney-Book:

4512

-No.:

39

Witness please note: You may be contacted by the Department of Lands to verify the signing.

WARNING! SEVERE PENALTIES MAY BE IMPOSED FOR LODGING A FALSE APPLICATION.

ALL HANDWRITING MUST BE IN BLOCK CAPITALS.

0703

STATUTORY DECLARATION

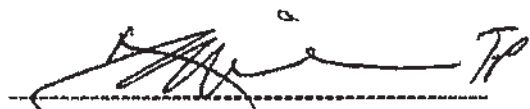
I **JOANNE MUSUMECI** of 1 Homebush Bay Drive, in the State of NEW SOUTH WALES DO SOLEMNLY AND SINCERELY DECLARE as follows:

- 1 I am a Manager of the Lending Services branch of the National Australia Bank Limited ACN 004 044 937 (the bank).
- 2 The Certificate of 1/999026 & 2/999026 could not be located after a thorough search has been conducted of the security packet, strong rooms and premises in an endeavour to locate the title.
- 3 **AA873548** is the Mortgage to National Australia Bank
- 4 The property is not a vacant land.
- 5 The Certificate of Title is not held by any other person or corporation as security for a loan or for any other purposes whatsoever.
- 6 To the best of our knowledge the registered proprietor has never been bankrupt or insolvent, nor assigned his/her estate for the benefit of creditors.

AND I MAKE this solemn declaration conscientiously believing the same to be true and by virtue of the provisions of the Oaths Act, 1900.

DECLARED at Sydney this day of 5TH March 2010.

Before me:



Signature of authorised witness

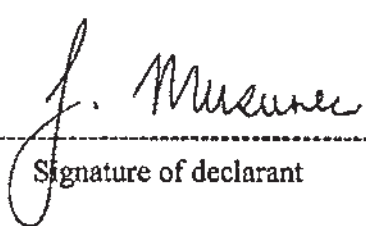
ALLEN JOHN BIBLE J.P.
No. 108905

Level 5, Building C
1 Homebush Bay Drive
Rhodes NSW 2138

Address of authorised witness

JUSTICE OF THE PEACE

Capacity in which authorised witness
takes the statutory declaration



Signature of declarant

2012

13

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

TRANSFER

New South Wales
Real Property Act 1900



AA873547B

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

STAMP DUTY

Office of State Revenue use only

NEW SOUTH WALES DUTY
21-04-2004 0001753699-001
SECTION 54(3)

(A) TORRENS TITLE

Identifiers 1/999026 and Identifier 2/999026

(B) LODGED BY

Delivery Name, Address or DX and Telephone
National Australia Bank Limited

Box 45A

Reference:

04UD8005

CODES

T

TW

(Sheriff)

(C) TRANSFEROR

NAECOURT AUTO BODY PTY. LIMITED ACN 073 411 637

(D) CONSIDERATION The transferor acknowledges receipt of the consideration of \$ 1.00 and as regards

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

(F) SHARE
TRANSFERRED

(G) Encumbrances (if applicable):

(H) TRANSFEE

NAECOURT PERFECT PAINT PTY. LIMITED ACN ACN 105 318 189

(I)

TENANCY:

(J) DATE

21 April 2004

Certified correct for the purposes of the Real Property Act 1900
and executed on behalf of the corporation named below by the
authorised person(s) whose signature(s) appear(s) below
pursuant to the authority specified.

Corporation:

Authority:

NAECOURT AUTO BODY PTY LTD
S.127 (Corporations) Law, 2001

Signature of authorised person:

Signature of authorised person:

Name of authorised person:

Name of authorised person:

Office held:

Office held:

STEPHEN BORG
Sole Director/Secretary

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

Signature:

Signatory's name:

Signatory's capacity:

MURRAY DOWNS

Sole Director

1166

APPENDIX D

CURRENT AND HISTORICAL AERIAL PHOTOGRAPHS





1930s



1951



1970



1991



1999



APPENDIX E

NSW EPA RECORDS



You are here: [Home](#) > [Contaminated land](#) > [Record of notices](#)

Search results

Your search for: Suburb: Marrickville

Matched 3 notices
relating to 2 sites.

[Search Again](#)

[Refine Search](#)

Suburb	Address	Site Name	Notices related to this site
Marrickville	Thornley Street/Wanstead Avenue	Sewer Aqueduct - Cooks River	1 former
Marrickville	22-28 Carrington Road	TRW Marrickville	1 current and 1 former

Page 1 of 1

10 October 2013

NSW Environment Protection Authority

Feedback

Contact

Government

About

Web support
Public consultation

Contact us
Offices
Report pollution

NSW Government
[jobs.nsw](#)

Accessibility
Disclaimer
Privacy
Copyright

Number	Name	Location	Type	Status	Issued date
11342	ALFRED JOHNS PTY LTD	25 FITZROY STREET, MARRICKVILLE, NSW 2204	POEO licence	No longer in force	15-Feb-01
1034393	ALFRED JOHNS PTY LTD	25 FITZROY STREET, MARRICKVILLE, NSW 2204	s.58 Licence Variation	Issued	5-Feb-04
6525	BIOCLONE AUSTRALIA PTY LTD	71-73 RAILWAY PARADE, MARRICKVILLE, NSW 2204	POEO licence	No longer in force	30-May-00
1018991	BIOCLONE AUSTRALIA PTY LTD	71-73 RAILWAY PARADE, MARRICKVILLE, NSW 2204	s.58 Licence Variation	Issued	22-Oct-02
1048454	BIOCLONE AUSTRALIA PTY LTD	71-73 RAILWAY PARADE, MARRICKVILLE, NSW 2204	s.58 Licence Variation	Issued	6-Jun-05
7160	CHAMPION FORMS AUSTRALIA MARRICKVILLE PTY. LTD.	1-21 SMITH STREET, MARRICKVILLE, NSW 2204	POEO licence	Revoked	11-Jul-00
1011517	CHAMPION FORMS AUSTRALIA MARRICKVILLE PTY. LTD.	1-21 SMITH STREET, MARRICKVILLE, NSW 2204	s.79 Revocation of a Licence	Issued	25-Oct-01
6530	GLOBUS GROUP PTY LTD	122 EDINBURGH ROAD, MARRICKVILLE, NSW 2204	POEO licence	Surrendered	28-Apr-00
1044204	GLOBUS GROUP PTY LTD	122 EDINBURGH ROAD, MARRICKVILLE, NSW 2204	s.58 Licence Variation	Issued	3-Feb-05
6477	MARRICKVILLE METALS PTY. LTD.	523A ILLAWARRA ROAD, MARRICKVILLE, NSW 2204	POEO licence	Surrendered	15-May-00
11335	NETWORK GRAPHICS PTY. LTD.	42 Sydneham Road, MARRICKVILLE, NSW 2204	POEO licence	Surrendered	31-Jan-01
1035149	NETWORK GRAPHICS PTY. LTD.	42 Sydneham Road, MARRICKVILLE, NSW 2204	s.58 Licence Variation	Issued	5-Mar-04
1269	PEERLESS HOLDINGS PTY. LIMITED	74 EDINBURGH ROAD, MARRICKVILLE, NSW 2204	POEO licence	Surrendered	15-May-00
1022998	PEERLESS HOLDINGS PTY. LIMITED	74 EDINBURGH ROAD, MARRICKVILLE, NSW 2204	s.58 Licence Variation	Issued	9-Apr-03
1052143	PEERLESS HOLDINGS PTY. LIMITED	74 EDINBURGH ROAD, MARRICKVILLE, NSW 2204	s.58 Licence Variation	Issued	20-Oct-05
6844	POROUS HARDCHROME PLATING PTY LTD	8 BROMPTON ST, MARRICKVILLE, NSW 2204	POEO licence	Surrendered	30-Nov-00
1997	TRISTAR STEERING AND SUSPENSION AUSTRALIA LIMITED	20-28 CARRINGTON ROAD, MARRICKVILLE, NSW 2204	POEO licence	Surrendered	7-Aug-00
1019301	TRISTAR STEERING AND SUSPENSION AUSTRALIA LIMITED	20-28 CARRINGTON ROAD, MARRICKVILLE, NSW 2204	s.58 Licence Variation	Issued	13-Aug-02
1024149	TRISTAR STEERING AND SUSPENSION AUSTRALIA LIMITED	20-28 CARRINGTON ROAD, MARRICKVILLE, NSW 2204	s.58 Licence Variation	Issued	10-Feb-03
1054033	TRISTAR STEERING AND SUSPENSION AUSTRALIA LIMITED	20-28 CARRINGTON ROAD, MARRICKVILLE, NSW 2204	s.58 Licence Variation	Issued	20-Jan-06
6738	VEMADELL PTY. LIMITED	58 MEEKS ROAD, MARRICKVILLE, NSW 2204	POEO licence	No longer in force	8-Nov-00
1046358	VEMADELL PTY. LIMITED	58 MEEKS ROAD, MARRICKVILLE, NSW 2204	s.58 Licence Variation	Issued	11-Apr-05

APPENDIX F

**NSW WORKCOVER SEARCH
RECORDS**

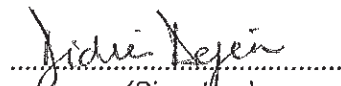


Licence No. 35/032374

APPLICATION FOR RENEWAL OF LICENCE TO KEEP DANGEROUS GOODS

ISSUED UNDER AND SUBJECT TO THE PROVISIONS OF THE DANGEROUS GOODS ACT, 1975 AND REGULATION THEREUNDER

DECLARATION: Please renew licence number 35/032374 to 11/12/2003 . I confirm that all the licence details shown below are correct (amend if necessary).


(Signature)
for: DREW AUSTRALIA P/L

DIDIER DEJEAN
(Please print name)

4.12.02
(Date signed)

THIS SIGNED DECLARATION SHOULD BE RETURNED TO: (please do not fax)

WorkCover New South Wales
Dangerous Goods Licensing Section
GPO BOX 5364
SYDNEY 2001

Enquiries: ph (02) 9370 5187
fax (02) 9370 6104

Details of licence on 30 November 2002

Licence Number 35/032374 Expiry Date 11/12/2002

Licensee DREW AUSTRALIA P/L ACN 001 584 523

Postal Address: BOX 383 P O MARRICKVILLE NSW 2204

Licensee Contact DIDIER DEJEAN Ph. 02 9517 1600 Fax. 02 9519 8346

Premises Licensed to Keep Dangerous Goods
DREW AUSTRALIA P/L
18-26 FAVERSHAM ST MARRICKVILLE 2204

Nature of Site CHEMICAL PRODUCT MANUFACTURING N.E.C.

Major Supplier of Dangerous Goods VARIOUS

Emergency Contact for this Site DIDIER DEJEAN(0425 254 069) Ph. 02 9517 1600

Site staffing 9 HRS 5 DAYS

Details of Depots

Depot No.	Depot Type	Goods Stored in Depot	Qty
1	FLAMMABLE LIQUIDS CABINET	Class 3	850 L
		UN 1193 ETHYL METHYL KETONE (METHYL ETHYL KETONE)	350 L ~
		UN 1268 PETROLEUM PRODUCTS, N.O.S.	50 L ~
		UN 2054 MORPHOLINE	150 L ~
		UN 2357 CYCLOHEXYLAMINE	100 L ~
		UN 2686 2-DIETHYLAMINO, ETHANOL	200 L ~
3A	ROOFED STORE	Class 3	8000 KG
		UN 1760 CORROSIVE LIQUID, N.O.S.	4500 KG ~
		UN 1791 HYPOCHLORITE SOLUTION	500 KG ~
		UN 1824 SODIUM HYDROXIDE SOLUTION	3000 KG ~
3B	ROOFED STORE	Class 3	7000 KG
		UN 1760 CORROSIVE LIQUID, N.O.S.	3800 KG ~
		UN 1789 HYDROCHLORIC ACID	2000 KG ~
		UN 2967 SULFAMIC ACID	1200 KG ~
4A	ROOFED STORE	Class 5.1	2500 KG
		UN 1477 NITRATES, INORGANIC, N.O.S.	500 KG ~



Licence No. 35/032374

APPLICATION FOR RENEWAL OF LICENCE TO KEEP DANGEROUS GOODS

ISSUED UNDER AND SUBJECT TO THE PROVISIONS OF THE DANGEROUS GOODS ACT, 1975 AND REGULATION THEREUNDER

	UN 1479 OXIDIZING SOLID, N.O.S.	1000 KG ~
	UN 1498 SODIUM NITRATE	1000 KG~
	UN 1500 SODIUM NITRITE	1000 KG~
4B	ROOFED STORE Class 5.1	300 L
	UN 2014 HYDROGEN PEROXIDE, AQUEOUS SOLUTION	300 L~
5	ROOFED STORE Class 8	10000 L
	UN 1760 CORROSIVE LIQUID, N.O.S.	10000 L~
6	ROOFED STORE Class 8	10000 L
	UN 1719 CAUSTIC ALKALI LIQUID, N.O.S.	1000 L

Application for Licence to Keep Dangerous Goods



Application for ☐ new licence ☒ amendment ☐ transfer ☐ renewal of expired licence

PART A - Applicant and site information See page 2 of Guidance Notes

1 Name of applicant	ACN	
DREW AUSTRALIA PTY LTD	97 001 584 523	
2 Postal address of applicant	Suburb/Town	Postcode
P.O. BOX 383	MARRICKVILLE	1475
3 Trading name or site occupier's name	AS ABOVE	
4 Contact for licence inquiries	Name	
Phone	Fax	
95171600	95198346	DIDIER DEJEAN
5 Previous licence number (if known)	35/ 032374	
6 Previous occupier (if known)		
7 Site to be licensed	Street	
No		
18-26	Faversham St	
Suburb / Town	Postcode	
Marrickville	NSW	2204
8 Main business of site	Chemical Product Manufacturing N.E.C.	
* 9 Site staffing: Hours per day	Days per week	
9	5	
10 Site emergency contact	Name	
Phone		
0425254069 / 95171600	DIDIER DEJEAN	
11 Major supplier of dangerous goods	Various	
12 If a new site or for amendments to depots - see page 4 of Guidance Notes.	Date stamped	
Plan stamped by:	Name of Accredited Consultant	
	Roland CHURCHES / ChemCARE	19-4-02
I certify that the details in this application (including any accompanying computer disk) are correct and cover all licensable quantities of dangerous goods kept on the premises.		
13 Signature of applicant	Printed name	Date
Didier Dejean	DIDIER DEJEAN	12.04.02

Please send your application, marked **CONFIDENTIAL**, to: Dangerous Goods Licensing,
WorkCover NSW, Level 2, GPO Box 5364, SYDNEY NSW 2001

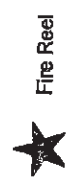
35/032374

DESCRIPTION Dangerous Goods Storage Plan Drew Australia Pty Ltd 18-28 Faversham St Manickville NSW	FILENAME DREW BUILDING 1.VSD
	REVISED 11/04/02 Ver 5
	DRAWN BY Didier Dejean Production Team Leader
	PH: (02) 9517-1000 FAC: (02) 9519-5346

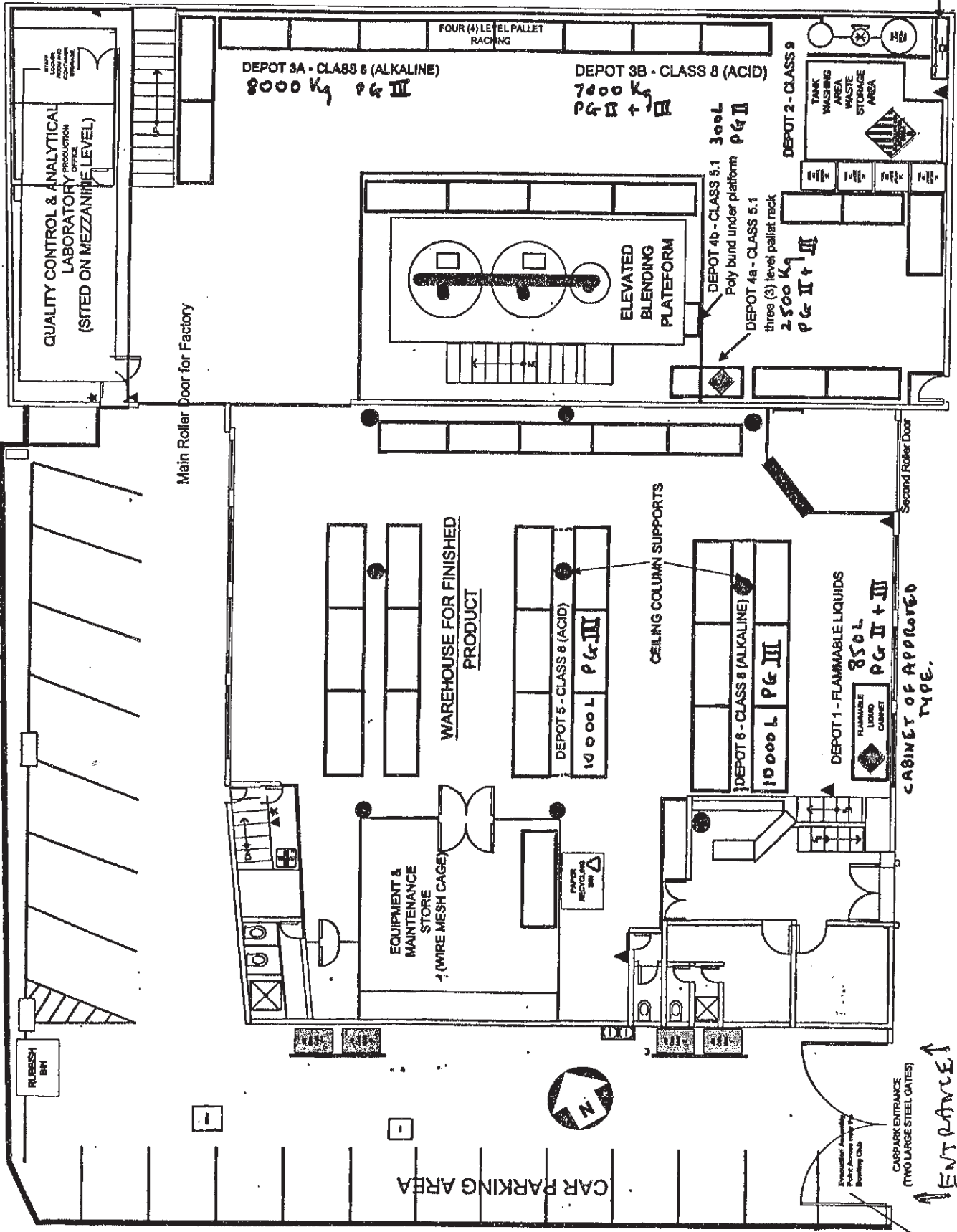
APPROX SCALE 1 CM = 2 M



Property South: Norsdim Laundry
Property West:
Curtain Manufacturer
Property North:
Long term storage warehouse



Main Electricity Feed 3 phase



7 metres to Hydrant

Note:
Bund height for depots 3A, 3B, 5 and 8 are 100 mm
Both warehouse and manufacturing areas are separately banded

Faversham St

24 metres to Hydrant

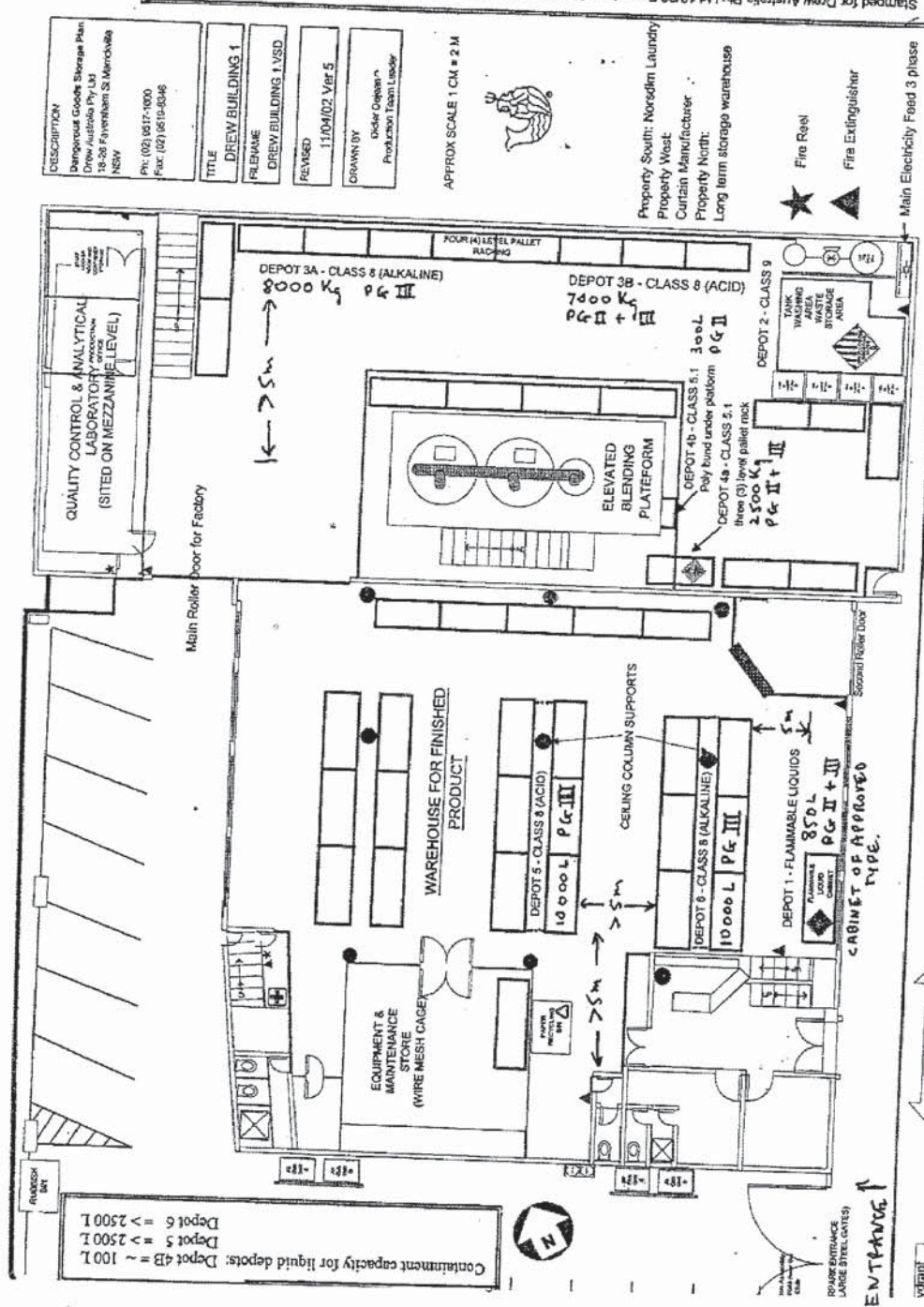
ENTRANCE

CARPARK ENTRANCE (TWO LARGE STEEL GATES)

CABINET OF APPROVED TYPE.

FLAMMABLE LIQUID CABINET

Urrew Australia Pty Ltd 18/26 Faversham St Marrickville Package depots No. 1 for 850 L Class 3, PG II & III, 3A for 8000 Kg Class 8 PG III, 3B for 7000 Kg Class 8 PG II & III, 4A for 2500 Kg Class 5.1 PG II & III, 4B for 300 L Class 5.1 PG II, 5 for 10000 L Class 8 (acid) PG III and 6 for 10000 L Class 8 (alkali) PG III.
 Separation distances for all depots -
 Nearest fixed source of ignition - 3 m (Class 3 Depot 1)
 Nearest boundary - 5 m
 Nearest on-site facility - 5 m
 Nearest protected work - 5 m
 Nearest other DG depot - 5 m
 Nearest storm water drain inlet - 5 m
 2A608 (2) Dry Powder extinguisher deployed for all depots. Depot number, 250 mm Class diamond and 50 mm text "Danger No Smoking" shown at each approach to depot.



DESCRIPTION	Dangerous Goods Storage Plan Urrew Australia Pty Ltd 18-26 Faversham St Marrickville NSW
PH: (02) 0617-1000	FAC: (02) 0611-8048
TITLE	DREW BUILDING 1
FILENAME	DREW BUILDING 1.VSD
REVISED	11/04/02 Ver 5
DRAWN BY	Order Engineer Production Team Leader

Stamped for Drew Australia Pty Ltd 18/26 Faversham St Marrickville Package depots No. 1 for 850 L Class 3 cabinet, PG II & III, 3A for 8000 Kg Class 8 PG III, 3B for 7000 Kg Class 8 PG II & III, 4A for 2500 Kg Class 5.1 PG II & III, 4B for 300 L Class 5.1 PG II, 5 for 10000 L Class 8 (acid) PG III and 6 for 10000 L Class 8 (alkali) PG III.
 This plan conforms with the Dangerous Goods Act 1975, AS 1940-1993, AS 4326-1995 & 3780-1994.
 Signed by R Churches for ChemCARE Consulting Pty Ltd
 19 April, 2002 Date of Implementation provided
 By Drew Australia Pty Ltd

Note:
 Bund height for depots 3A, 3B, 5 and 6 are 100 mm
 Both warehouse and manufacturing areas are separately bonded

RECEIVED
12 OCT 2000



WorkCover New South Wales, 400 Kent Street, Sydney 2000. Tel: 9370 5000 Fax: 9370 5999 ALL MAIL TO G.P.O. BOX 5364 SYDNEY 2001

Licence No: 35/032374

APPLICATION FOR RENEWAL OF LICENCE TO KEEP DANGEROUS GOODS

ISSUED UNDER AND SUBJECT TO THE PROVISIONS OF THE DANGEROUS GOODS ACT, 1975 AND REGULATION THEREUNDER

DECLARATION: Please renew licence number 35/032374 to 11/12/2001. I confirm that all the licence details shown below are correct (amend if necessary).

Didier Dejean *
(Signature)
for: DREW AUSTRALIA P/L

DIDIER DEJEAN
(Please print name)

12/10/00
(Date signed)

THIS SIGNED DECLARATION SHOULD BE RETURNED TO: (please do not fax)

WorkCover New South Wales
Dangerous Goods Licensing Section
GPO BOX 5364
SYDNEY 2001

Enquiries: ph (02) 9370 5187
fax (02) 9370 6104

Details of licence on 9 October 2000

Licence Number 35/032374 Expiry Date 11/12/2000

Licensee DREW AUSTRALIA P/L ACN 001 584 523

Postal Address: BOX 383 P O MARRICKVILLE NSW 2204

Licensee Contact DIDIER DEJEAN Ph. 9517 1600 Fax. 9519 8346

Premises Licensed to Keep Dangerous Goods
DREW AUSTRALIA P/L
18-26 FAVERSHAM ST MARRICKVILLE 2204

Nature of Site CHEMICAL PRODUCT MANUFACTURING N.E.C.

* Major Supplier of Dangerous Goods VARIOUS

Emergency Contact for this Site DIDIER DEJEAN Ph. 9517 1600

Site staffing 9 HRS 5 DAYS

Details of Depots

Depot No.	Depot Type	Goods Stored in Depot	Qty
1	FLAMMABLE LIQUIDS CABINET	Class 3	850 L
		UN 1193 ETHYL METHYL KETONE (METHYL ETHYL KETONE)	350 L
		UN 1268 PETROLEUM PRODUCTS, N.O.S.	50 L
		UN 2054 MORPHOLINE	150 L
		UN 2357 CYCLOHEXYLAMINE	100 L
		UN 2686 2-DIETHYLAMINO, ETHANOL	200 L
3A	ROOFED STORE	Class 8	3000 KG
		UN 1760 CORROSIVE LIQUID, N.O.S.	1500 Kg
		UN 1791 HYPOCHLORITE SOLUTION	500 Kg
		UN 1823 SODIUM HYDROXIDE, SOLID	1000 KG
3B	ROOFED STORE	Class 8	5000 L
		UN 1760 CORROSIVE LIQUID, N.O.S.	4200 L

* amendments.

1) Methyl ethyl Ketone is incorrect
it should read Methyl Ethyl
Ketoxime

Didier Dejean
P.S. 12/10/00

Form DG10



Licence No. 35/032374

APPLICATION FOR RENEWAL OF LICENCE TO KEEP DANGEROUS GOODS

ISSUED UNDER AND SUBJECT TO THE PROVISIONS OF THE DANGEROUS GOODS ACT, 1975 AND REGULATION THEREUNDER

	UN 1789 HYDROCHLORIC ACID		100 L
	UN 2967 SULFAMIC ACID		700 KG
4	EXEMPT - STORAGE AREA	Class 5.1	500 KG
	UN 1477 NITRATES, INORGANIC, N.O.S.		<i>200 kg</i> 250 KG
	UN 1479 OXIDIZING SOLID, N.O.S.		100 KG
	UN 3087 OXIDIZING SOLID, TOXIC, N.O.S.		200 KG
5	ROOFED STORE	Class 8	10000 L
	UN 1719 CAUSTIC ALKALI LIQUID, N.O.S.		5000 L
6	ROOFED STORE	Class 8	10000 L
	UN 1760 CORROSIVE LIQUID, N.O.S.		5000 L

Depot 6 contains the alkali liquids

REVISION: A DESIGNED: VS
 SCALE: AS SHOWN DRAWN:
 DRAWING No: A86 628/0002 CHECKED:
 CAD FILE NO: G.007 APPROVED:
 DATE: STATUS: FINAL

This plan conforms with the
 Dangerous Goods Act NSW 1975
 and Australian Standard AS
 1, 2, 3A, 3B, 5 & 8
 signed for AGC WOODWARD-CLYDE
 PTY. LTD. A.C.N. 000-691-690
 Date: 1/1/95



CLIENT
DREW AUSTRALIA

PROJECT
**DANGEROUS GOODS
 STORAGE**

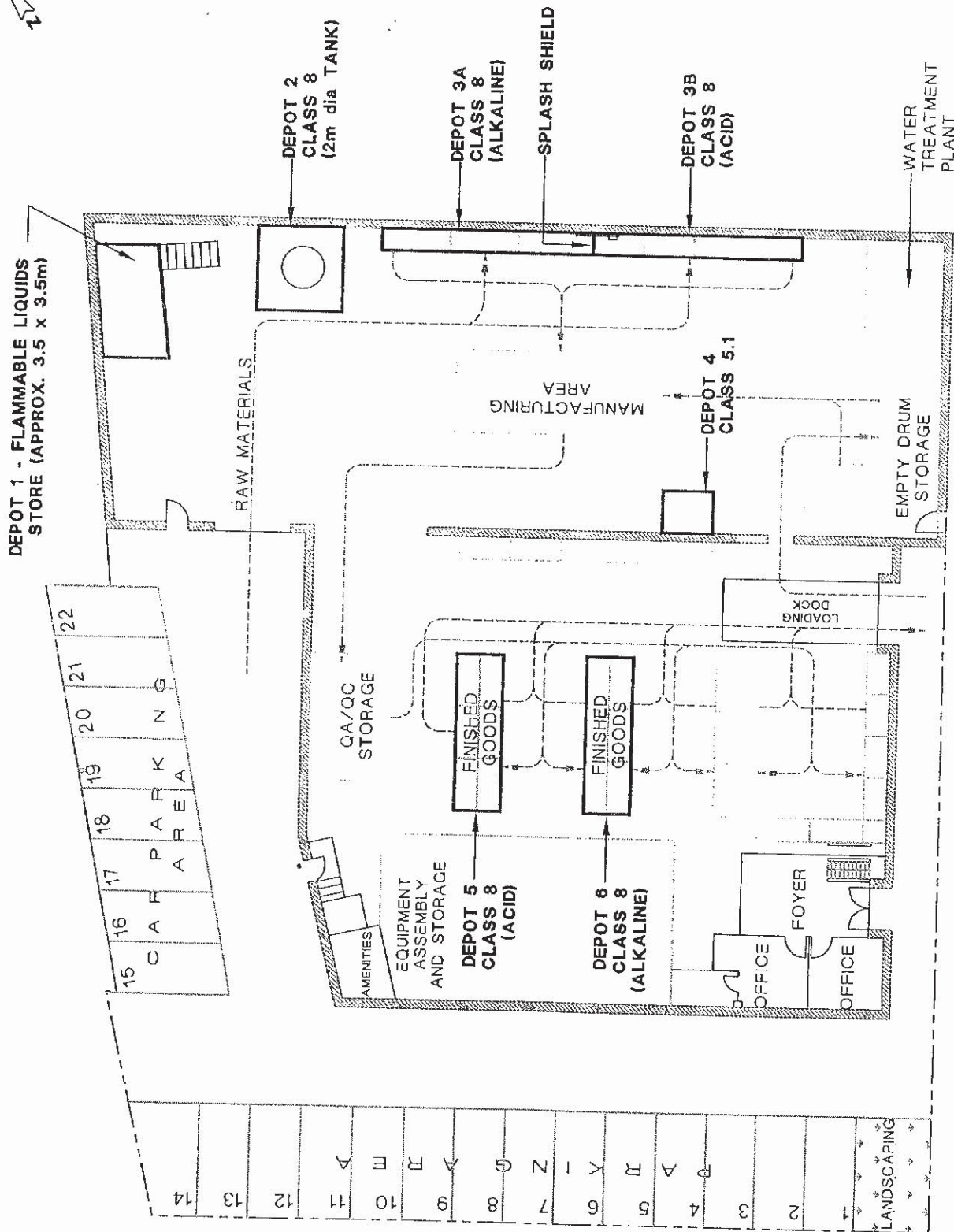
TITLE
DEPOTS

FIGURE
1

A4

Woodward Clyde

STD/JE/9-95



Faversham Street

NOTE:
 HEIGHT FOR DEPOT 2 IS 400mm
 BUND HEIGHTS FOR DEPOTS 3A, 3B, 5 AND 6 ARE 100mm
 DETAILED PLANS FOR CONSTRUCTION OF DEPOT 1 TO BE SUPPLIED

Application for Licence to Keep Dangerous Goods



Application for ☒ new licence ☐ amendment ☐ transfer ☐ renewal of expired licence

exp date 12/12/96 not in PC conditional

PART A - Applicant and site information

1 Name of applicant

DREW AUSTRALIA Pty Ltd

App. g/e v/c and agent class & storage and up compliance check AEN 10/12/97 submitted by 28/12/97 2 R/S

001 584 523 2 more info on plate

2 Postal address of applicant

P.O. Box 383, Marrickville

Suburb/Town

Marrickville

Postcode

2204

3 Trading name or site occupier's name

~~DREW AUSTRALIA Pty Ltd.~~

4 Contact for licence inquiries

Phone

Fax

Name

(02) 9517 1600

(02) 9519 8346

Didier Dejean

5 Previous licence number (if known)

35/ 032374

6 Previous occupier (if known)

-

7 Site to be licensed

No

Street

18-26

FAVERSHAM ST

Suburb / Town

MARRICKVILLE

Postcode

2204

12 DEC 1996

SCIENTIFIC SERVICES
BRANCH

Licence Issued

20.8.98

8 Main business of site

Chemical Product Manufacturing. \$ 2849

9 Site staffing: Hours per day

9

Days per week

5

10 Emergency contact

Phone

Name

(02) 9517-1600

Didier Dejean

11 Major supplier of dangerous goods

Various

12 If a new site or for amendments to depots

Plan stamped by:

Name of Accredited Consultant

Date stamped

Victoria Sedwick - Woodward Clyde

10/9/96

I certify that the details in this application (including any accompanying computer disk) are correct and cover all licensable quantities of dangerous goods kept on the premises.

13 Signature of applicant

Date

9 Dec 96

PART C - Dangerous Goods Storage Complete one section per depot.

If you have more depots than the space provided, photocopy sufficient sheets first.

to add

Depot Number	Type of depot	Depot Class	Maximum storage capacity
✓ 1	Indoor Cabinet	3	850L ✓

UN Number	Correct Shipping Name	Class (I, II, III)	PG (I, II, III)	Product or common name	Typical quantity	Unit, e.g. L, kg, m³
✓ 1193	Ethyl Methyl Ketone	3.1	II	Methyl Ethyl Ketone	200	L
✓ 1219	Isopropyl alcohol	3	II	Isopropyl alcohol	100	L
✓ 2054	Morpholine	3.2 (6.1)	II	Morpholine	150	L
✓ 1268	Solvent	3	III	Petroleum Distillates N.O.S.	100	L
✓ 2686	Diethylethanamine	3.1	III	Diethylethanamine	200	L
✓ 2357	Cyclohexylamine	8/3	III	Cyclohexylamine	100	L

Depot Number	Type of depot	Depot Class	Maximum storage capacity

UN Number	Correct Shipping Name	Class (I, II, III)	PG (I, II, III)	Product or common name	Typical quantity	Unit, e.g. L, kg, m³

→ photo

PART C - Dangerous Goods Storage Complete one section per depot.

If you have more depots than the space provided, photocopy sufficient sheets first.

Depot Number	Type of depot	Depot Class	Maximum storage capacity
2	Roofed store	B	7000 L

UN Number	Correct Shipping Name	PG Class (I, II, III)	Product or common name	Typical quantity	Unit, e.g. L, kg, m³
1824	Sodium hydroxide solution	B	50% Caustic Solution	7000	L

Depot Number	Type of depot	Depot Class	Maximum storage capacity
5	Roofed store	B	10,000 L

UN Number	Correct Shipping Name	PG Class (I, II, III)	Product or common name	Typical quantity	Unit, e.g. L, kg, m³
1760	Corrosive liquid Nos (Acid)	B III	Various formulated aqueous water treatment products	5000	L

Depot Number	Type of depot	Depot Class	Maximum storage capacity
6	Roofed store	B	10,000 L

UN Number	Correct Shipping Name	PG Class (I, II, III)	Product or common name	Typical quantity	Unit, e.g. L, kg, m³
1760	Corrosive liquid Nos (alkaline)	B III	Various formulated aqueous water treatment products	5000	L

Depot Number	Type of depot	Depot Class	Maximum storage capacity

UN Number	Correct Shipping Name	PG Class (I, II, III)	Product or common name	Typical quantity	Unit, e.g. L, kg, m³

PART C – Dangerous Goods Storage Complete one section per depot.

If you have more depots than the space provided, photocopy sufficient sheets first.

Depot Number	Type of depot	Depot Class	Maximum storage capacity
4	Exempt storage area Roofed storeroom	5.1	500kg

UN Number	Correct Shipping Name	Class (I, II, III)	PG	Product or common name	Typical quantity	Unit, e.g. L, kg, m³
1479	Biosperse 261T	5.1	II	halogenated hydrocarbon	100	kg
3087	Sodium Dichromate	5.1	II	Sodium Dichromate	60	kg
1486	Potassium Nitrate	5.1	III	Potassium Nitrate	90	kg
1942	Ammonium Nitrate	5.1	III	Ammonium Nitrate	20	kg
1477	Copper Nitrate	5.1	III	Copper Nitrate	20	kg

[illegible]

I have more depots than the space provided, photocopy sufficient sheets first.

[illegible]

APPENDIX G

UNDERGROUND SERVICES PLANS





Job No 6674969

Phone: 1100
www.1100.com.au

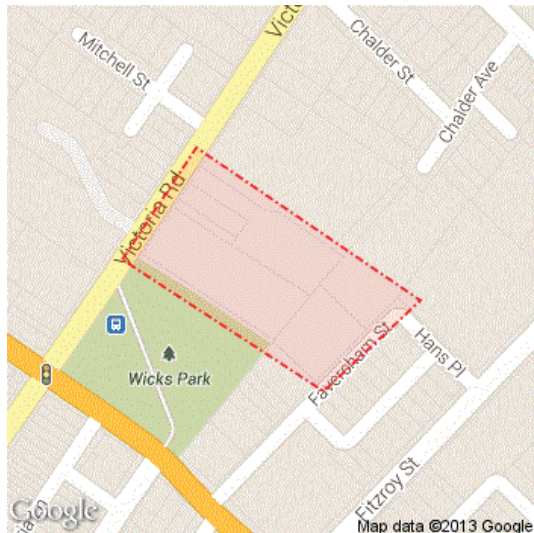
Caller Details

Contact: Mr Lubos Melicharek
Company: Aargus Pty Ltd
Address: 446 Parramatta Rd
PETERSHAM NSW 2049

Caller Id: 1179045
Mobile: Not Supplied
Email: lubos@aargus.net
Phone: 0295886159
Fax: 0295886179

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.



User Reference: Site 2 - DaniasFamily Marrickville
Working on Behalf of:

Private

Enquiry Date: 06/09/2013
Start Date: 13/09/2013
End Date: 16/09/2013

Address:
Chalder Av
Marrickville NSW 2204

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:

Site 2 - Victoria Rd Corridor, Marrickville

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
30538975	Ausgrid (formerly EnergyAustralia)	0249510899	NOTIFIED
30538978	Jemena Gas South	1300880906	NOTIFIED
30538973	Marrickville Council	0293352000	NOTIFIED
30538977	Optus and/or Uecomm, Nsw	1800505777	NOTIFIED
30538974	RailCorp Central	0297528204	NOTIFIED
30538979	Sydney Water	132092	NOTIFIED
30538976	Telstra NSW, Central	1800653935	NOTIFIED

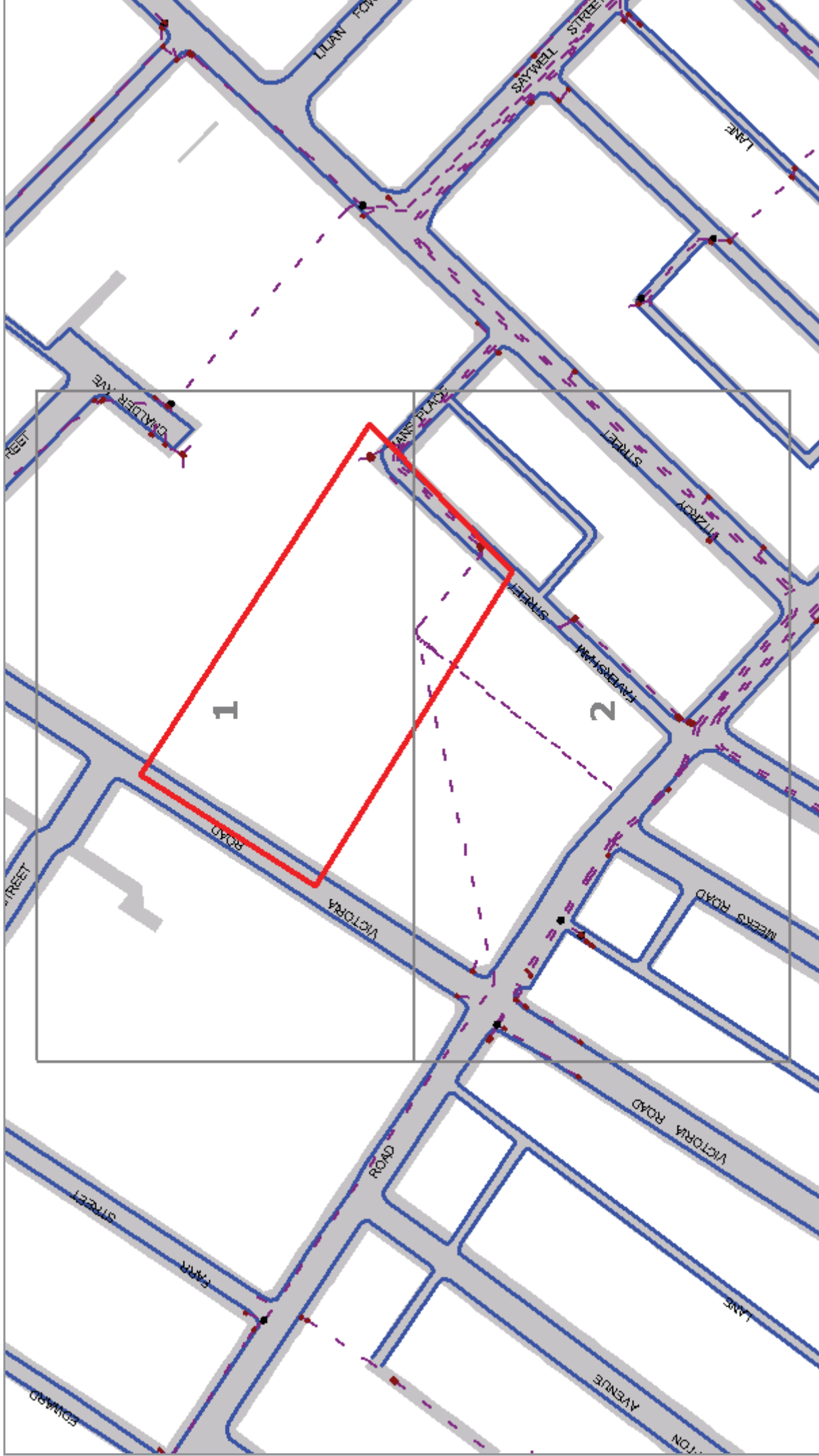
END OF UTILITIES LIST

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

Drainage OVERVIEW MAP

Sequence Number: 30538973

Address: Chalder Av, Marrickville, NSW, 2204



Create Date: 06/09/2013 Scale: 1 : 1063

DISCLAIMER: This map has been prepared from various sources and the publisher and/or contributors accept no responsibility for any injury, loss or damage arising from its use or errors or omissions therein.

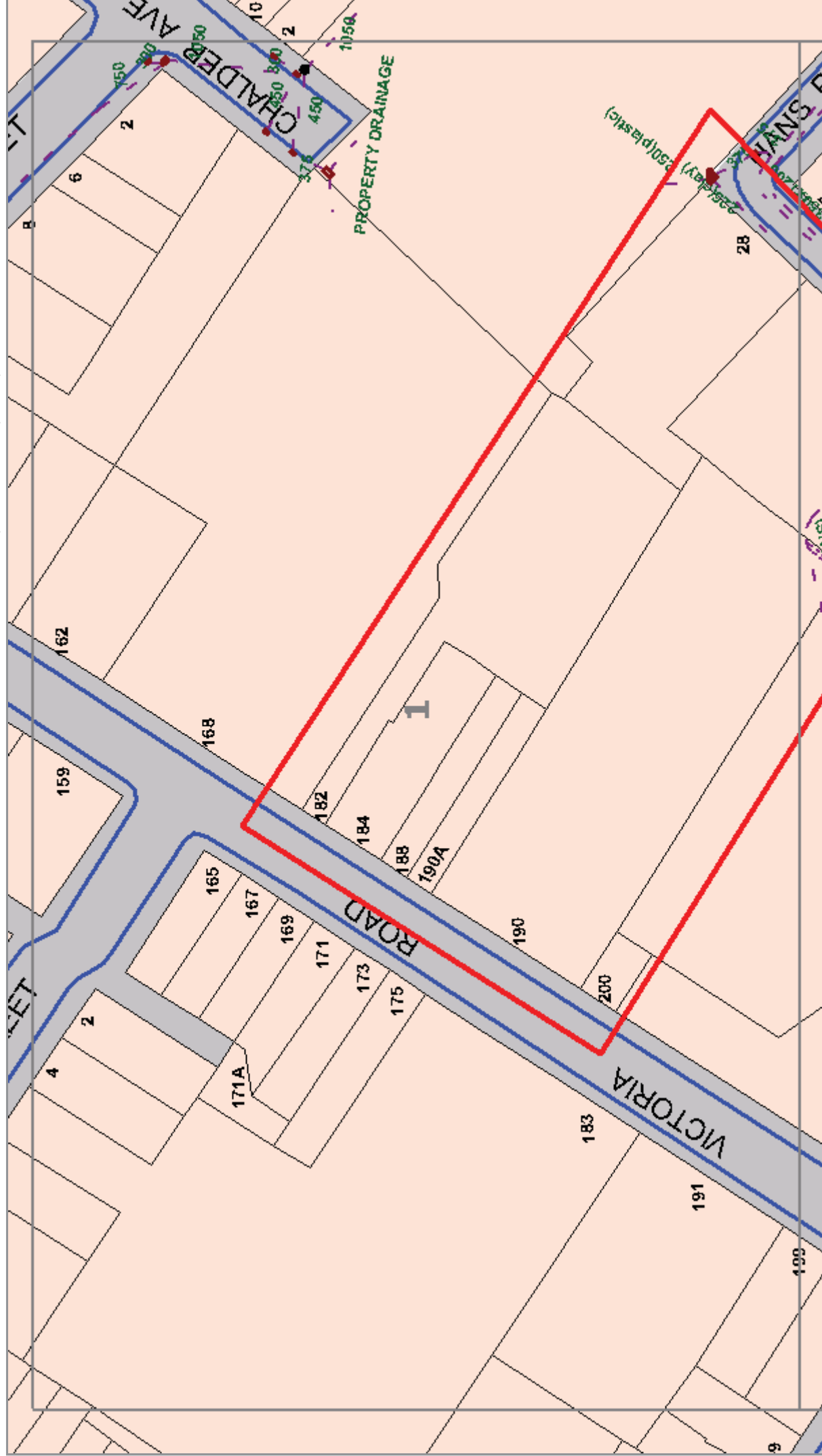
WARNING: This plan has been prepared for Council's Purposes only. Council does not guarantee the accuracy of the information shown in this plan. Persons are advised to make their own investigations and site checks to confirm the actual situation on site.



Drainage Map 1 of 2

Sequence Number: 30538973

Address: Chalder Av, Marrickville, NSW, 2204



Create Date: 06/09/2013 Scale: 1 : 1063

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WARNING: This plan has been prepared for Council's Purposes only. Council does not guarantee the accuracy of the information shown in this plan. Persons are advised to make their own investigations and site checks to confirm the actual situation on site.

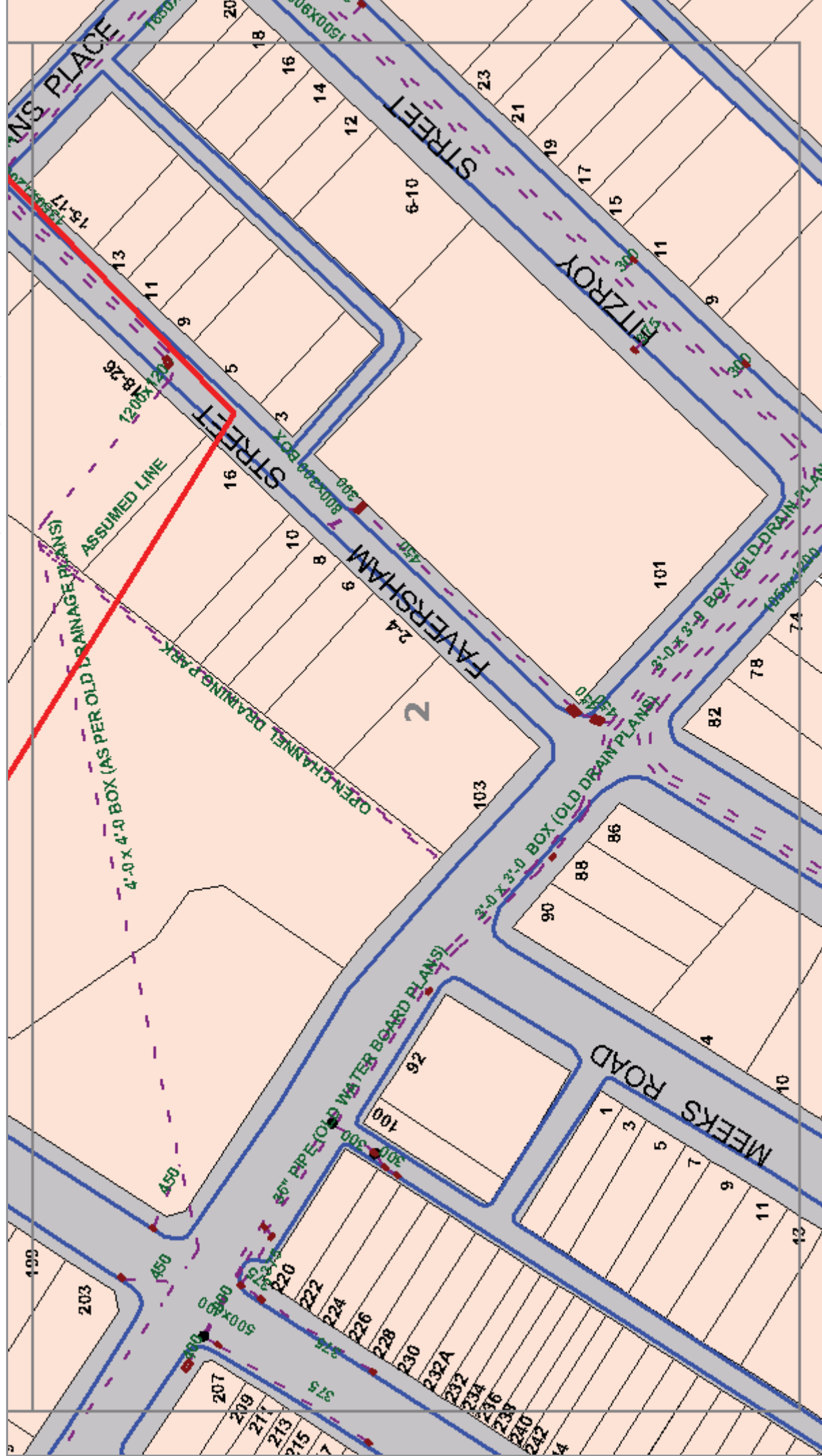
LEGEND



Drainage Map 2 of 2

Sequence Number: 30538973

Address: Chalder Av, Marrickville, NSW, 2204



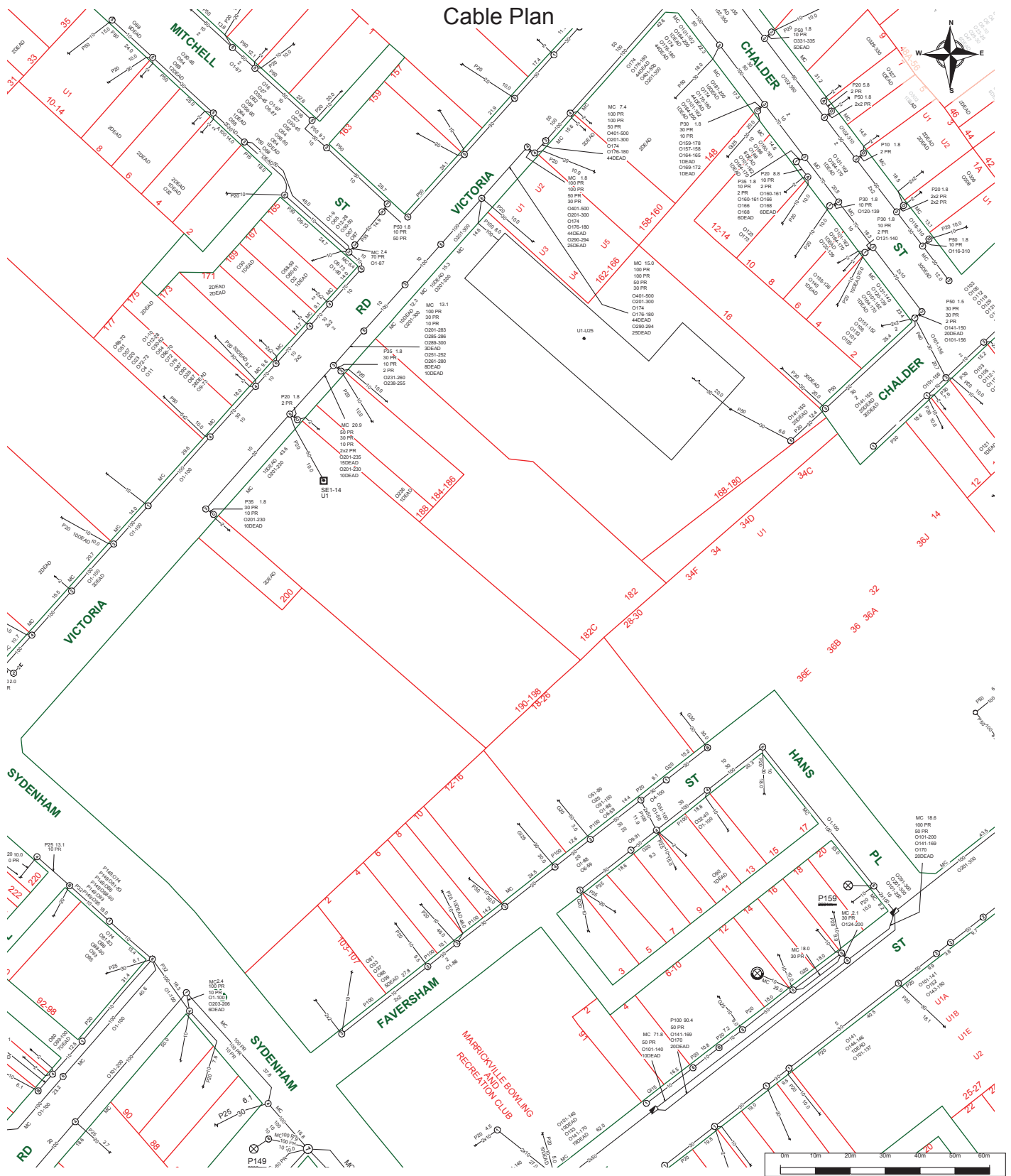
Create Date: 06/09/2013 Scale: 1 : 1063

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WARNING: This plan has been prepared for Council's Purposes only. Council does not guarantee the accuracy of the information shown in this plan. Persons are advised to make their own investigations and site checks to confirm the actual situation on site.



Cable Plan



For all Telstra DBYD plan enquiries -
email - Telstra.Plans@team.telstra.com
For urgent onsite contact only - ph 1800 653 935 (bus hrs)

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

Generated On 06/09/2013 13:29:50

Sequence Number: 30538976

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.

[illegible]

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

Sequence Number: 30538976

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.

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.



WARNING: This document is confidential and may also be privileged. Confidentiality nor privilege is not waived or destroyed by virtue of it being transmitted to an incorrect addressee. Unauthorised use of the contents is therefore strictly prohibited. Any information contained in this document that has been extracted from our records is believed to be accurate, but no responsibility is assumed for any error or omission. Optus Plans and information supplied are valid for 30 days from the date of issue. If this timeline has elapsed please raise a new enquiry.

Sequence Number: 30538977

Date Generated: 06/09/2013



For all Optus DBYD plan enquiries –
Email: Fibre.Locations@optus.net.au
For urgent onsite assistance contact 1800 505 777
Optus Limited ACN 052 833 208



Reading Ausgrid Plans

COMN0119

1 Property Lines

"property line" (PL), sometimes referred to as **"building line" (BL)**, is the standard dimensioning reference point on all Ausgrid plans and represents property boundaries.

Typically the PL is the boundary between private property and local council's footpath area or nature reserve. Most residential fences and office blocks are erected along the PL.

"kerb line" (KL) is less frequently referred to on Ausgrid plans, and where used will be identified clearly as KL.

Numbers listed within property boundaries should correspond to recognised "street numbers". (refer to figure 1)

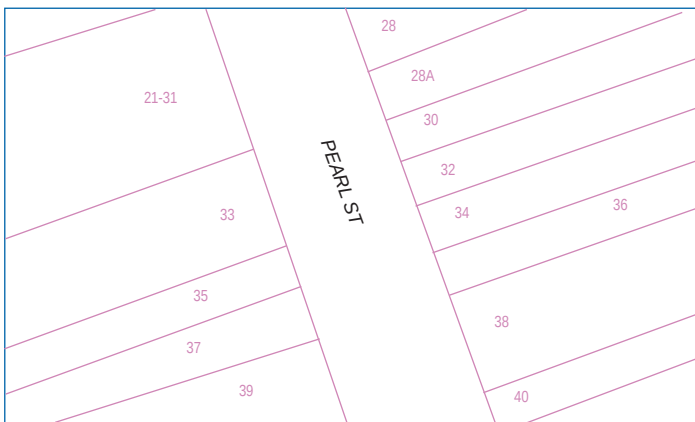


Figure 1

2 Datum References

"datum references" identify distances (in metres) from significant features (such as corners of property boundaries) to reference points such as Ausgrid assets (eg: **"conduits"**, **"cables"**, **"joints"**). (refer to figure 2)

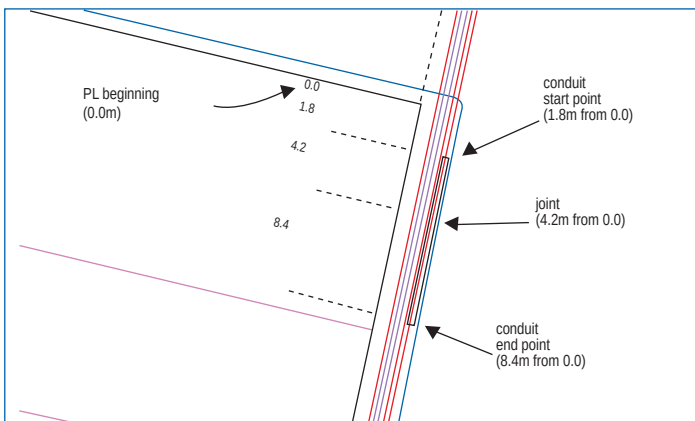


Figure 2

3 Cross Sections

"cross sections" displayed on Ausgrid plans detail information relating to the relative position (ie: distance from the **"property line"**, and the depth of **"cover"**) of Ausgrid assets.

"cover" is a term used to refer to the depth of cables underground.

A **"cross section"** leader line will be drawn indicating the location of the displayed **"cable"** or **"conduit"** information on Ausgrid plans.

The distance from **"property line"** (in metres) and depth of **"cover"** (in metres) references are displayed as; ie: 0.6 metres from PL and 0.5 metres underground).

Where distance and cover are not recorded, they will be clearly marked as **"NR"**.

NOTE: Distance and cover where indicated may be different to the actual position of the cables (eg: fill may have been placed at site that has changed the ground level).

"PL" distance shown in cross sections is an indicative measure to the centre of the trench allocation from the adjacent property line.

On some plans the **"cross sections"** may also be shown with a specific number (eg: FC1). This number will have an arrow pointing in the direction you will need to look for the cross-section detail. (refer to figures 3 and 4)

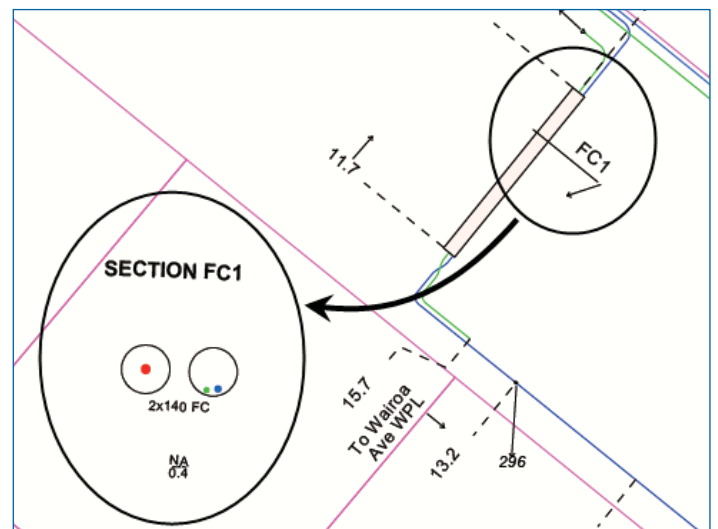


Figure 3

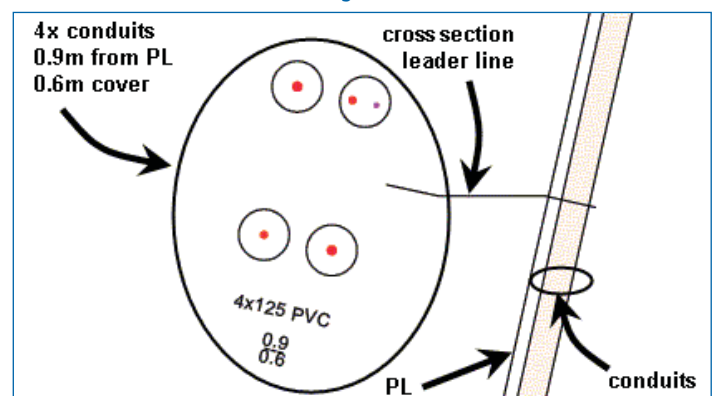


Figure 4

4 Cable Joints and Joint Reports

"cable joints" (numbered individually) and "joint reports" (attached to Ausgrid plans) can provide information relating to the relative position of Ausgrid assets, distance from the "property line" (in metres), and the depth of "cover" (in metres). (refer to figures 5 and 6)

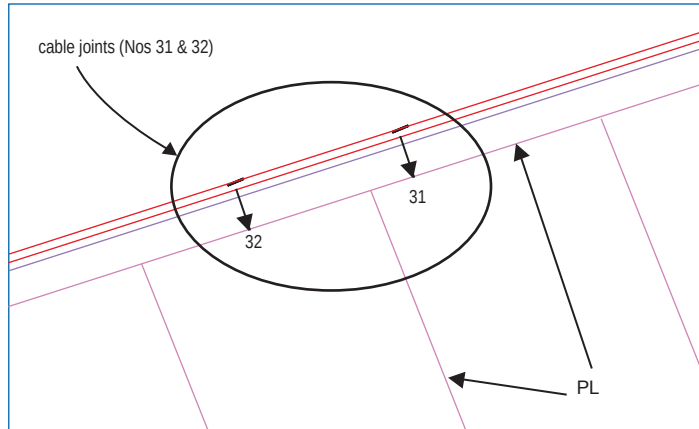


Figure 5

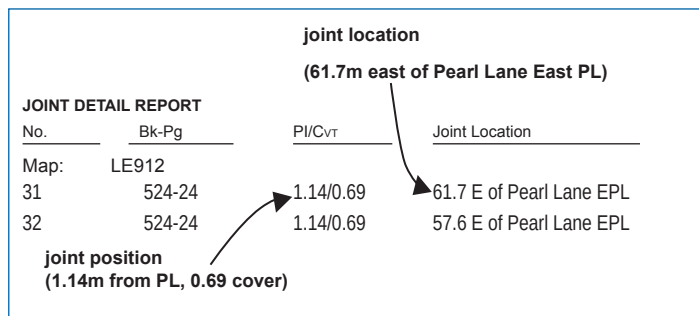


Figure 6

5 Cross Section Detail Boxes

"cross section" detail boxes on the sides of an Ausgrid plan are used when there is insufficient room to display "cable" and/or "conduit" information on the Ausgrid plan.

Ausgrid plans (refer to figure 7) are bordered by numeric identifiers along the top and bottom borders and alpha identifiers along the side borders.

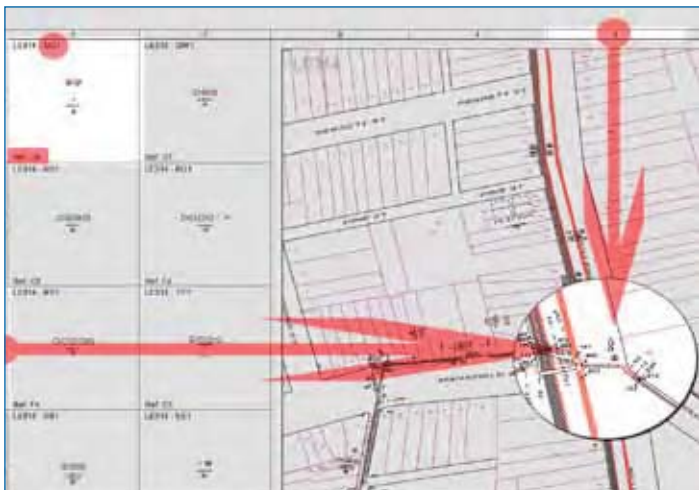


Figure 7

A "cross section" leader line and annotation is drawn on the Ausgrid plan for a reference to "cable" and/or "conduit" information in the "cross section" detail boxes.

6 Pits

Underground "pits" are numbered on Ausgrid plans, positioned relative to the "property line" (PL), and can be found on either the footpath (nature strip) or the road (see figure 8).

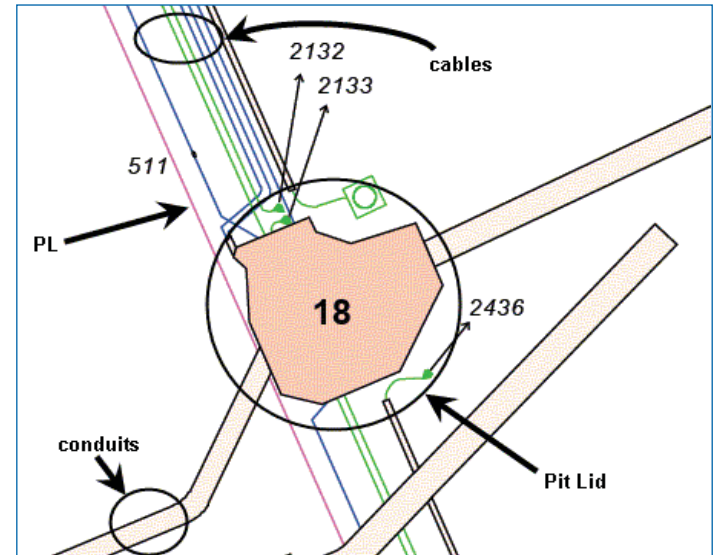


Figure 8

7 Proposal Areas

There are areas where underground work may have been issued for construction by Ausgrid, but details are not yet completely displayed on Ausgrid plans. In such cases a shaded "proposal area" is displayed on the Ausgrid plan, indicating underground work may have commenced in the vicinity but is not yet complete.

In some instances cables and other assets within the shaded "proposal area" will be shown in a bright magenta colour, indicating that the proposed new work displayed within the shaded area is based on initial planning documentation. (refer to figure 9)

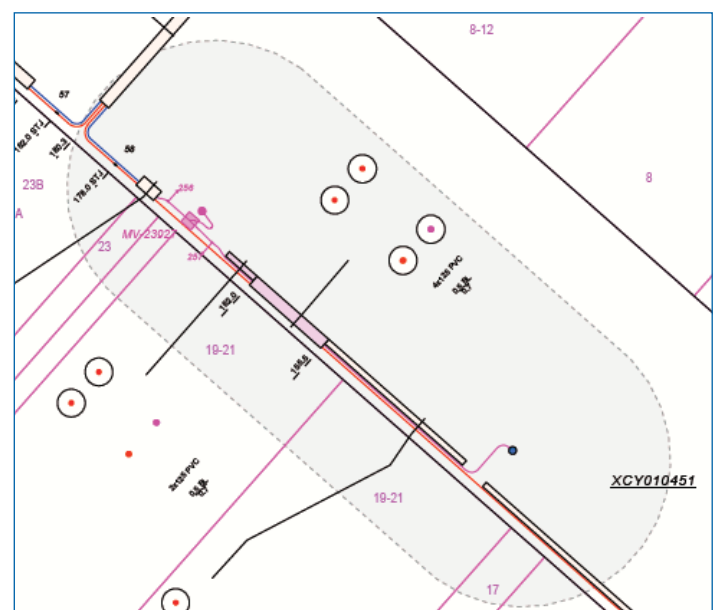


Figure 9

In other instances the shaded “**proposal area**” itself may be shown as a **blue** colour, indicating that the new work displayed within the shaded area on the Ausgrid plan is yet to include details regarding final depths and dimensioning. (refer to figure 10)

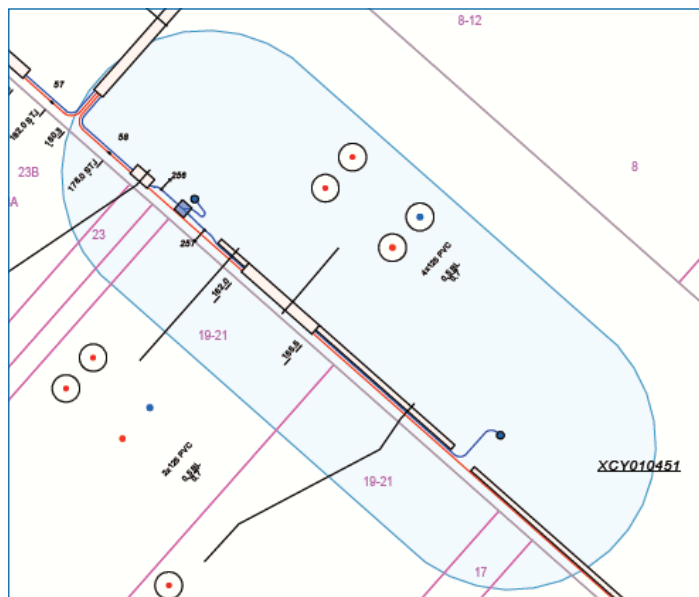


Figure 10

NOTE: In cases where these shaded “**proposal areas**” are displayed on Ausgrid plans.

“Ausgrid’s design plans showing the proposed position of its underground cables, overhead lines and structures have been prepared solely for Ausgrid’s own planning use. They show the proposed position of such underground cables, overhead lines and structures as proposed at the time of planning and have not necessarily been corrected to take into account any changes to road widths, road levels, fences and buildings subsequent to proposed installation.

Actual installations may vary from proposed installations as it may be necessary to take account of unforeseen above ground or subterranean constructions. Therefore, Ausgrid does not hold out that the design plans show more than the proposed presence or absence of its underground cables, overhead lines and structures in the street and will accept no liability for inaccuracies in the information shown on such design plans from any cause whatsoever.”

Any further information regarding information displayed for “**proposal areas**” can be obtained by contacting the Ausgrid DBYD office at the number indicated on the response to your DBYD enquiry for further information.

8 Ausgrid (ISG) Map Grid

The pale grey line indicates the **1:1000 Ausgrid (ISG) map grid border**.

The pale grey annotation located in the corners of the Ausgrid plan window, indicates the 1:1000 Ausgrid (ISG) map grid reference.

The **1:1000 Ausgrid (ISG) map grid border and reference** on Ausgrid plans should be used when reading the “**joint report**” (see part 4 of this document for more detail) to accurately locate underground cables.

The buffer area shown on the plan should relate to the area requested on the original Dial Before you Dig request.

The **grid index box** can be used for reference where necessary (located in the bottom right corner of the Ausgrid plans), and will also indicate the buffer area shown on the plan.

9 Ausgrid “Distribution” and “Transmission” Plans

The Ausgrid plans supplied may identify both “**distribution**” and “**transmission**” voltage assets for the area defined in the DBYD request. (refer to figure 11)

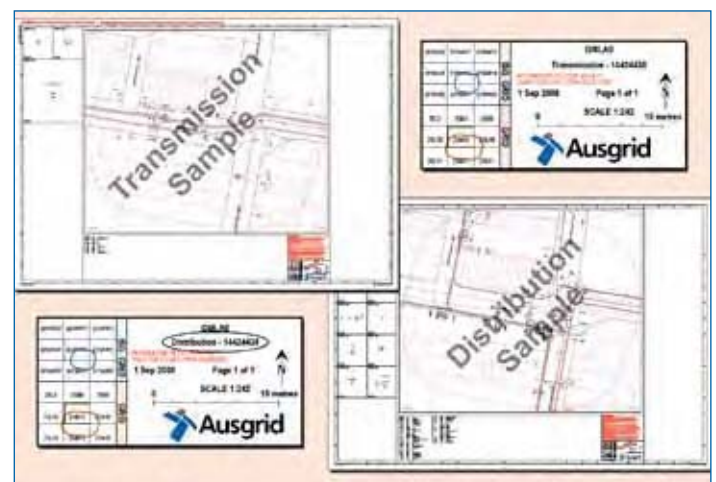


Figure 11

In the Sydney region, the Ausgrid plans are separately labelled as “**Distribution – nnnnnnn**” and “**Transmission – nnnnnnn**”, where “**nnnnnnn**” refers to the DBYD sequence number quoted.

In the Hunter region, the Ausgrid plans show combined “**distribution**” and “**transmission**” voltage assets, and are clearly labelled as “**Distr + Trans – nnnnnnn**” where “**nnnnnnn**” refers to the DBYD sequence number.

In the Hunter region, some DBYD requests are covered by PENGUIN grid references. In such cases, the Ausgrid Plans show the grid quoted with a cross-reference to a corresponding Ausgrid (ISG) map grid (eg: PENGUIN 136B3 – DP711, where DP711 is the Ausgrid (ISG) grid) to optimise the legibility of plans due to PENGUIN grid scale.

Some Hunter plans may have transmission cables in the area, when these cables are present there will be a warning printed at the top of the plan supplied:

WARNING: If there is work in the vicinity of transmission cables, Ausgrid must be contacted at least two weeks before the work is due to commence.

10 “Shifting Land Base” on Ausgrid Distribution and Transmission Plans

In some instances, the plans supplied may indicate road or property outlines that appear to have shifted in relation to the Ausgrid assets displayed. (refer to figure 12)

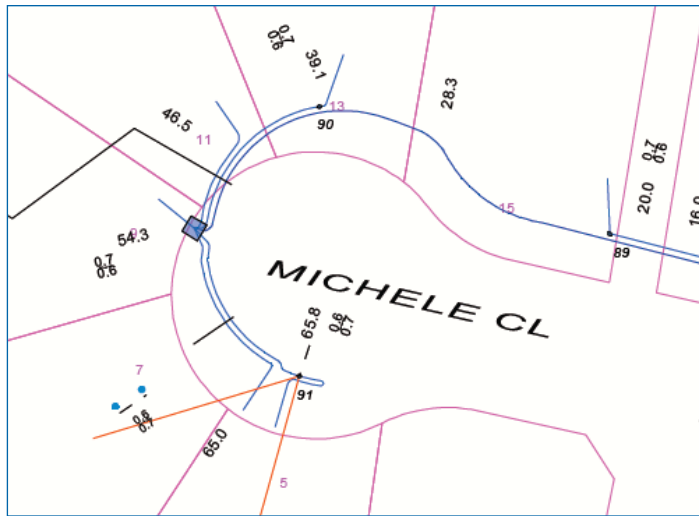


Figure 12

In such instances, always refer to the “**property line**” (in metres) and depth of “**cover**” (in metres) references displayed on the nearest relevant “**cross sections**” to obtain Ausgrid asset location information (see Reading Ausgrid Plans, clause 3, Cross Sections for more detail).

11 “Underground Earthing Infrastructure”

In some instances, the plans supplied may also indicate the presence of underground earthing infrastructure associated with underground and/or overhead Ausgrid assets.

The “Earth Point” symbol (refer to figure 13) will be shown on plans to minimize risk of disturbance or damage to any Ausgrid underground earthing infrastructure in the vicinity.

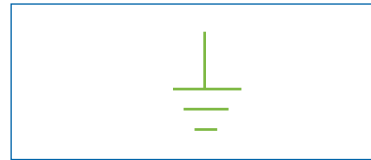


Figure 13



Network Operations– Asset Analysis
Unit 9, 677 Springvale Road
Mulgrave, Victoria, 3178

Date: 06/09/2013
To: Mr Lubos Melicharek
Company:
Address: 446 Parramatta Rd
Petersham, NSW 2049

ENQUIRY DETAILS

Location: Chalder Av, Marrickville, NSW 2204
Sequence No.: 30538977
DBYD Reference: 6674969

In relation to your enquiry of the above address, Optus advises as follows:

The records of Optus disclose that there ARE underground FIBRE OPTIC TELECOMMUNICATIONS cables in the vicinity of the above enquiry as per the attached plan(s). This reply is valid for a period of 30 days from the date above.

IMPORTANT INFORMATION

Drawings and Plans provided by Optus are reference diagrams which were correct at the time the asset was built. Exact ground cover and alignments cannot be provided with any certainty as these may alter over time. Depths of Telecommunications plant vary considerably as do alignments. It is essential to uncover the asset and positively identify the assets exact location.

Optus plans are provided as a guide only and the completeness of the information cannot be guaranteed.

“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 to Optus plant. Optus will provide assistance at this design stage through the provision of plans and sketches or consultation.

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

- a) Request plans of Optus plant for a particular location at a reasonable time before construction begins. If you have doubts about the presence of Optus assets we strongly recommend that you engage an Optus Accredited plant locator.
- b) Visually locate Optus plant by hand digging or using non-destructive water jet method where construction activities may damage or interfere with Optus plant
- c) Contact Optus Network Operations – Asset Analyst (details below) if Optus plant is wholly or partly located near construction activities

CRIMINAL CODE ACT 1995

The following is an extract from the Criminal Code Act 1995 and is applicable to Optus plant

Chapter 10 National infrastructure

Part 10.6 Telecommunications Services

Division 474 Telecommunications offences

Sect 474.6 Interference with facilities

- 1) A person is guilty of an offence if the person tampers with, or interferes with, a facility owned or operated by:
 - (a) a carrier; or
 - (b) a carriage service provider; or
 - (c) a nominated carrier.

Penalty: Imprisonment for 1 year.

- 2) For the purposes of an offence against subsection (1), absolute liability applies to the physical element of circumstance of the offence, that the facility is owned or operated by a carrier, a carriage service provider or a nominated carrier.
- 3) A person is guilty of an offence if:
 - (a) the person tampers with, or interferes with, a facility owned or operated by:
 - i.a carrier; or
 - ii.a carriage service provider; or
 - iii.a nominated carrier; and
 - (b) this conduct results in hindering the normal operation of a carriage service supplied by a carriage service provider.

Penalty: Imprisonment for 2 years.

- 4) For the purposes of an offence against subsection (3), absolute liability applies to the following physical elements of circumstance of the offence:
 - (a) that the facility is owned or operated by a carrier, a carriage service provider or a nominated carrier;
 - (b) that the carriage service is supplied by a carriage service provider.
- 5) A person is guilty of an offence if:
 - (a) the person uses or operates any apparatus or device (whether or not it is comprised in, connected to or used in connection with a telecommunications network); and
 - (b) this conduct results in hindering the normal operation of a carriage service supplied by a carriage service provider.

Penalty: Imprisonment for 2 years.

DAMAGE

ANY DAMAGE TO OPTUS NETWORK MUST BE REPORTED TO 1800 500 253 IMMEDIATELY

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

Optus reserves the right to recover compensation for loss or damage to its cable network and other property including consequential loss

ASSET RELOCATIONS

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

For all enquiries relating to the relocation of Optus assets please email Fibre.Locations@optus.net.au

ESSENTIAL PRECAUTIONS AND APPROACH DISTANCES

Note: If the following clearances cannot be maintained, please contact Optus Network Operations Asset Analysis Team for advice on how to resolve the situation.

1. On receipt of plans and before commencing excavation work or similar activities near Optus plant, carefully locate the plant first to avoid damage. Engage an Optus accredited locator to undertake exposure of the Optus plant when working within the following approach distances.

Where Optus plant is in an area where road and footpaths are well defined by kerbs or other features a minimum clear distance of 1.0m must be maintained from where it could be reasonably presumed that plant would reside.

In non established or unformed reserves this distance must be at least 3 metres.

In country or rural areas which may have wider variations in reasonably presumed plant presence, the following minimum approach distance applies:

- a) Parallel to plant: 5 metres

Note: Indicated depths may vary significantly and pot-holing needs to be undertaken within extreme care, commonsense and using techniques least likely to damage cables. Potholing is only to be undertaken by an Optus accredited plant location contractor.

If construction work is parallel to Optus 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 the plant, confirming the location of the plant prior to work commencing.

Under no circumstances is crossing of Optus plant to be performed without first exposing the Optus plant and having an Optus representative present onsite.

2. Maintain the following minimum clearance between construction activity and the actual location of Optus plant.

Jackhammers / Pneumatic Breakers	Not within 1.0m of actual location
Vibrating Plate or Wacker Packer Compactor	Not within 0.5m of actual location 300mm compact clearance before compactor can be used across Optus ducts 750mm compact clearance cover before compactor can be used across Optus <i>Direct Buried</i> cable
Boring Equipment (in-line, horizontal and vertical)	Not within 5.0m of actual location without Optus representative onsite Constructor to hand dig or non-destructive water jet method (pot holing) and expose the Optus plant Not to cross the Optus plant without first exposing the plant at the crossing point and without Optus representative onsite
Heavy vehicle Traffic (over 3 tonnes)	Not to be driven across Optus ducts or plant with less than 600mm of cover Depth to be verified via hand digging
Mechanical Excavators, Farm ploughing, Boring, Tree removal, fencing	Not within 1.0m of actual location Constructor to hand dig or use non-destructive water jet method (pot holing) and expose plant

All Optus pits and manholes should be a minimum of 1.0m in from the back of kerb or within 15m of street intersection after the completion of your work.

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

- **Footway 600mm**
- **Roadway 1000mm at drain invert and at road centre crown**

In cases where it is considered that these clearances cannot be maintained at the completion of works advice is to be sought from the Optus Damages and Relocations Team

FURTHER ASSISTANCE

Assistance can be obtained by contacting Optus Network Operations Asset Analysis on **1800 505 777**

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

If plant location drawings or visual location of Optus plant by digging reveals that the location of Optus plant is situated wholly or partly where the owner plans to work, then Optus Damages and Relocates Team must be contacted through Optus Network Operations Asset Locations to discuss possible engineering solutions.

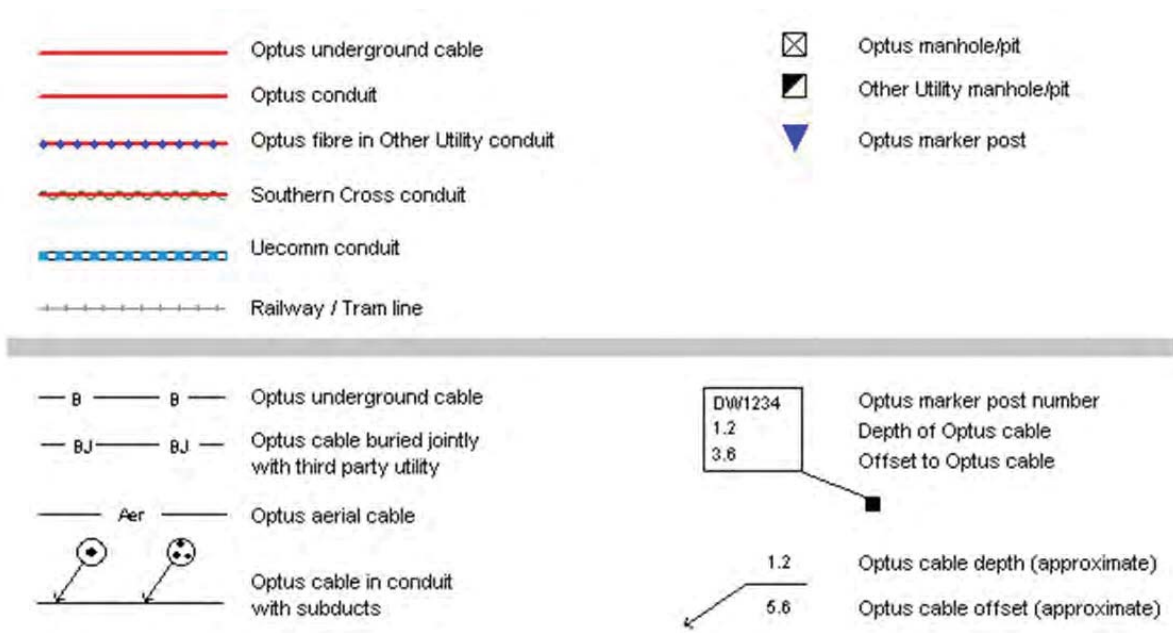
PRIVATE RESIDENTIAL LANDOWNERS and RURAL LANDOWNERS

Where Optus owned cable crosses private residential property or agricultural land, Optus may provide a once off free onsite electronic cable location. Optus Network Operations Asset Analyst 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 under this service
- This service is only available to assist private residential land owners and rural land owners
- The service covers one hour onsite only. Additional time will be charged at the current nominal rate.

OPTUS ENGINEERING DRAWING SYMBOLS





Response Cover Letter

Marrickville Council
2 - 14 Fisher St
Petersham NSW 2049
Phone: (02) 9335 2222
Fax: (02) 9335 2029

06/09/2013

To:
Mr Lubos Melicharek (Customer ID: 1179045)
Aargus Pty Ltd
446 Parramatta Rd
Petersham, NSW 2049
Email: lubos@aargus.net
Phone: 0295886159
Fax: 0295886179
Mobile: Not Supplied

Dear Mr Lubos Melicharek,

The following is our response to your Dial Before You Dig enquiry.

Assets Affected: Drainage

Sequence No: 30538973
Location: Chalder Av
Marrickville, NSW 2204
Commencement Date: 13/09/2013 12:00:00 AM

Please have a read over the attached documents for more information about your enquiry.

DISCLAIMER: This map has been prepared from various sources and the publisher and/or contributors accept no responsibility for any injury, loss or damage arising from its use or errors or omissions therein.

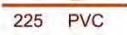
WARNING: This plan has been prepared for Council's Purposes only. Council does not guarantee the accuracy of the information shown in this plan. Persons are advised to make their own investigations and site checks to confirm the actual situation on site.

Guide to reading Sydney Water DBYD Plans



Legend

Sewer

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

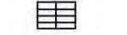
Pressure Sewer

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

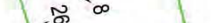
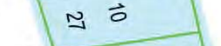
Vacuum Sewer

Pressure Sewer Main	
Division Valve	
Vacuum Chamber	
Clean Out Point	

Stormwater

Stormwater Pipe	
Stormwater Channel	
Stormwater Gully	
Stormwater Maintenance Hole	

Property Details

Boundary Line	
Easement Line	
House Number	
Lot Number	
INFORMATION ELSEWHERE see Guide ref 12345 (work-as-executed diagram available via website)	
Proposed Land	
Sydney Water Heritage Site (please call 132 092 and ask for the Heritage Unit)	

Water

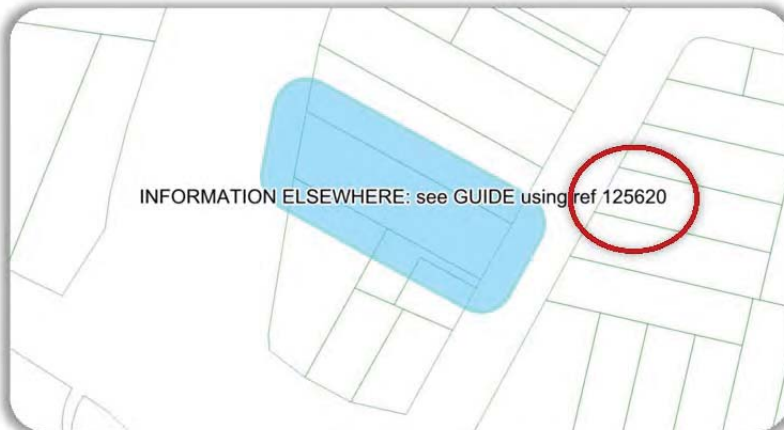
WaterMain - Potable (with size type text)	
Disconnected Main - Potable	
Proposed Main - Potable	
Water Main - Recycled	
Special Supply Conditions - Potable	
Special Supply Conditions - Recycled	
Restrained Joints - Potable	
Restrained Joints - Recycled	
Hydrant	
Maintenance Hole	
Stop Valve	
Stop Vale with By-pass	
Stop Valve with Tapers	
Closed Stop Valve	
Air Valve	
Valve	
Scour	
Reducer / Taper	
Vertical Bends	
Reservoir	
Recycled Water is shown as per Potable above. Colour as indicated	

Private Mains

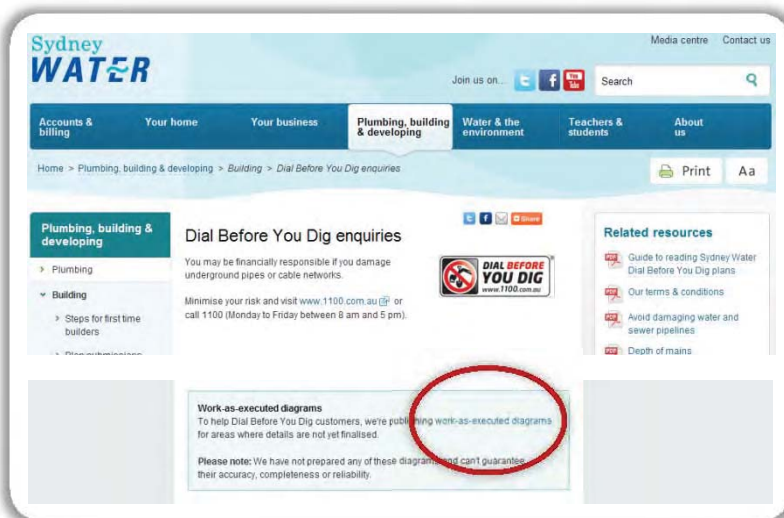
Potable Water Main	
Recycled Water Main	
Sewer Main	
Symbols for Private Mains shown grey	

Work-As-Executed Diagrams

There may be areas where underground assets have been constructed although details are not yet displayed on our plans. To assist our customers, Sydney Water is publishing Work-As-Executed Diagrams for these areas on our website. If a blue shaded area is displayed on your plan from Sydney Water please follow the steps to obtain a diagram:



1 Find the reference number quoted on your Sydney Water issued DBYD plan.

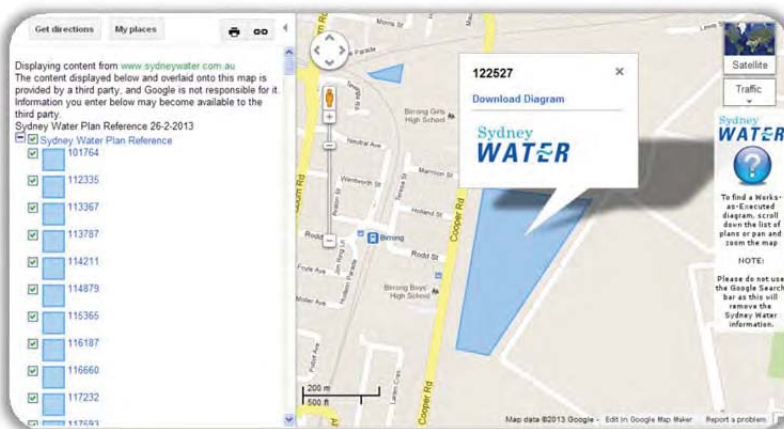


2 Go to the DBYD page on the Sydney Water website at:

www.sydneywater.com.au

From the menu select [Plumbing, building & developing > Dial Before You Dig enquiries](#)

Click on the [works-as-executed diagrams](#) link.



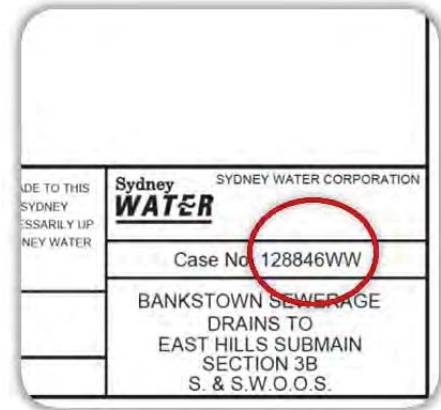
3 Use Google Maps to find the area you requested or use the list provided and click to download the diagram.

The term "Work-As-Executed" is used for convenience only and does not constitute a representation regarding the information contained in the diagram. Please refer to the Sydney Water DBYD Important Information document.

Understanding the Works-As-Executed Diagrams

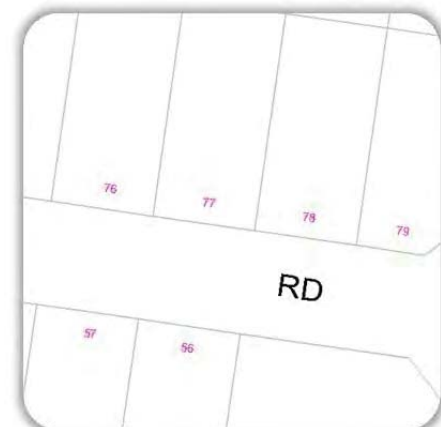
To find out if the information in the Works-As-Executed Diagram refers to Potable Water, Waste Water or Recycled Water assets, look at the lower right corner of the diagram. The diagram number will have a suffix that describes the asset type.

WW	Waste Water
PW	Potable Water
RW	Recycled Water



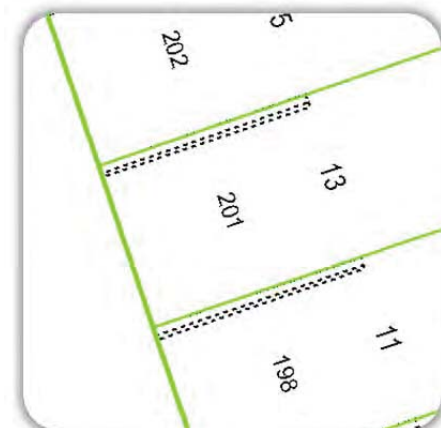
Proposed Land

In some cases proposed property boundaries (proposed land) are shown for indicative purposes only to provide additional context in Sydney Water DBYD plans.



Easements

Easements are defined as a legal right to use land that is owned by another person. Easements are shown as a broken black line. They are generally shown within land boundaries.



Pipe Types

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	DIPL	Ductile Iron Polymeric Lined
EW	Earthenware	FIBG	Fibreglass
FL BAR	Forged Locking Bar	GI	Galvanised Iron
GRP	Glass Reinforced Plastics	HDPE	High Density Polyethylene
MS	Mild Steel	MSCL	Mild Steel Cement Lined
PE	Polyethylene	PC	Polymer Concrete
PP	Polypropylene	PVC	Polyvinylchloride
PVC - M	Polyvinylchloride, Modified	PVC - O	Polyvinylchloride, Oriented
PVC - U	Polyvinylchloride, Unplasticised	RC	Reinforced Concrete
RC-PL	Reinforced Concrete Plastics Lined	S	Steel
SCL	Steel Cement (mortar) Lined	SGW	Salt Glazed Ware
SPL	Steel Polymeric Lined	SS	Stainless Steel
STONE	Stone	VC	Vitrified Clay
WI	Wrought Iron	WS	Woodstave

Further Information

Please consult the Dial Before You Dig page on the Sydney Water website (<http://www.sydneywater.com.au/SW/plumbing-building-developing/building/dial-before-you-dig-enquiries/>) for detailed information regarding:

- Guidelines for building over, and clearance between, mains and assets
- Main depths
- Pipe locator information

For all other enquiries please call the Customer Contact Centre on **132 092**

In an emergency, or to notify Sydney Water of damage or threats to its structures, call 13 20 90 (24 hours, 7 days)

IMPORTANT INFORMATION - DIAL BEFORE YOU DIG

Attention: You must read the information below

The material provided or made available to you by Sydney Water (including on the Sydney Water website) in relation to your Dial Before You Dig enquiry (**Information**) is provided on each of the following conditions, which you are taken to have accepted by using the Information:

- 1 The Information has been generated by an automated system based on the area highlighted in the "Locality Indication Only" window on your Caller Confirmation. It is your responsibility to ensure that the dig site is properly defined when submitting your Dial Before You Dig enquiry and, if the Information does not match the dig site, to resubmit your enquiry for the correct dig site.
- 2 Neither Sydney Water nor Dial Before You Dig make any representation or give any guarantee, warranty or undertaking (express or implied) as to the currency, accuracy, completeness, effectiveness or reliability of the Information. The Information, including Sydney Water plans and work-as-executed diagrams, amongst other things:
 - (a) may not show all existing structures, including Sydney Water's pipelines, particularly in relation to newer developments and in relation to structures owned by parties who do not participate in the Dial Before You Dig service;
 - (b) may be out of date and not show changes to surface levels, road alignments, fences, buildings and the like;
 - (c) is approximate only and is therefore not suitable for scaling purposes; and
 - (d) does not show locations of property services (often called house service lines) belonging to or servicing individual customers, which are usually connected to Sydney Water's structures.
- 3 You are responsible for, amongst other things:
 - (a) exposing underground structures, including Sydney Water's pipelines, by pot-holing using hand-held tools or vacuum techniques so as to determine the precise location and extent of structures before any mechanical means of excavation are used;
 - (b) the safe and proper excavation of and for underground works and structures, including having regard to the fact that asbestos cement pipelines, which can pose a risk to health, may form part of Sydney Water's water and sewerage reticulation systems;
 - (c) protecting underground structures, including Sydney Water's pipelines, from damage and interference;
 - (d) maintaining minimum clearances between Sydney Water's structures and structures belonging to others;
 - (e) ensuring that backfilling of excavation work in the vicinity of Sydney Water's structures complies with Sydney Water's standards contained on its website or otherwise communicated to you;
 - (f) notifying Sydney Water immediately of any damage caused or threat of damage to Sydney Water's structures;
 - (g) ensuring that plans are approved by Sydney Water (usually signified by stamping) prior to landscaping or building over or in the vicinity of any Sydney Water structure; and
 - (h) ensuring that the Information is used only for the purposes for which Sydney Water and Dial Before You Dig intended.

- 4 You acknowledge that you use the Information at your own risk. In consideration for the provision of the Dial Before You Dig service and the Information by Sydney Water and Dial Before You Dig, to the fullest extent permitted by law:
- (a) all conditions and guarantees concerning the Information (whether as to quality, outcome, fitness, care, skill or otherwise) expressed or implied by statute, common law, equity, trade, custom or usage or otherwise are expressly excluded and to the extent that those statutory guarantees cannot be excluded, the liability of Sydney Water and Dial Before You Dig to you is limited to either of the following as nominated by Sydney Water in its discretion, which you agree is your only remedy:
 - (i) the supplying of the Information again; or
 - (ii) payment of the cost of having the Information supplied again;
 - (b) in no event will Sydney Water or Dial Before You Dig be liable for, and you release Sydney Water and Dial Before You Dig from, any Loss arising from or in connection with the Information, including the use of or inability to use the Information and delay in the provision of the Information:
 - (i) whether arising under statute or in contract, tort or any other legal doctrine, including any negligent act, omission or default (including wilful default) by Sydney Water or Dial Before You Dig; and
 - (ii) regardless of whether Sydney Water or Dial Before You Dig are or ought to have been aware of, or advised of, the possibility of such loss, costs or damages;
 - (c) you will indemnify Sydney Water and Dial Before You Dig against any Loss arising from or in connection with Sydney Water providing incorrect or incomplete information to you in connection with the Dial Before You Dig service; and
 - (d) you assume all risks associated with the use of the Dial Before You Dig and Sydney Water websites, including risk to your computer, software or data being damaged by any virus, and you release and discharge Sydney Water and Dial Before You Dig from all Loss which might arise in respect of your use of the websites.
- 5 **“Sydney Water”** means Sydney Water Corporation and its employees, agents, representatives and contractors. **“Dial Before You Dig”** means Dial Before You Dig Incorporated and its employees, agents, representatives and contractors. References to **“you”** include references to your employees, agents, representatives, contractors and anyone else using the Information. References to **“Loss”** include any loss, cost, expense, claim, liability or damage (including arising in connection with personal injury, death or any damage to or loss of property and economic or consequential loss, lost profits, loss of revenue, loss of management time, opportunity costs or special damages). To the extent of any inconsistency, the conditions in this document will prevail over any other information provided to you by Sydney Water and Dial Before You Dig.

In an emergency, or to notify Sydney Water of damage or threats to its structures, call 13 20 90 (24 hours, 7 days)

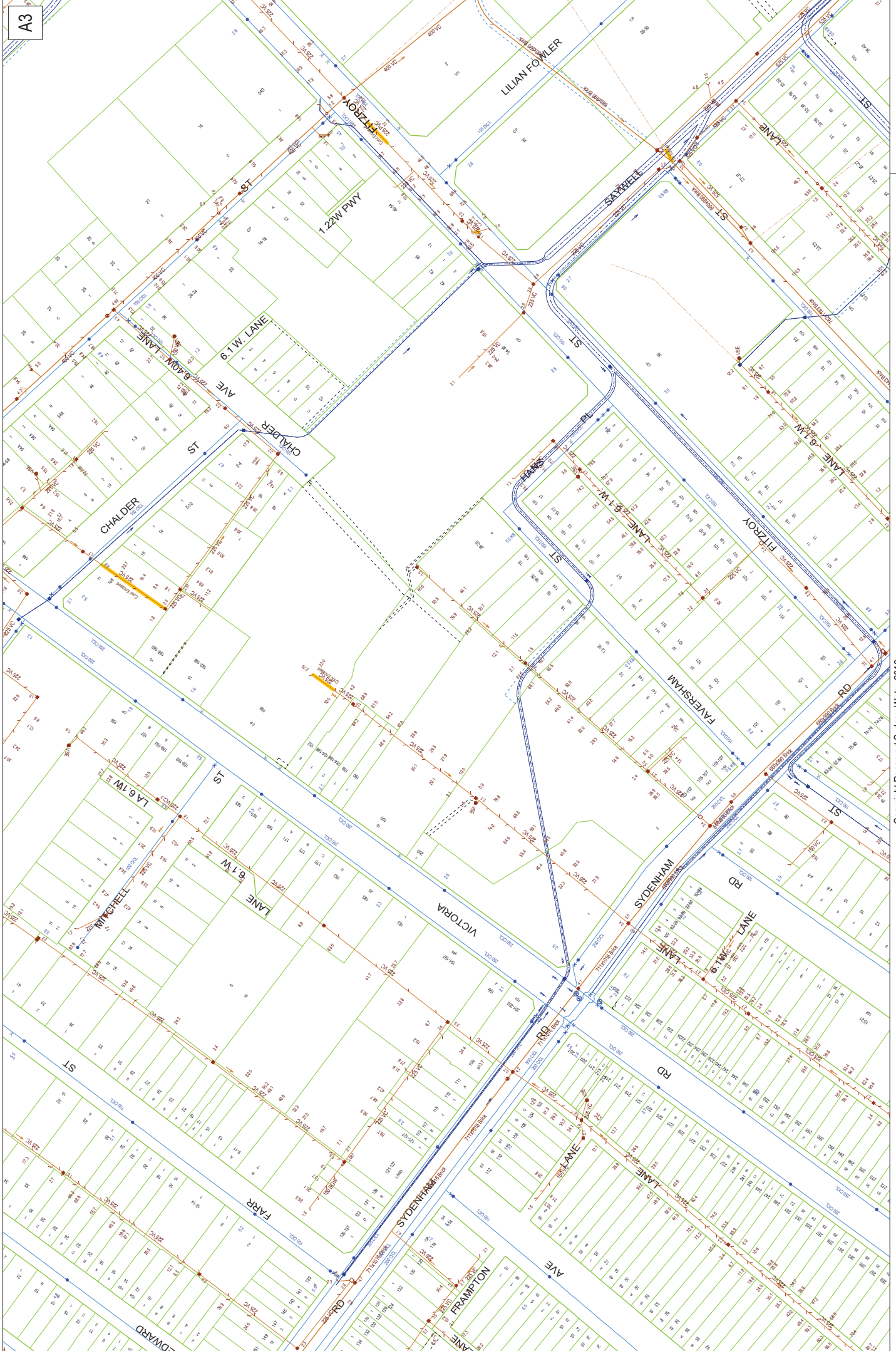
Further information and guidance is available in the Building Development and Plumbing section of Sydney Water's website at www.sydneywater.com.au, where you will find the following documents under 'Dial Before You Dig':

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

Or call **13 20 92** for Customer Enquires.

Note: The lodging of enquiries via **www.1100.com.au** will enable you to receive colour plans in PDF format 24 hours a day, 7 days a week via email.

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



A3

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 Locating Services Pty Ltd – Woollooware <i>All of New South Wales</i>	1300 761 545 or 0412 227 434 Fax: (02) 9531 2169 Email: admin@locating.com.au
Australian Subsurface - Canberra <i>Canberra, ACT & NSW</i>	0427 879 600 Fax: (02) 6247 6602 Email: admin@australiansubsurface.com
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

Name & areas covered	Contact details
Cardno Australian Underground Services <i>All Areas</i>	1300 224 664 or (02) 9627 5988
CCTS Telecommunications Construction Pty Ltd – <i>Central Coast and Hunter Valley</i>	(02) 4329 9900 Fax (02) 4329 9950 Email servicelocations@ccts.com.au
Chris Bates and Associates - <i>Tighes Hill</i> <i>Mid North Coast, Newcastle, Hunter Valley and Central Coast</i>	0408 427 391 Fax (02) 4969 4028
Civil Directions Pty Ltd - <i>Ourimbah</i> <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
Concrete and Utility Scanning Services – <i>Miranda</i> <i>ACT, Wollongong, Nowra, Goulburn, Sydney, Gosford, Newcastle, Ulladulla</i>	0487 449 376 Fax: (02) 9531 2391 Email: davidchristlo1@gmail.com
Down Under Consulting - <i>Westleigh</i>	0408 150 345
Down Under Detection Services - <i>Rose Bay</i>	(02) 9371 7744
Down Under Pipeline Surveys Pty Ltd - <i>Orangeville</i>	(02) 4653 1286 or 0418 675 374 Fax (02) 4653 1747
Durkin Construction Pty Ltd - <i>Auburn</i> <i>All Areas</i>	(02) 9712 0308 or 0413 158 255 Fax (02) 9712 0206
Find and Seek Locating – <i>Coomera</i> <i>All Areas, Remote Destinations</i>	0407 510 289
GBG Australia Pty Ltd - <i>Sydney</i> <i>All Areas</i>	(02) 98 90 2122 or 0433 940 477 Fax: (02) 98 90 2922 Email: tuan@gbgoz.com.au
Geotrace Pty Ltd - <i>Kings Langley</i> <i>All Areas, Hills District, Sydney, Wollongong, Newcastle, ACT, Sutherland, Bankstown, Richmond, Burwood, Rose Bay, Balmain</i>	(02) 8824 6654 or 0417 147 945 Fax: (02) 8824 5637 Email: antony@geotrace.net.au
G & C McCorkindale - <i>Dubbo, Young, Wagga</i> <i>Yass, Goulburn, Bathurst, Orange, Temora, West Wyalong & most NSW country regions, Burwood, Rose Bay, Balmain</i>	0408 822 428 Fax: (02) 6382 2639
Ground Scan Locating <i>Bathurst & Central West</i>	0414 640 640 Fax (02) 6332 2599
Hi-Tech Locations - <i>Barnsley</i> <i>Newcastle, Hunter Valley, North Coast, South Coast</i>	(02) 4953 4226 or 0466 583 962 Fax: (02) 4953 4227
Hunter Ground Search - <i>Cameron Park</i> <i>Central Coast, Hunter Valley, Newcastle</i>	(02) 4953 1244 or 0418 684 819
Hunter Smith Management <i>NSW & ACT</i>	(02) 8090 2695 or 0422 224 761 Fax (02) 8282 5056
Hunter Valley Excavations Pty Ltd - <i>Muswellbrook</i> <i>Singleton, Muswellbrook, Aberdeen, Scone, Murrurundi, Merriwa</i>	0427 949 507 Fax: (02) 6541 5280

Name & areas covered	Contact details
Lambert Locations - Gold Coast <i>South East Queensland, Northern NSW</i>	1300 150 035 or 0418 150 035
Laneyrie Electrical Pty Ltd - Dapto <i>Helensburg to Ulladulla, Southern Highlands</i>	(02) 4262 8166 or 0412 079 079 Fax (02) 4260 9193 Email: bindy@laneyrielectrical.com.au
Lend Lease Infrastructure Services - Seven Hills	1300 484 008 Fax: (02) 9620 9516
Locaters <i>Sydney, Penrith, Richmond, Macarthur, Wollongong</i>	0418 262 025
Lynco Pty Ltd t/as Lyntet Communications - Dubbo <i>Dubbo, Forbes, Grenfell, Parkes, Bourke, Bourke North, Nyngan, Coonabarabran, Coonamble, Mudgee, Narromine, Wellington, Orange, Molong, Yeoval, Coolah, Dunedoo, Gilgandra, Mendooran</i>	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
Newcastle Locating Services - Metford <i>Newcastle, Hunter Valley, Upper Hunter Valley, Port Stephens</i>	(02) 4933 5160 Mob: 0410 698 599 Fax: (02) 4933 5150 Email: Afarcas@Bigpond.com
O'Donnell Griffin Pty Ltd - Mitchell <i>Canberra, Queanbeyan, Yass</i>	(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
On Point Utility Locating Pty Ltd - Woodpark <i>Sydney, Parramatta, Penrith, Wollongong, Central Coast, Highlands, Goulburn, Blue Mountains</i>	Mob:0405 149 529
Optical Fibre Technologies - Mortdale <i>Sutherland, Sydney Metro, All Areas</i>	(02) 9153 0533 or 0402 354 322 Fax: (02) 9153 0833 Email: opticaltek1@aol.com
Pennoscan - Blacktown	1800 459 879 or 0403 908 099 george@pennoscan.com.au
Pipeline Technology Services	(08) 8351 7000 or 0419 878 220 Fax:(08) 8159 7537
Point Locations - East Corrimal <i>Sydney & Surrounding areas, Wollongong, South Coast, Southern highlands</i>	0417 683 939
Riteway Traffic Control - Charmhaven <i>Central Coast - Newcastle/Hunter</i>	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

Name & areas covered	Contact details
Techdrill Civil Services Pty Ltd - <i>Upper Coomera</i>	(07) 5573 1578 or 0407 319 997 Fax: (07) 5665 7233
Rubicof - <i>Cessnock</i> <i>Gosford, Newcastle, Taree, Bathurst</i>	(02) 4990 5718 or 0418 683 451 Fax: (02) 4991 2600
Rutherford Electrical Engineering Services - <i>Rutherford</i>	(02) 4932 7344 Fax (02) 4932 5219
Seek Locations Pty Ltd - <i>Tuncurry</i> <i>Forster, Gloucester, Taree, Port Macquarie, Karuah, Kempsey</i>	(02) 6555 8550 or 0407 256 858 Fax (02) 6555 2548
Safe Dig Vacuum Excavation - <i>Greenbank</i>	0439 220 076 or 0408 880 262 Fax: (07) 3297 6639
Shamrock Civil - <i>Birkdale</i>	0424 605 497
Signal Support Services - <i>Goulburn</i> <i>Goulburn, Southern Highlands, Canberra</i>	(02) 4821 8334 or 0418 237 668 Fax: (02) 4821 0203
Siteline Projects Pty Ltd - <i>Fairlight</i> <i>Greater Sydney, Newcastle</i>	1300 788 814 or 0418 215 441 Fax: (02) 9938 3172
Suk Truk Services Pty Ltd - <i>Branxton</i> <i>Lower & Upper Hunter Valley, Mid North Coast, Central Coast, Newcastle</i>	0419 125 551 Fax: (02) 4938 3418
Suresearch Aust - <i>Wentworthville</i> <i>Sydney, Penrith, Richmond, Wollongong, Katoomba, Macarthur, Central Coast, Newcastle, Maitland, Hunter Valley, Port Macquarie</i>	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 - <i>Tamworth</i>	(02) 6760 7722 or 0428 668 728 Fax: (08) 6760 7755
Underground Service Locations Pty Ltd - <i>Gosford</i> <i>Central Coast</i>	(02) 4324 7496 or 0408 677584 Fax: (02) 4323 2626
Vac-U-Digga Pty Ltd - <i>Ormeau</i>	1300 822 834 Mob: 0409 468 711 Fax: 07 3807 5599

DUTY OF CARE

TELSTRA CORPORATION ACN 051 775 556

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 cannot 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 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.

Important note: *The construction of Telstra's network dates back over many years. Some of Telstra's pits and ducts were manufactured from asbestos-containing cement. You must take care in conducting any works in the vicinity of Telstra's pits and ducts. You must refrain from in any way disturbing or damaging Telstra's network infrastructure when conducting your works. We recommend that before you conduct any works in the vicinity of Telstra infrastructure that you ensure your processes and procedures eliminate any possibility of disturbing, damaging or interfering in any way with Telstra's infrastructure. Your processes and procedures should incorporate appropriate measures having regard to the nature of this risk.*

EMERGENCY SITUATIONS - RECEIVING TELSTRA PLANS

Telstra's automated mapping system will provide a fast response for emergency situations. (faster than an operator can provide manually). Automated responses are normally available 24/7.

To receive a fast automated response from Telstra your request must -

- be a web request lodged at DBYD (www.1100.com.au) The request will be then forwarded directly to Telstra.
- contain your email address so you can receive the automated email response.
- be for the purposes of 'mechanical excavation' or other ground breaking DBYD activity. (requests with activity types conveyancing, planning & design or other non digging activities may not be responded to until the next business day).
- be for an area less than 350 metres in size to obtain a PDF map. (over 350 metres will default to DWF due to size)
- be for an area less than 2500 metres in size to obtain a DWF map

NATURAL DISASTERS

Natural Disasters include (amongst other things) earthquakes, cyclones, floods and tsunamis.

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 - Joe Palucci 0419 496 015

QLD - Shaun Walliss 0419 638 150

VIC/TAS - David Povazan 0417 300 947

SA/NT/WA - Dave Ballard 0419 807 901

TELSTRA 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

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.

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

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)
- 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

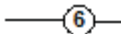
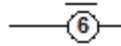
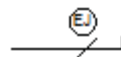
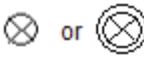
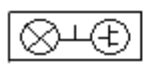
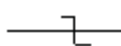
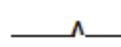
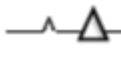
Where Telstra owned cable crosses agricultural land, Telstra may provide a once-off free on-site electronic cable location. The Telstra Plan Services operator will provide assistance in determining whether a free on-site location is required.

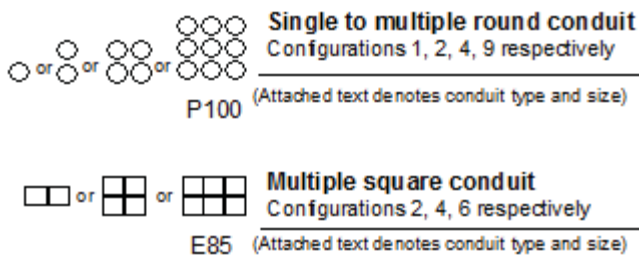
Please note:

- 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 Plan Services on **1800 653 935**.

LEGEND

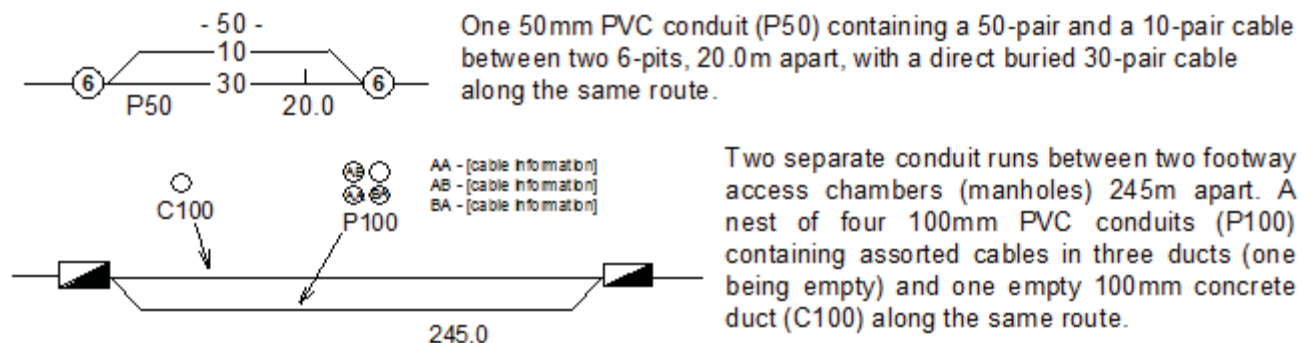
	Exchange (major cable present)		Cable jointing pit (number indicating pit type)
	Footway access chamber (can vary from 1-lid to 12-lid)		Buried cable jointing pit (number indicating pit type)
	Roadway access chamber		Elevated cable joint (above ground joint on buried cable)
	Pillar/cabinet (above the ground / free standing)		Cable loop (direct buried)
	Above ground complex equipment housing (eg RIM) Please Note: This equipment is powered by 240V electricity.		Telstra Plant in shared utility trench
	Public telephone Please Note: This equipment is powered by 240V electricity.		Aerial Cable (above ground)
	Direct buried cable		Aerial Cable (attached to joint use pole e.g. power)
			Optical fibre cable direct buried



Some examples of conduit type and size:
A - Asbestos cement, P - PVC / plastic, C - Concrete, GI - Galvanised iron, E - Earthenware.
Conduit sizes *nominally* range from 20mm to 100mm.

P50	50mm PVC conduit
P100	100mm PVC conduit
A100	100mm asbestos cement conduit
E 85	85mm square earthenware conduit

Some examples of how to read Telstra plans:



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 (for DWF files) available from the internet.

PDF files

PDF is the default softcopy format for all requests for areas up to approx *350m 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 (i.e. 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 for areas that are over 350m in length. Maximum length for a DWF automated response is approx 2500m - depending on geographic location of request (manually-processed plans may provide larger coverage). 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. Alternatively, an A3, A1 or larger printer could 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, e.g. A4, you may need to zoom until the text is 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.

Telstra Automated Mapping System

Telstra provides an automated plan response for the majority of DBYD requests received.

Requestors must supply a current email address on their request to DBYD and must also be able to accept a standard format of PDF or DWF. An automated response can be provided much faster than the alternative of a mailed hardcopy, and 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, alternatively, all in DWF (both small and large requests). Please contact Plan Services for further details or to have your preferences updated. Please note that 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)

ACCREDITED PLANT LOCATORS (For your area)

On-site assistance should be sought from an **Accredited Plant Locator** (Telstra accredited), 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 the Telstra Accredited 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 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 Telstra network location, any asset Plant Locator used **MUST** be Telstra accredited to be able to access and locate Telstra network. (a list of which is provided with the Dial Before You Dig plans). Alternatively you may seek your own Telstra accreditation through our registered training partner Coates Hire Training which is the only approved training provider for 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**](mailto:F1102490@team.telstra.com)

Working near Ausgrid cables

Finding out what's below the surface can save your life.

Call Dial Before You Dig on **1100** or visit **1100.com.au**



Changes in the Law.

NSW legislation now requires people who are planning to do excavation work to obtain copies of underground electricity cable plans through Dial Before you Dig (Phone 1100) and to make sure that the plans are no more than 30 days old when excavation commences.

The aim of the legislation is to ensure that when workers dig near electricity cables, they will establish the exact location of the cables and thus avoid coming into contact with them or damaging them. This will ensure worker safety and also prevent disruption to Ausgrid's electricity network.

This brochure gives you a brief overview of how to prepare for excavation works near or around electricity cables. It is important that you also consult our guide Reading Ausgrid Plans and make sure that workers engaged in excavation works fully understand how to read the plan. If the people actually doing the digging can't read the plans, it is essential that the work is directed by a person who has been trained to read Ausgrid's plans.

You must also consult Ausgrid's Network Standard NS156, which contains comprehensive information concerning all the issues that arise when excavating near underground cables (such as safety hazards from asbestos conduits and organochlorine pesticides).

Excavating near transmission cables.

If any cable plan you receive says "You are working near transmission cables" it is compulsory to notify Ausgrid two weeks before work is scheduled to begin. Ausgrid will then arrange for an Ausgrid representative to attend the site during excavation work.

Phone the Ausgrid Transmission enquiries line on (02) 4951 9200 to arrange for an Ausgrid representative in your region.



Be prepared. Wise words for safety at work.

Here are some simple precautions you and your workers need to follow in order to be as safe as possible.

- Make sure that you have the latest cable plan available
- Keep a copy of the cable plan on site at all times
- Make sure the excavation work is conducted or directed by staff who are trained to read the plan
- Hand dig until the exact location of the cable has been established
- Have on site at all times a first aid kit and a person trained in resuscitation
- Wear protective clothing, including safety footwear and safety helmet
- Have emergency contact numbers on site
- Set up safety barriers, witches hats and warning lights to reduce the risk of injury to the general public
- Comply with all WorkCover requirements and codes.

See also:

- **WorkCover Guidelines: Work Near Underground Assets**
- **WorkCover Code of Practice: Excavation Work**
- **WorkCover Code of Practice: Work Near Overhead Powerlines (if applicable).**

Before you start. Complete the checklist. Stop and look around.

Before you start excavating, consult the flow chart and fill in the checklist at the end of this brochure.

Then, be sure to look for clues where cables might be located on the site: for example pits, distribution pillars (green and other colours), cables attached to the side of poles, street lights without overhead wires.



Do all power cables look the same?

No. Power cables come in different sizes, colours and coverings. They may be covered in black plastic sheath, steel wires in a sticky bitument like material, or even a simple lead or steel wire/tape sheath.

What else should I look for below ground level?

Cables may also be buried in orange PVC or PE conduits or even in earthenware or steel pipes. A bank of cables may be covered with electrical bricks, plastic warning markers or protective covers, or they may not be covered at all. If they have been buried close to the surface, they may be covered by concrete slabs or steel plates.

When in doubt, ask Ausgrid.

If you have any questions about excavating near Ausgrid cables, read **NS156** (available at [ausgrid.com.au](https://www.ausgrid.com.au)).
For further information call 13 15 35.

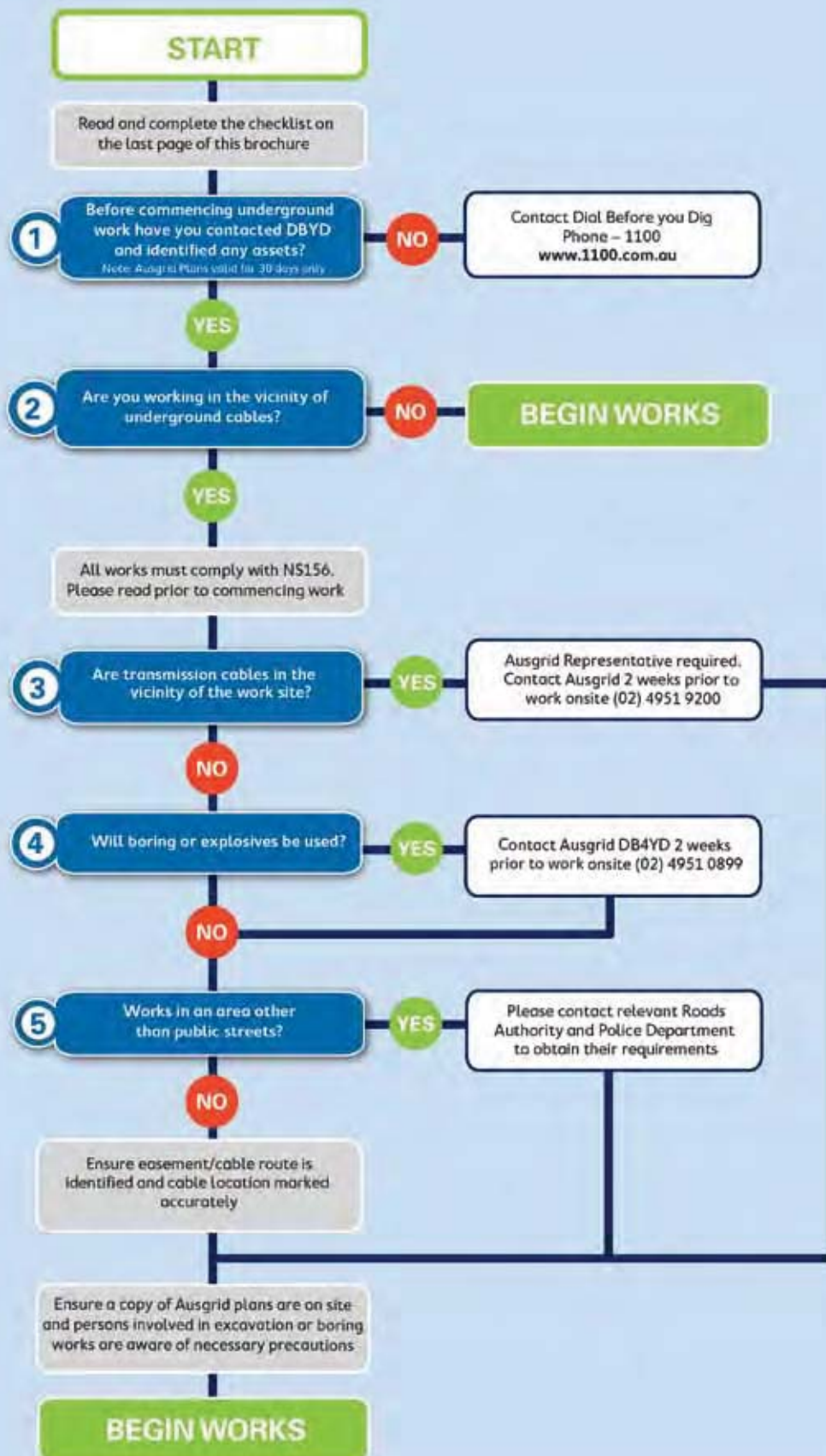
You've taken every precaution but accidents still happen. What now?

If you damage an electricity cable, it is compulsory to notify Ausgrid on **13 13 88**.

Striking power cables can cause serious damage to the cables and endanger the lives of anyone who comes in contact with them. Machinery and hand operated plant such as jack hammers can become alive if it is in contact with electrical cables or equipment. Keep people well away from machinery and the work site if contact is made with a cable.



Flow Chart for work near Ausgrid Cables



Ausgrid Checklist for work near or around underground cables

It is the responsibility of the Constructor to ensure that underground pits, ducts and cables are not damaged as a result of construction work. It is also your duty to protect your workers from harm or injury. This Checklist is intended to be used as a guide to what Constructors should do to make sure they have satisfied the minimum requirements to minimise damage to underground networks.

PLANS, LOCATION and NOTIFICATIONS	Completed
All relevant utilities plans obtained from Dial Before You Dig? (call 1100 – allow at least 5 working days for plans).	
Checked issue date on all the above plans to ensure issue was within the last 30 days?	
Examined plans and assessed all possible impacts on Ausgrid's network?	
Do you have both Underground Distribution and Transmission Plans (if applicable), on site at all times?	
All cables and conduits shown on the Ausgrid plans been located and marked on the ground?	
If you are planning to use a bore, have you ensured that the equipment is calibrated?	
Have you read and understood the requirements of NS 156? (for copies of NS 156 visit Ausgrid's Website or phone Ausgrid DB4YD Office (02) 4951 0899) www.ausgrid.com.au	
Have you notified Ausgrid as specified by NS 0156 and complied with requirements? Where an Ausgrid representative is required, two weeks notice is required before work commencing on site. Contact phone number for Transmission cable enquiries is (02) 4951 9200. For all other cases contact Ausgrid DB4YD Office: (02) 4951 0899.	
INSPECTION OF WORK BY Ausgrid's REPRESENTATIVE	
Is the Ausgrid representative on site for any work near or around* any transmission cable before you start? (*Refer to NS 156.)	
For proposed work near or around* cables other than transmission and/or conduits, are any requirements specified by Ausgrid's representative clearly understood and ready to be applied before you start the work? (*Refer to NS 156.)	
PROTECTION	
Check that all people on-site have been made aware of the presence and location of ALL Ausgrid underground cables and/or conduits; especially boring, drilling and trenching machine operators?	
Is there any asbestos or asbestos containing material in Ausgrid's underground network assets?	
Have you checked for the presence of any Organo-Chloride Pesticides (OCP) in transmission trenches?	
Is the site supervisor monitoring all machine operators working near or around Ausgrid's underground cables and/or conduits?	
Are the requirements specified by Ausgrid's representative being followed?	
Are Ausgrid's requirements in place for any exposed cables and/or conduits to be supported and protected?	
Have you marked all exposed underground cables and/or conduits with flags that are clearly visible from within all machinery used on-site?	
Have safety barriers, fencing or para-webbing been erected to protect staff and the public as well underground cables and/or conduits in areas that are at risk?	
Have safety barriers, fencing or para-webbing been erected to protect staff and the public as well underground cables and/or conduits in areas that are at risk?	

**In the event of DAMAGE to Ausgrid's cable or conduits, call 13 13 88 immediately.
PROCEED with CAUTION**

It is your responsibility to protect Ausgrid's cables and conduits from damage and your Duty of Care to protect your workers from harm or injury.

Signed: _____ Date: ____ / ____ / ____
Responsible person on site

For more information call 13 15 35 or visit www.ausgrid.com.au



APPENDIX H

GROUNDWATER BORE SEARCH



Groundwater Works Summary

For information on the meaning of fields please see [Glossary](#)
Document Generated on Friday, October 11, 2013

[Print Report](#)

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

Work Requested -- GW111692

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

GROUNDWATER NUMBER GW111692
LIC-NUM 10BL605067
AUTHORISED-PURPOSES MONITORING BORE
INTENDED-PURPOSES MONITORING BORE
WORK-TYPE Bore
WORK-STATUS Equipped - bore used for obs
CONSTRUCTION-METHOD Auger - Solid Flight
OWNER-TYPE Local Govt
COMMENCE-DATE
COMPLETION-DATE 2012-01-12
FINAL-DEPTH (metres) 1.30
DRILLED-DEPTH (metres) 1.30
CONTRACTOR-NAME
DRILLER-NAME
PROPERTY SYDENHAM RD
GWMA -
GW-ZONE -
STANDING-WATER-LEVEL 0.50
SALINITY
YIELD

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

REGION 10 - SYDNEY SOUTH COAST
RIVER-BASIN
AREA-DISTRICT
CMA-MAP
GRID-ZONE
SCALE
ELEVATION
ELEVATION-SOURCE
NORTHING 6246701.00
EASTING 329704.00
LATITUDE 33 54' 23"
LONGITUDE 151 9' 29"
GS-MAP

AMG-ZONE 56
 COORD-SOURCE
 REMARK

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

COUNTY CUMBERLAND
 PARISH PETERSHAM
 PORTION-LOT-DP 1//173107

Licensed [\(top\)](#)

COUNTY CUMBERLAND
 PARISH PETERSHAM
 PORTION-LOT-DP 1 173107

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	1.30	100			Auger - Solid Flight
1	1	Casing	PVC Class 18	0.00	0.60	50	40		Screwed; Seated on Bottom; End cap PVC Class 18; Casing - Machine Slotted; SL: 35mm; A: 4mm; Screwed
1	1	Opening	Slots - Horizontal	0.60	1.30	50			Graded; GS: 2- 2.5mm
1		Annulus	Waterworn/Rounded	0.60	1.30				

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

FROM- DEPTH (metres)	TO-DEPTH (metres)	THICKNESS (metres)	ROCK- CAT- DESC	S- W-L	D- L	YIELD	TEST-HOLE- DEPTH (metres)	DURATION	SALINITY
0.50	1.30	0.80		0.50					

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

FROM	TO	THICKNESS	DESC	GEO-MATERIAL COMMENT
0.00	0.20	0.20	TOPSOIL BROWN SOFT	
0.20	0.60	0.40	CLAY BTOWN LOOSE WET	
0.60	1.30	0.70	CLAY SOFT VERY WET	

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

Work Requested -- GW111686

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

GROUNDWATER NUMBER GW111686
LIC-NUM 10BL605066
AUTHORISED-PURPOSES MONITORING BORE
INTENDED-PURPOSES MONITORING BORE
WORK-TYPE Bore
WORK-STATUS Equipped - bore used for obs
CONSTRUCTION-METHOD Auger - Solid Flight
OWNER-TYPE Local Govt
COMMENCE-DATE
COMPLETION-DATE 2012-01-12
FINAL-DEPTH (metres) 3.50
DRILLED-DEPTH (metres) 3.50
CONTRACTOR-NAME
DRILLER-NAME
PROPERTY HENSON PARK
GWMA -
GW-ZONE -
STANDING-WATER-LEVEL 1.55
SALINITY
YIELD

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

REGION 10 - SYDNEY SOUTH COAST
RIVER-BASIN
AREA-DISTRICT
CMA-MAP
GRID-ZONE
SCALE
ELEVATION
ELEVATION-SOURCE
NORTHING 6246909.00
EASTING 329728.00
LATITUDE 33 54' 16"
LONGITUDE 151 9' 30"
GS-MAP

AMG-ZONE 56
 COORD-SOURCE
 REMARK

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

COUNTY CUMBERLAND
 PARISH PETERSHAM
 PORTION-LOT-DP 423//1035319

Licensed [\(top\)](#)

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 PORTION-LOT-DP 423 1035319

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	3.50	100			Auger - Solid Flight
1	1	Casing	PVC Class 18	0.00	1.20	50	40		Screwed; Seated on Bottom; End cap PVC Class 18; Casing - Machine Slotted; SL: 35mm; A: 4mm; Screwed
1	1	Opening	Slots - Horizontal	1.20	3.50	50			Graded; GS: 2- 2.5mm
1		Annulus	Waterworn/Rounded	1.20	3.50				

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
1.55	3.50	1.95		1.55					

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

FROM TO THICKNESS			DESC	GEO-MATERIAL COMMENT
0.00	0.40	0.40	FILL,CLAY BANDS,BROWN	
0.40	1.20	0.80	SILTY CLAY,BEIGE,HIGH PLASTICITY,FIRM	
1.20	2.50	1.30	SILTY CLAY,BEIGE,SOFT,H/PLASTICITY	
2.50	3.50	1.00	CLAY GREY,FIRM,DRY	

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](#)
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Work Requested -- GW111687

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

GROUNDWATER NUMBER GW111687
LIC-NUM 10BL605066
AUTHORISED-PURPOSES MONITORING BORE
INTENDED-PURPOSES MONITORING BORE
WORK-TYPE Bore
WORK-STATUS Equipped - bore used for obs
CONSTRUCTION-METHOD Auger - Solid Flight
OWNER-TYPE Local Govt
COMMENCE-DATE
COMPLETION-DATE 2012-01-12
FINAL-DEPTH (metres) 4.25
DRILLED-DEPTH (metres) 4.25
CONTRACTOR-NAME
DRILLER-NAME
PROPERTY HENSON PARK
GWMA -
GW-ZONE -
STANDING-WATER-LEVEL 2.50
SALINITY
YIELD

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

REGION 10 - SYDNEY SOUTH COAST
RIVER-BASIN
AREA-DISTRICT
CMA-MAP
GRID-ZONE
SCALE
ELEVATION
ELEVATION-SOURCE
NORTHING 6246916.00
EASTING 329742.00
LATITUDE 33 54' 16"
LONGITUDE 151 9' 31"
GS-MAP

AMG-ZONE 56
 COORD-SOURCE
 REMARK

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

COUNTY CUMBERLAND
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 PORTION-LOT-DP 423//1035319

Licensed [\(top\)](#)

COUNTY CUMBERLAND
 PARISH PETERSHAM
 PORTION-LOT-DP 423 1035319

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	4.25	100			Auger - Solid Flight
1	1	Casing	PVC Class 18	0.00	1.25	50			Screwed; Seated on Bottom; End cap
1	1	Opening	Slots - Horizontal	1.25	4.25	50			PVC Class 18; Casing - Machine Slotted; SL: 35mm; A: 4mm; Screwed
1		Annulus	Waterworn/Rounded	1.25	4.25				Graded; GS: 2- 2.5mm

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

FROM- DEPTH (metres)	TO-DEPTH (metres)	THICKNESS (metres)	ROCK- CAT- DESC	S- W-L	D- D- L	YIELD	TEST-HOLE- DEPTH (metres)	DURATION	SALINITY
2.50	4.25	1.75		2.50					

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

FROM	TO	THICKNESS	DESC	GEO-MATERIAL COMMENT
0.00	1.90	1.90	FILL, SANDY GRAVEL DARK,SOFT	
1.90	2.70	0.80	SILTY CLAY,RED/ORANGE,STIFF	
2.70	3.00	0.30	SILTY CLAY,RED,ORANGE,SOFT	
3.00	4.25	1.25	SILTY CLAY BEIGE,VERY MOIST,SOFT	

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](#)
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Work Requested -- GW110122

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

GROUNDWATER NUMBER GW110122
LIC-NUM 10BL600053
AUTHORISED-PURPOSES MONITORING BORE
INTENDED-PURPOSES MONITORING BORE
WORK-TYPE Well
WORK-STATUS
CONSTRUCTION-METHOD Auger
OWNER-TYPE Private
COMMENCE-DATE
COMPLETION-DATE 2006-01-16
FINAL-DEPTH (metres) 3.50
DRILLED-DEPTH (metres) 3.50
CONTRACTOR-NAME
DRILLER-NAME
PROPERTY RAILCORP N S W
GWMA -
GW-ZONE -
STANDING-WATER-LEVEL 2.50
SALINITY
YIELD

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

REGION 10 - SYDNEY SOUTH COAST
RIVER-BASIN
AREA-DISTRICT
CMA-MAP
GRID-ZONE
SCALE
ELEVATION
ELEVATION-SOURCE
NORTHING 6245833.00
EASTING 329500.00
LATITUDE 33 54' 51"
LONGITUDE 151 9' 20"
GS-MAP

AMG-ZONE 56
 COORD-SOURCE
 REMARK

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

COUNTY CUMBERLAND
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 PORTION-LOT-DP 1 1042838

Licensed [\(top\)](#)

COUNTY CUMBERLAND
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 PORTION-LOT-DP 1 1042838

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	3.50	150			Auger
1	1	Casing	P.V.C.	0.00	0.50	50			
1	1	Opening	Screen	0.50	3.50	50			PVC; A: .2mm

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

no details

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

FROM	TO	THICKNESS	DESC	GEO-MATERIAL	COMMENT
0.00	3.50	3.50		CLAY	

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 Thursday, November 7, 2013

[Print Report](#)

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

Work Requested -- GW110121

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

GROUNDWATER NUMBER GW110121
LIC-NUM 10BL600053
AUTHORISED-PURPOSES MONITORING BORE
INTENDED-PURPOSES MONITORING BORE
WORK-TYPE Well
WORK-STATUS
CONSTRUCTION-METHOD Auger
OWNER-TYPE Private
COMMENCE-DATE
COMPLETION-DATE 2006-01-16
FINAL-DEPTH (metres) 3.50
DRILLED-DEPTH (metres) 3.50
CONTRACTOR-NAME
DRILLER-NAME
PROPERTY RAILCORP N S W
GWMA -
GW-ZONE -
STANDING-WATER-LEVEL 3.00
SALINITY
YIELD

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

REGION 10 - SYDNEY SOUTH COAST
RIVER-BASIN
AREA-DISTRICT
CMA-MAP
GRID-ZONE
SCALE
ELEVATION
ELEVATION-SOURCE
NORTHING 6245840.00
EASTING 329454.00
LATITUDE 33 54' 51"
LONGITUDE 151 9' 19"
GS-MAP

AMG-ZONE 56
 COORD-SOURCE
 REMARK

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

COUNTY CUMBERLAND
 PARISH PETERSHAM
 PORTION-LOT-DP 1 1042838

Licensed [\(top\)](#)

COUNTY CUMBERLAND
 PARISH PETERSHAM
 PORTION-LOT-DP 1 1042838

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	3.50	150			Auger
1	1	Casing	P.V.C.	0.00	0.50	50			
1	1	Opening	Screen	0.50	3.50	50			PVC; A: .2mm

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

no details

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

FROM	TO	THICKNESS	DESC	GEO-MATERIAL	COMMENT
0.00	3.50	3.50		CLAY	

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.

APPENDIX I

SITE PHOTOGRAPHS



SITE PHOTOGRAPHS

Client:	E & D Danias Pty Ltd
Project:	Remediation & Validation
Site Location:	182, 184, 188, 190 & 190A Victoria Street & 18-26 & 28 Faversham Street, Marrickville NSW
Job No.:	ES5611-2
Photos Taken By:	MS



Photograph N° 1



View of: unsealed area in vicinity of BH11 & BH12
Looking east
Inspected on 16.10.13

Photograph N° 2



View of: unsealed access way & BH9 & BH10
Looking west
Inspected on 16.10.13

Photograph N° 3



View of: unsealed car park area located down-gradient of the smash repairs
Looking south

Photograph N° 4



View of: Gorilla Constructions, awning & concrete surfaces
Looking east

Photograph N° 5



View of: car park in the south eastern corner of the site
Looking north
Inspected on 16.10.2013

Photograph N° 6



View of: car park in the south eastern corner of the site
Looking west

SITE PHOTOGRAPHS

Client:	E & D Danias Pty Ltd
Project:	Remediation & Validation
Site Location:	182, 184, 188, 190 & 190A Victoria Street & 18-26 & 28 Faversham Street, Marrickville NSW
Job No.:	ES5611-2
Photos Taken By:	MS



Photograph N° 7



View of: unsealed car park area down-gradient of
smash repairs
Looking south

Photograph N° 8



View of: unsealed car park area down-gradient of
smash repairs
Looking west

Photograph N° 9



View of: small warehouse part of gorilla
constructions
Looking south west

Photograph N° 10



View of: car park
Looking east
Inspected on 16.10.2013

Photograph N° 11



View of: car park in the western portion of the site
Looking west
Inspected on 16.10.2013

Photograph N° 12



View of: car park, office building and BH14/GW1
Looking south west
Inspected on 16.10.2013

APPENDIX J

REGULATORY CRITERIA



Analyte	ANZECC 2000 Freshwater 95%	ANZECC 2000 Freshwater 90%	ANZECC 2000 Marine Water 95%	ANZECC 2000 Marine Water 90%	ANZECC 2000 Recreational Water & Aesthetics	ADWG 2011 Health	Dutch Intervention Value
HEAVY METALS							
Arsenic (III)	24	94	2.3 ^a	ID	50	10	
Arsenic (V)	13	42	4.5 ^a	ID	50	10	
Cadmium	0.2	0.4	5.5	14	5	2	
Chromium (III)	3.3 ^a	ID	27.4	48.6	-	-	
Chromium (VI)	1	6	4.4	20	50	50	
Copper	1.4	1.8	1.3	3	1,000	2,000	
Lead	3.4	5.6	4.4	6.6	50	10	
Mercury (Inorganic)	0.6	1.9	0.4	0.7	-	-	
Mercury (Total)	-	-	-	-	1	1	
Nickel	11	13	70	200	100	20	
Zinc	8	15	15	23	5,000	-	
TOTAL PETROLEUM HYDROCARBONS							
(C6-C36)	-	-	-	-	-	-	600
BTEX							
Benzene	950	1,300	700	900	10	1	
Toluene	180 ^a	230 ^a	180 ^a	ID	-	800	
Ethyl Benzene	80 ^a	110 ^a	5 ^a	ID	-	300	
Xylene (m)	75 ^a	100 ^a	75 ^a	ID	-	-	
Xylene (o)	350	470	350	ID	-	-	
Xylene (p)	200	250	200	ID	-	-	
Total Xylene	-	-	-	-	-	600	
POLYCYCLIC AROMATIC HYDROCARBONS (PAH)							
Anthracene	0.4 ^a	1.5 ^a	0.4 ^a	1.5 ^a	-	-	
Benzo(a)pyrene	0.2 ^a	0.4 ^a	0.2 ^a	0.4 ^a	0.01	0.01	
Fluoranthene	1.4 ^a	1.7 ^a	1.4 ^a	1.7 ^a	-	-	
Naphthalene	16	37	70	90	-	-	
Phenanthrene	2 ^a	4 ^a	2 ^a	4 ^a	-	-	
PAH Total	-	-	-	-	-	0.01	
NON-METALLIC INORGANICS							
Cyanide	7	11	4	7	100	80	
CHLOROBENZENES							
HCB	0.1 ^a	0.2 ^a	0.1 ^a	0.2 ^b	-	0.7	
ORGANOCHLORINE PESTICIDES (OCP)							
Aldrin	0.001 ^a	ID	0.003 ^a	ID	1	0.3	
Chlordane	0.08	0.14	0.001 ^a	ID	6	2	
DDE	0.03 ^a	ID	0.0005 ^a	ID	-	-	
DDT	0.01	0.02	0.0004 ^a	ID	3	9	
Dieldrin	0.01 ^a	ID	0.01 ^a	ID	1	0.3	
Endrin	0.02	0.04	0.008	0.01	1	-	
Endosulfan	0.2	0.6	0.01	0.02	40	20	
Heptachlor	0.09	0.25	0.004 ^a	ID	3	0.3	
Lindane	0.2	0.4	0.007 ^a	ID	10	10	
Methoxychlor	0.005 ^a	ID	0.004 ^a	ID	-		
ORGANOPHOSPHATE PESTICIDES (OPP)							
Azinphos-methyl	0.02	0.05	0.001 ^a	ID	10	30	
Chlorpyrifos	0.01	0.11	0.009	0.04	2	10	
Dichlorvos	-	-	-	-	20	5	
Dimethoate	0.15	0.2	0.15 ^a	ID	100	7	
Diazinon	0.01	0.2	0.01 ^a	ID	10	4	
Fenitrothion	0.2	0.3	0.001 ^a	ID	20	7	
Malathion	0.05	0.2	0.05 ^a	ID	-	-	
Parathion	0.004	0.01	0.004 ^a	ID	30	20	
Bromofos	-	-	-	-	20	-	
Methidathion	-	-	-	-	60	6	
Ethion	-	-	-	-	6	4	
POLYCHLORINATED BIPHENYLS (PCBs)							
Arochlor 1016	0.001 ^a	ID	0.009 ^a	ID	-	-	
Arochlor 1221	1.0 ^a	ID	1.0 ^a	ID	-	-	
Arochlor 1232	0.3 ^a	ID	0.3 ^a	ID	-	-	
Arochlor 1242	0.6	1.0	0.3a	ID	-	-	
Arochlor 1248	0.03 ^a	ID	0.03 ^a	ID	-	-	
Arochlor 1254	0.03	0.07	0.01 ^a	ID	-	-	
Arochlor 1260	25 ^a	ID	ID	ID	-	-	
Arochlor 1262	50 ^a	ID	ID	ID	-	-	
Arochlor 1268	50 ^a	ID	ID	ID	-	-	
Total PCB	ID	ID	ID	ID	0.1	-	
CHLORINATED ALKANES/ALKENES							
1,1-Dichloroethane	90 ^a	ID	250 ^a	ID	-	-	
1,2-Dichloroethane	1,900 ^a	ID	1,900 ^a	ID	-	3	
1,1,1-Trichloroethane	270 ^a	ID	270 ^a	ID	-	-	
1,1,2-Trichloroethane	6,500	7,300	1,900	5,800	-	-	

Analyte	ANZECC 2000 Freshwater 95%	ANZECC 2000 Freshwater 90%	ANZECC 2000 Marine Water 95%	ANZECC 2000 Marine Water 90%	ANZECC 2000 Recreational Water & Aesthetics	ADWG 2011 Health	Dutch Intervention Value
Chloroethene	100 ^a	ID	100 ^a	ID	-	-	
1,1-Dichloroethene	700 ^a	ID	700 ^a	ID	-	30	
1,2-Dichloroethene	-	-	-	-	-	60	
1,1,2-Trichloroethene	330 ^a	ID	330 ^a	ID	-	-	
Tetrachloroethene	70 ^a	ID	70 ^a	ID	-	50	
Vinyl chloride	-	-	-	-	-	0.3	
PHENOLS							
Phenol	320	600	400	520	-	-	
2-chlorophenol	340*	630	340 ^a	ID	-	300	
4-chlorophenol	220	280	220 ^a	ID	-	-	
2,4-dichlorophenol	120*	200	120 ^a	ID	-	200	
2,4,6-trichlorophenol	3*	40	3 ^a	ID	10	20	
2,3,4,6-tetrachlorophenol	10*	25	10 ^a	ID	1	-	
Pentachlorophenol	3.6*	17	22	33	10	10	

Notes:
 All units for trigger values are in µg/L
 a = Interim working values (low reliability) in the absence of reliable trigger values (as referenced from the ANZECC 2000 Guidelines - Section 8.3.7).
 ID = Insufficient Data to derive a reliable trigger value
 * = 99% protection level for slightly to moderately disturbed ecosystem value (as referenced from ANZECC 2000 Guidelines)

Table 1A(1) Health-based Investigation Levels (mg/kg)

	Residential A	Residential B	Recreational C	Commercial / Industrial D
Metals& Inorganics				
Arsenic (total)	100	500	300	3,000
Beryllium	60	90	90	500
Boron	4,500	40,000	20,000	300,000
Cadmium	20	150	90	900
Chromium (VI)	100	500	300	3,600
Cobalt	100	600	300	4,000
Copper	6,000	30,000	17,000	240,000
Lead	300	1,200	600	1,500
Manganese	3,800	14,000	19,000	60,000
Mercury (inorganic)	40	120	80	730
Methyl mercury	10	30	13	180
Nickel	400	1,200	1,200	6,000
Selenium	200	1,400	700	10,000
Zinc	7,400	60,000	30,000	400,000
Cyanide (free)	250	300	240	1,500
Polycyclic Aromatic Hydrocarbons				
Carcinogenic PAHs (as BaP TEQ)	3	4	3	40
Total PAHs	300	400	300	4,000
Phenols				
Phenols	3,000	45,000	40,000	240,000
Pentachlorophenol	100	130	120	660
Cresols	400	4,700	4,000	25,000
Organochlorine Pesticides				
DDT+DDD+DDE	240	600	400	3,600
Aldrin & Dieldrin	6	10	10	45
Chlordane	50	90	70	530
Endosulfan	270	400	340	2,000
Endrin	10	20	20	100
Heptachlor	6	10	10	50
HCB	10	15	10	80
Methoxychlor	300	500	400	2,500
Mirex	10	20	20	100
Toxaphene	20	30	30	160
Herbicides				
2,4,5-T	600	900	800	5,000
2,4-D	900	1,600	1,300	9,000
MCPA	600	900	800	5,000
MCPB	600	900	800	5,000
Mecoprop	600	900	800	5,000
Picloram	4,500	6,600	5,700	35,000
Other Pesticides				
Atrazine	320	470	400	2,500

Chlorpyrifos	160	340	250	2,000
Bifenthrin	600	840	730	4,500
Other Organics				
PCBs	1	1	1	7
PBDE Flame Retardants (Br1 -Br9)	1	2	2	10

Table 1A(4) Groundwater HSLs for vapour intrusion (mg/L)

	HSL A & HSL B			HSL C			HSL D			
Chemical	Low - high density residential			Recreational / open space			Commercial / industrial			Solubility Limit
	2 m to <4 m	4 m to <8 m	8 m+	2 m to <4 m	4 m to <8 m	8 m+	2 m to <4 m	4 m to <8 m	8 m+	
SAND										
Toluene	NL	NL	NL	NL	NL	NL	NL	NL	NL	61
Ethylbenzene	NL	NL	NL	NL	NL	NL	NL	NL	NL	3.9
Xylenes	NL	NL	NL	NL	NL	NL	NL	NL	NL	21
Naphthalene	NL	NL	NL	NL	NL	NL	NL	NL	NL	0.17
Benzene	0.8		0.9	NL	NL	NL	5	5	5	59
F1	1	1	1	NL	NL	NL	6	6	7	9.0
F2	1	1	1	NL	NL	NL	NL	NL	NL	3.0
SILT										
Toluene	NL	NL	NL	NL	NL	NL	NL	NL	NL	61
Ethylbenzene	NL	NL	NL	NL	NL	NL	NL	NL	NL	3.9
Xylenes	NL	NL	NL	NL	NL	NL	NL	NL	NL	21
Naphthalene	NL	NL	NL	NL	NL	NL	NL	NL	NL	0.17
Benzene	4	5	5	NL	NL	NL	30	30	30	59
F1	6	6	6	NL	NL	NL	NL	NL	NL	9.0
F2	NL	NL	NL	NL	NL	NL	NL	NL	NL	3.0
CLAY										
Toluene	NL	NL	NL	NL	NL	NL	NL	NL	NL	61
Ethylbenzene	NL	NL	NL	NL	NL	NL	NL	NL	NL	3.9
Xylenes	NL	NL	NL	NL	NL	NL	NL	NL	NL	21
Naphthalene	NL	NL	NL	NL	NL	NL	NL	NL	NL	0.17
Benzene	5	5	5	NL	NL	NL	30	30	35	59
F1	NL	NL	NL	NL	NL	NL	NL	NL	NL	9.0
F2	NL	NL	NL	NL	NL	NL	NL	NL	NL	3.0

To obtain F1 subtract the sum of BTEX concentrations from the C6 - C10 fraction

To obtain F2 subtract naphthalene from the >C6 - C10 fraction

Table 1B(1) Soil-specific added contaminant limits for aged zinc in soil

Zn added contaminant limits (ACL, mg added contaminant/kg)						
Areas of ecological significance						
pH ^a	CEC ^b (cmol/kg)					
	5	10	20	30	40	60
4.0	15	20	20	20	20	20
4.5	20	25	25	25	25	25
5.0	30	40	40	40	40	40
5.5	40	60	60	60	60	60
6.0	50	90	90	90	90	90
6.5	50	90	130	130	130	130
7.0	50	90	130	190	190	190
7.5	50	90	130	210	260	280
Urban residential/public open space ¹						
pH ^a	CEC ^b (cmol/kg)					
	5	10	20	30	40	60
4.0	70	85	85	85	85	85
4.5	100	120	120	120	120	120
5.0	130	180	180	180	180	180
5.5	180	270	270	270	270	270
6.0	230	400	400	400	400	400
6.5	230	400	590	590	590	590
7.0	230	400	700	880	880	880
7.5	230	400	700	960	1200	1300
Commercial/Industrial						
pH ^a	CEC ^b (cmol/kg)					
	5	10	20	30	40	60
4.0	110	130	130	130	130	130
4.5	150	190	190	190	190	190
5.0	210	290	290	290	290	290
5.5	280	420	420	420	420	420
6.0	360	620	620	620	620	620
6.5	360	620	920	920	920	920
7.0	360	620	1100	1400	1400	1400
7.5	360	620	1100	1500	1900	2000

1: Urban residential/public open space is broadly equivalent to the HIL A, HIL B and HIL C land use scenarios in Table 1A(1) Footnote 1 and as described in Schedule B7.

2: Aged values apply to contamination present in soil for at least two years. For fresh contamination refer to Schedule B5c.

3: The EIL is calculated from summing the ACL and the ABC.

a: pH measured using the CaCl₂ method (Rayment & Higginson 1992).

b: CEC measured using the silver thiourea method (Chabra et al. 1972).

Table 1B(2): Soil-specific added contaminant limits for aged copper in soil

Cu added contaminant limits (ACL, mg added contaminant/kg)					
Areas of ecological significance					
CEC (cmol/kg)^a based					
5	10	20	30	40	60
30	65	70	70	75	80
pH^b based					
4.5	5.5	6	6.5	7.5	8
20	45	65	90	190	270
Urban residential/public open space ¹					
CEC (cmol/kg)^a based					
5	10	20	30	40	60
95	190	210	220	220	230
pH^b based					
4.5	5.5	6	6.5	7.5	8
60	130	190	280	560	800
Commercial/industrial					
CEC (cmol/kg)^a based					
5	10	20	30	40	60
140	280	300	320	330	340
pH^b based					
4.5	5.5	6	6.5	7.5	8
85	190	280	400	830	1200

1. Urban residential/public open space is broadly equivalent to the HIL A, HIL B and HIL C land use scenarios in Table 1A(1) Footnote 1 and as described in Schedule B7.
 2. The lower of the CEC or the pH-based ACLs for the land use and soil conditions is the ACL to be used.
 3. Aged values apply to contamination present in soil for at least two years. For fresh contamination refer to Schedule B5c.
 4. The EIL is calculated from summing the ACL and the ABC.
- a = CEC measured using the silver thiourea method (Chabra et al. 1972)
- b = pH measured using the CaCl₂ method (Rayment & Higginson 1992)

Table 1B(3): Soil-specific added contaminant limits for aged chromium III and nickel in soil

CHEMICAL	Clay content (%clay)	Added contaminant limits (mg added contaminant/kg) for various land uses		
		Areas of ecological significance	Urban residential and public open space	Commercial and industrial
Chromium III	1	60	190	310
	2.5	80	250	420
	5	100	320	530
	≥10	130	400	660
Nickel	CEC ^a (cmol _c /kg)	Areas of ecological significance	Urban residential and public open space	Commercial and industrial
	5	5	30	55
	10	30	170	290
	20	45	270	460
	30	60	350	600
	40	70	420	730
	60	95	560	960

Notes:

1. Urban residential/public open space is broadly equivalent to the HIL A, HIL B and HIL C land use scenarios in Table 1A(1) Footnote 1 and as described in Schedule B7.
 2. Aged values apply to contamination present in soil for at least two years. For fresh contamination refer to Schedule B5c.
 3. The EIL is calculated from summing the ACL and the ABC.
- a = CEC measured using the silver thiourea method (Chabra et al. 1972)

Table 1B(4): Generic added contaminant limits for lead in soils irrespective of their physicochemical properties

Pb added contaminant limit (ACL, mg added contaminant/kg) for various land uses			
CHEMICAL	Area of ecological significance	Urban residential and public open space	Commercial and industrial
LEAD	470	1100	1800

Notes:

1. Urban residential/public open space is broadly equivalent to the HIL A, HIL B and HIL C land use scenarios in Table 1A(1) Footnote 1 and as described in Schedule B7.
2. Aged values are applicable to lead contamination present in soil for at least two years. For fresh contamination refer to Schedule B5c.
3. The EIL is calculated from summing the ACL and the ABC.

Table 1B(6): ESLs for TPH fractions F1 – F4, BTEX and benzo(a)pyrene in soil

CHEMICAL	Soil texture	ESLs (mg/kg dry soil)		
		Areas of ecological significance	Urban residential and public open space	Commercial and industrial
F1 C6-C10	Coarse/	125*	180*	215*
F2 >C10-C16	Fine	25*	120*	170*
F3 >C16-C34	Coarse	-	300	1700
	Fine	-	1300	2500
F4 >C34-C40	Coarse	-	2800	3300
	Fine	-	5600	6600
Benzene	Coarse	10	50	75
	Fine	10	65	95
Toluene	Coarse	10	85	135
	Fine	65	105	135
Ethylbenzene	Coarse	1.5	70	165
	Fine	40	125	185
Xylenes	Coarse	10	105	180
	Fine	1.6	45	95
Benzo(a)pyrene	Coarse	0.7	0.7	0.7
	Fine	0.7	0.7	0.7

Notes:

ESLs are of low reliability except where indicated by * which indicates that the ESL is of moderate reliability.

'-' indicates that insufficient data was available to derive a value.

To obtain F1, subtract the sum of BTEX concentrations from C6-C10 fraction and subtract naphthalene from >C10-C16 to obtain F2.

Table 1 B(7): Management Limits for TPH fractions F1 - F4 in soil

TPH fraction	Soil texture	Management Limits ¹ (mg/kg dry soil)	
		Residential, parkland and public open space	Commercial and industrial
F1² C6- C10	Coarse	700	700
	Fine	800	800
F2² >C10-C16	Coarse	1000	1000
	Fine	1000	1000
F3 >C16-C34	Coarse	2500	3500
	Fine	3500	5000
F4 >C34-C40	Coarse	10 000	10 000
	Fine	10 000	10 000

Analyte	NEPM Groundwater Investigation Levels (µg/L)		
	Fresh Waters	Marine Waters	Drinking water)
HEAVY METALS			
Aluminium, Al pH>6.5	55	-	-
Antimony	-	-	3
Arsenic (III)	24	-	10
Arsenic (V)	13	-	10
Barium	-	-	2,000
Beryllium	-	-	60
Boron	370	-	4,000
Cadmium	0.2	0.7	2
Chromium (III)	-	27	-
Chromium (VI)	1	4.4	50
Cobalt	-	1	-
Copper	1.4	1.3	2,000
Lead	3.4	4.4	10
Manganese	1,900	-	500
Mercury (Inorganic)	-	-	-
Mercury (Total)	0.06	0.1	1
Molybdenum	-	-	50
Nickel	11	7	20
Selenium (Total)	5	-	10
Silver	0.05	1.4	100
Tributyl tin (as Sn)	-	0.006	-
Tributyl tin oxide	-	-	1
Uranium	-	-	17
Vanadium	-	100	-
Zinc	8	15	-
NON-METALLIC INORGANICS			
Ammonia (as NH3-N at pH 8)	900	91	-
Bromate	-	-	20
Chloride	-	-	-
Cyanide (as un-ionised Cn)	7	4	80
Fluoride	-	-	1,500
Hydrogen sulphide (un-ionised H2S-S)	1	-	-
Iodide	-	-	500
Nitrate (as NO3)	Refer to guideline	Refer to guideline	-
Nitrite (as NO2)	Refer to guideline	Refer to guideline	3,000
Nitrogen	Refer to guideline	Refer to guideline	-
Phosphorus	Refer to guideline	Refer to guideline	-
Sulphate (as SO4)	-	-	500,000
Organic alcohols/other organics			
Ethanol	1,400	-	-
Ethylenediamine tetra-acetic acid (EDTA)	-	-	250
Formaldehyde	-	-	500

Analyte	NEPM Groundwater Investigation Levels (µg/L)		
	Fresh Waters	Marine Waters	Drinking water)
Nitritotriacetic acid	-	-	200
ANILINES			
Aniline	8	-	-
2,4-Dichloroaniline	7	-	-
3,4-Dichloroaniline	3	150	-
CHLORINATED ALKANES/ALKENES			
Dichloromethane	-	-	4
Trichloromethane (chloroform)	-	-	3
Trihalomethanes (total)	-	-	250
Tetrachloromethane (carbon tetrachloride)	-	-	3
1,2-Dichloroethane	-	-	3
1,1,2-Trichloroethane	6,500	1,900	-
Hexachloroethane	290	-	-
Chloroethene (Vinyl chloride)	-	-	0.3
1,1-Dichloroethene	-	-	30
1,2-Dichloroethene	-	-	60
Tetrachloroethene	-	-	50
Chlorinate Benzenes			
Chlorobenzene	-	-	300
1,2-Dichlorobenzene	160	-	1,500
1,3-Dichlorobenzene	260	-	-
1,4-Dichlorobenzene	60	-	40
1,2,3-Trichlorobenzene	3	-	30 for individual or total
1,2,4-Trichlorobenzene	85	20	
1,3,5-Trichlorobenzene	-	-	
POLYCHLORINATED BIPHENYLS (PCBs)			
Arochlor 1242	0.3	-	-
Arochlor 1254	0.01	-	-
Other Chlorinated Compounds			
Epichlorohydrin	-	-	100
Hexachlorobutadiene	-	-	0.7
Monochloramine	-	-	3
Monocyclic Aromatic Hydrocarbons			
Benzene	950	500	1
Toluene	-	-	800
Ethyl Benzene	-	-	300
Xylene (o)	350	-	600
Xylene (p)	200	-	
Styrene (Vinyl benzene)	-	-	30
POLYCYCLIC AROMATIC HYDROCARBONS (PAH)			
Benzo(a)pyrene	-	-	0.01
Naphthalene	16	50	-
PHENOLS			
Phenol	320	400	-

Analyte	NEPM Groundwater Investigation Levels (µg/L)		
	Fresh Waters	Marine Waters	Drinking water)
2-chlorophenol	340	-	300
4-chlorophenol	220	-	-
2,4-dichlorophenol	120	-	200
2,4,6-trichlorophenol	3	-	20
2,3,4,6-tetrachlorophenol	10	-	-
Pentachlorophenol	3.6	11	10
2,4-Dinitrophenol	45	-	-
PHTHALATES			
Dimethylphthalate	3,700	-	-
Diethylphthalate	1,000	-	-
Dibutylphthalate	10	-	-
Di(2-ethylhexyl) phthalate	-	-	10
PESTICIDES			
Acephate	-	-	8
Aldicarb	-	-	4
Aldrin plus Dieldrin	-	-	0.3
Ametryn	-	-	70
Amitraz	-	-	9
Amitrole	-	-	0.9
Asulam	-	-	70
Atrazine	13	-	20
Azinphos-methyl	-	-	30
Benomyl	-	-	90
Bentazone	-	-	400
Bioresmethrin	-	-	100
Bromacil	-	-	400
Bromoxynil	-	-	10
Captan	-	-	400
Carbaryl	-	-	30
Carbendazim (Thiophanate-methyl)	-	-	90
Carbofuran	0.06	-	10
Carboxin	-	-	300
Carfentrazone-ethyl	-	-	100
Chlorantraniliprole	-	-	6,000
Chlordane	0.03	-	2
Chlorfevinphos	-	-	2
Chlorothalonil	-	-	50
Chlorpyrifos	0.01	0.009	10
Chlorsulfuron	-	-	200
Clopyralid	-	-	2,000
Cyfluthrin, Beta-Cyfluthrin	-	-	50
Cypermethrin isomers	-	-	200
Cyridinil	-	-	90
1,3-Dichloropropene	-	-	100

Analyte	NEPM Groundwater Investigation Levels (µg/L)		
	Fresh Waters	Marine Waters	Drinking water)
2,2-DPA	-	-	500
2,4-D [2,4-dichlorophenoxy acetic acid]	280	-	30
DDT	0.006	-	9
Deltramethrin	-	-	40
Diazinon	0.01	-	4
Dicamba	-	-	100
Dichloroprop	-	-	100
Dichlorvos	-	-	5
Dicofol	-	-	4
Diclofop-methyl	-	-	5
Dieldrin plus Aldrin	-	-	0.3
Diflubenzuron	-	-	70
Dimethoate	0.15	-	7
Diquat	1.4	-	7
Disulfoton	-	-	4
Diuron	-	-	20
Endosulfan	0.03	0.005	20
Endothal	-	-	100
Endrin	0.01	0.004	-
EPTC	-	-	300
Esfenvalerate	-	-	30
Ethion	-	-	4
Ethoprophos	-	-	1
Etridiazole	-	-	100
Fenamiphos	-	-	0.5
Fenarimol	-	-	40
Fenitrothion	0.2	-	7
Fenthion	-	-	7
Fenvalerate	-	-	60
Fipronil	-	-	0.7
Flamprop-methyl	-	-	4
Fluometuron	-	-	70
Fluproponate	-	-	9
Glyphosate	370	-	1,000
Haloxyfop	-	-	1
Heptachlor	0.01	-	-
Heptachlor epoxide	-	-	0.3
Hexazinone	-	-	400
Imazapyr	-	-	9,000
Iprodione	-	-	100
Lindane (γ-HCH)	0.2	-	10
Malathion	0.05	-	70
Mancozeb (as ETU, ethylene thiourea)	-	-	9
MCPA	-	-	40

Analyte	NEPM Groundwater Investigation Levels (µg/L)		
	Fresh Waters	Marine Waters	Drinking water)
Metaldehyde	-	-	20
Metham (as methylisothiocyanate, MITC)	-	-	1
Methidathion	-	-	6
Methiocarb	-	-	7
Methomyl	3.5	-	20
Methyl bromide	-	-	1
Metiram (as ETU, ethylene thiourea)	-	-	9
Metolachlor/s–Metolachlor	-	-	300
Metribuzin	-	-	70
Metsulfuron-methyl	-	-	40
Mevinphos	-	-	6
Molinate	3.4	-	4
Napropamide	-	-	400
Nicarbazin	-	-	1,000
Norflurazon	-	-	50
Omethoate	-	-	1
Oryzalin	-	-	400
Oxamyl	-	-	7
Paraquat	-	-	20
Parathion	0.004	-	20
Parathion methyl	-	-	0.7
Pebulate	-	-	30
Pendimethalin	-	-	400
Pentachlorophenol	-	-	10
Permethrin	-	-	200
Picloram	-	-	300
Piperonylbutoxide	-	-	600
Pirimicarb	-	-	7
Pirimiphos methyl	-	-	90
Polihexanide	-	-	700
Profenofos	-	-	0.3
Propachlor	-	-	70
Propanil	-	-	700
Propargite	-	-	7
Propazine	-	-	50
Propiconazole	-	-	100
Propyzamide	-	-	70
Pyrasulfatole	-	-	40
Pyrazophos	-	-	20
Pyroxsulam	-	-	4,000
Quintozene	-	-	30
Simazine	3.2	-	20
Spirotetramat	-	-	200
Sulprofos	-	-	10

Analyte	NEPM Groundwater Investigation Levels (µg/L)		
	Fresh Waters	Marine Waters	Drinking water)
2,4,5-T	36	-	100
Tebuthiuron	2.2	-	-
Temephos	-	0.05	400
Terbacil	-	-	200
Terbufos	-	-	0.9
Terbuthylazine	-	-	10
Terbutryn	-	-	400
Thiobencarb	2.8	-	40
Thiometon	-	-	4
Thiram	0.01	-	7
Toltrazuril	-	-	4
Toxafene	0.1	-	-
Triadimefon	-	-	90
Trichlorfon	-	-	7
Triclopyr	-	-	20
Trifluralin	2.6	-	90
Vernolate	-	-	40
SURFACTANTS			
Linear alkylbenzenesulfonates (LAS)	280	-	-
Alcohol ethoxylated sulfate (AES)	650	-	-
Alcohol ethoxylated surfactants (AE)	140	-	-

Table 7: Health screening levels for asbestos contamination in soil

Form of asbestos	Health Screening Level (w/w)			
	Residential A ¹	Residential B ²	Recreational C ³	Commercial/ Industrial D ⁴
Bonded ACM	0.01%	0.04%	0.02%	0.05%
FA and AF5 (friable asbestos)		0.001%		
All forms of asbestos	No visible asbestos for surface soil			

Notes:

1. Residential A with garden/accessible soil also includes children's day care centres, preschools and primary schools.
2. Residential B with minimal opportunities for soil access; includes dwellings with fully and permanently paved yard space such as high-rise buildings and apartments.
3. Recreational C includes public open space such as parks, playgrounds, playing fields (e.g. ovals), secondary schools and unpaved footpaths.
4. Commercial/Industrial D includes premises such as shops, offices, factories and industrial sites.
5. The screening level of 0.001% w/w asbestos in soil for FA and AF (i.e. non-bonded/friable asbestos) only applies where the FA and AF are able to be quantified by gravimetric procedures (refer Section 4.10). This screening level is not applicable to free fibres.

Table 1: Contaminant threshold values (CT1 & CT2) for classifying waste by chemical assessment without the leaching (TCLP) test

For disposal requirements for organic and inorganic chemical contaminants not listed below, contact DECC. Aluminium, barium, boron, chromium (0 and III oxidation states), cobalt, copper, iron, manganese, vanadium and zinc have not been listed with values in this table and need not be tested for.

	Maximum values of <i>specific contaminant concentration</i> (SCC) for classification without TCLP		
Contaminant	General solid waste¹	Restricted solid waste	CAS Registry Number
	CT1 (mg/kg)	CT2 (mg/kg)	
Arsenic	100	400	
Benzene	10	40	71-43-2
Benzo(a)pyrene ²	0.8	3.2	50-32-8
Beryllium	20	80	
Cadmium	20	80	
Carbon tetrachloride	10	40	56-23-5
Chlorobenzene	2000	8000	108-90-7
Chloroform	120	480	67-66-3
Chlorpyrifos	4	16	2921-88-2
Chromium (VI) ³	100	400	
m-Cresol	4000	16000	108-39-4
o-Cresol	4000	16000	95-48-7
p-Cresol	4000	16000	106-44-5
Cresol (total)	4000	16000	1319-77-3
Cyanide (amenable) ⁴	70	280	
Cyanide (total)	320	1280	
2,4-D	200	800	94-75-7
1,2-Dichlorobenzene	86	344	95-50-1
1,4-Dichlorobenzene	150	600	106-46-7
1,2-Dichloroethane	10	40	107-06-2
1,1-Dichloroethylene	14	56	75-35-4
Dichloromethane	172	688	75-09-2
2,4-Dinitrotoluene	2.6	10.4	121-14-2
Endosulfan ⁵	60	240	See below ⁵
Ethylbenzene	600	2400	100-41-4
Fluoride	3000	12000	
Fluroxypyr	40	160	69377-81-7

	Maximum values of <i>specific contaminant concentration</i> (SCC) for classification without TCLP		
Contaminant	General solid waste¹	Restricted solid waste	CAS Registry Number
	CT1 (mg/kg)	CT2 (mg/kg)	
Lead	100	400	
Mercury	4	16	
Methyl ethyl ketone	4000	16000	78-93-3
Moderately harmful pesticides ⁶ (total)	N/A ⁷	N/A ⁷	See below ⁶
Molybdenum	100	400	
Nickel	40	160	
Nitrobenzene	40	160	98-95-3
C6-C9 petroleum hydrocarbons	N/A ⁷	N/A ⁷	
C10-C36 petroleum hydrocarbons	N/A ⁷	N/A ⁷	
Phenol (non-halogenated)	288	1152	108-95-2
Picloram	60	240	1918-02-1
Plasticiser compounds ⁸	20	80	See below ⁸
Polychlorinated biphenyls	N/A ⁷	N/A ⁷	1336-36-3
Polycyclic aromatic hydrocarbons (total)	N/A ⁷	N/A ⁷	
Scheduled chemicals	N/A ⁷	N/A ⁷	
Selenium	20	80	
Silver	100	400	
Styrene (vinyl benzene)	60	240	100-42-5
Tebuconazole	128	512	107534-96-3
1,2,3,4-Tetrachlorobenzene	10	40	634-66-2
1,1,1,2-Tetrachloroethane	200	800	630-20-6
1,1,2,2-Tetrachloroethane	26	104	79-34-5
Tetrachloroethylene	14	56	127-18-4
Toluene	288	1152	108-88-3
1,1,1-Trichloroethane	600	2400	71-55-6
1,1,2-Trichloroethane	24	96	79-00-5
Trichloroethylene	10	40	79-01-6
2,4,5-Trichlorophenol	8000	32000	95-95-4
2,4,6-Trichlorophenol	40	160	88-06-2

	Maximum values of <i>specific contaminant concentration</i> (SCC) for classification without TCLP		
Contaminant	General solid waste¹	Restricted solid waste	CAS Registry Number
	CT1 (mg/kg)	CT2 (mg/kg)	
Triclopyr	40	160	55335-06-3
Vinyl chloride	4	16	75-01-4
Xylenes (total)	1000	4000	1330-20-7

Notes

1. Values are the same for both general solid waste (putrescible) and general solid waste (non-putrescible).
2. There may be a need for the laboratory to concentrate the sample to achieve the TCLP limit value for benzo(a)pyrene with confidence.
3. These limits apply to chromium in the +6 oxidation state only.
4. Analysis for cyanide (amenable) is the established method for assessing potentially leachable cyanide. DECC may consider other methods if it can be demonstrated that these methods yield the same information.
5. Endosulfan (CAS Registry Number 115-29-7) means the total of Endosulfan I (CAS Registry Number 959-98-8), Endosulfan II (CAS Registry Number 891-86-1) and Endosulfan sulfate (CAS Registry Number 1031-07-8).
6. The following moderately harmful pesticides (CAS Registry Number) are to be included in the total values specified:

Atrazine (1912-24-9), Azoxystrobin (131860-33-8), Bifenthrin (82657-04-3), Brodifacoum (56073-10-0), Carboxin (5234-68-4), Copper naphthenate (1338-02-9), Cyfluthrin (68359-37-5), Cyhalothrin (68085-85-8), Cypermethrin (52315-07-08), Deltamethrin (52918-63-5), Dichlofluanid (1085-98-9), Dichlorvos (62-73-7), Difenoconazole (119446-68-3), Dimethoate (60-51-5), Diquat dibromide (85-00-7), Emamectin benzoate (137515-75-4 & 155569-91-8), Ethion (563-12-2), Fenthion (55-38-9), Fenitrothion (122-14-5), Fipronil (120068-37-3), Fluazifop-P-butyl (79241-46-6), Fludioxonil (131341-86-1), Glyphosate (1071-83-6), Imidacloprid (138261-41-3), Indoxacarb (173584-44-6), Malathion (Maldison) (121-75-5), Metalaxyl (57837-19-1), Metalaxyl-M (70630-17-0), Methidathion (950-37-8), 3-Methyl-4-chlorophenol (59-50-7), Methyl chlorpyrifos (5598-13-0), N-Methyl pyrrolidone (872-50-4), 2-octylthiazol-3-one (26530-20-1), Oxyfluorfen (42874-03-3), Paraquat dichloride (1910-42-5), Parathion methyl (298-00-0), Permethrin (52645-53-1), Profenofos (41198-08-7), Prometryn (7287-19-6), Propargite (2312-35-8), Pentachloronitrobenzene (Quintozone) (82-68-8), Simazine (122-34-9), Thiabendazole (148-79-8), Thiamethoxam (153719-23-4), Thiodicarb (59669-26-0) and Thiram (137-26-8).

7. N/A means not applicable, because these contaminants are only assessed using SCC - see Table 2 for SCC criteria.
8. Plasticiser compounds means the total of di-2-ethyl hexyl phthalate (CAS Registry Number 117-81-7) and di-2-ethyl hexyl adipate (CAS Registry Number 103-23-1) contained within a waste.

Table 2: Leachable concentration (TCLP) and specific contaminant concentration (SCC) values for classifying waste by chemical assessment

For disposal requirements for organic and inorganic chemical contaminants not listed below, contact DECC. Aluminium, barium, boron, chromium (0 and III oxidation states), cobalt, copper, iron, manganese, vanadium and zinc have not been listed with values in this table and need not be tested for.

	Maximum values for <i>leachable concentration</i> and <i>specific contaminant concentration</i> when used together				
	General solid waste ¹		Restricted solid waste		
Contaminant	Leachable concentration	Specific contaminant concentration	Leachable concentration	Specific contaminant concentration	CAS Registry Number
	TCLP1 (mg/L)	SCC1 (mg/kg)	TCLP2 (mg/L)	SCC2 (mg/kg)	
Arsenic	5.0 ²	500	20	2000	
Benzene	0.5 ²	18	2	72	71-43-2
Benzo(a)pyrene ³	0.04 ⁴	10	0.16	23	50-32-8
Beryllium	1.0 ⁵	100	4	400	
Cadmium	1.0 ²	100	4	400	
Carbon tetrachloride	0.5 ²	18	2	72	56-23-5
Chlorobenzene	100 ²	3600	400	14400	108-90-7
Chloroform	6 ²	216	24	864	67-66-3
Chlorpyrifos	0.2	7.5	0.8	30	2921-88-2
Chromium (VI) ⁶	5 ²	1900	20	7600	
m-Cresol	200 ²	7200	800	28800	108-39-4
o-Cresol	200 ²	7200	800	28800	95-48-7
p-Cresol	200 ²	7200	800	28800	106-44-5
Cresol (total)	200 ²	7200	800	28800	1319-77-3
Cyanide (amenable) ^{7, 8}	3.5 ⁷	300	14	1200	
Cyanide (total) ⁷	16 ⁷	5900	64	23600	
2,4-D	10 ²	360	40	1440	94-75-7
1,2-Dichlorobenzene	4.3 ²	155	17.2	620	95-50-1
1,4-Dichlorobenzene	7.5 ²	270	30	1080	106-46-7
1,2-Dichloroethane	0.5 ²	18	2	72	107-06-2
1,1-Dichloro-ethylene	0.7 ²	25	2.8	100	75-35-4
Dichloromethane	8.6 ²	310	34.4	1240	75-09-2

	Maximum values for <i>leachable concentration</i> and <i>specific contaminant concentration</i> when used together				
	General solid waste ¹		Restricted solid waste		
Contaminant	Leachable concentration	Specific contaminant concentration	Leachable concentration	Specific contaminant concentration	CAS Registry Number
	TCLP1 (mg/L)	SCC1 (mg/kg)	TCLP2 (mg/L)	SCC2 (mg/kg)	
2,4-Dinitrotoluene	0.13 ²	4.68	0.52	18.7	121-14-2
Endosulfan ⁹	3	108	12	432	See below ⁹
Ethylbenzene	30 ¹⁰	1080	120	4320	100-41-4
Fluoride	150 ¹⁰	10000	600	40000	
Fluroxypyr	2	75	8	300	69377-81-7
Lead	5 ²	1500	20	6000	
Mercury	0.2 ²	50	0.8	200	
Methyl ethyl ketone	200 ²	7200	800	28800	78-93-3
Moderately harmful pesticides ¹¹ (total)	N/A ¹²	250	N/A ¹²	1000	See below ¹¹
Molybdenum	5 ¹⁰	1000	20	4000	
Nickel	2 ¹⁰	1050	8	4200	
Nitrobenzene	2 ²	72	8	288	98-95-3
C6-C9 petroleum hydrocarbons ¹³	N/A ¹²	650	N/A ¹²	2600	
C10-C36 petroleum hydrocarbons ¹³	N/A ¹²	10000	N/A ¹²	40000	
Phenol (non-halogenated)	14.4 ¹⁴	518	57.6	2073	108-95-2
Picloram	3	110	12	440	1918-02-1
Plasticiser compounds ¹⁵	1	600	4	2400	See below ¹⁵
Polychlorinated biphenyls ¹²	N/A ¹²	< 50	N/A ¹²	< 50	1336-36-3
Polycyclic aromatic hydrocarbons (total) ¹⁶	N/A ¹²	200	N/A ¹²	800	
Scheduled chemicals ¹⁷	N/A ¹²	< 50	N/A ¹²	< 50	See below ¹⁷
Selenium	1 ²	50	4	200	

	Maximum values for <i>leachable concentration</i> and <i>specific contaminant concentration</i> when used together				
	General solid waste ¹		Restricted solid waste		
Contaminant	Leachable concentration	Specific contaminant concentration	Leachable concentration	Specific contaminant concentration	CAS Registry Number
	TCLP1 (mg/L)	SCC1 (mg/kg)	TCLP2 (mg/L)	SCC2 (mg/kg)	
Silver	5.0 ²	180	20	720	
Styrene (vinyl benzene)	3 ¹⁰	108	12	432	100-42-5
Tebuconazole	6.4	230	25.6	920	107534-96-3
1,2,3,4-Tetrachloro-benzene	0.5	18	2	72	634-66-2
1,1,1,2-Tetrachloro-ethane	10 ²	360	40	1440	630-20-6
1,1,2,2-Tetrachloro-ethane	1.3 ²	46.8	5.2	187.2	79-34-5
Tetrachloro-ethylene	0.7 ²	25.2	2.8	100.8	127-18-4
Toluene	14.4 ¹⁴	518	57.6	2073	108-88-3
1,1,1-Trichloroethane	30 ²	1080	120	4320	71-55-6
1,1,2-Trichloroethane	1.2 ²	43.2	4.8	172.8	79-00-5
Trichloroethylene	0.5 ²	18	2	72	79-01-6
2,4,5-Trichlorophenol	400 ²	14400	1600	57600	95-95-4
2,4,6-Trichlorophenol	2 ²	72	8	288	88-06-2
Triclopyr	2	75	8	300	55335-06-3
Vinyl chloride	0.2 ²	7.2	0.8	28.8	75-01-4
Xylenes (total)	50 ¹⁸	1800	200	7200	1330-20-7

Notes

1. Values are the same for general solid waste (putrescible) and general solid waste (non-putrescible).
2. See *Hazardous Waste Management System: Identification and Listing of Hazardous Waste – Toxicity Characteristics Revisions, Final Rule* (USEPA 1990) for TCLP levels.
3. There may be a need for the laboratory to concentrate the sample to achieve the TCLP limit value for benzo(a)pyrene with confidence.

4. Calculated from *Hazardous Waste: Identification and Listing – Proposed Rule* (USEPA 1995)
5. Calculated from 'Beryllium' in *The Health Risk Assessment and Management of Contaminated Sites* (DiMarco & Buckett 1996)
6. These limits apply to chromium in the +6 oxidation state only.
7. Taken from the *Land Disposal Restrictions for Newly Identified and Listed Hazardous Wastes and Hazardous Soil: Proposed Rule* (USEPA 1993)
8. Analysis for cyanide (amenable) is the established method used to assess the potentially leachable cyanide. DECC may consider other methods if it can be demonstrated that these methods yield the same information.
9. Endosulfan (CAS Registry Number 115-29-7) means the total of Endosulfan I (CAS Registry Number 959-98-8), Endosulfan II (CAS Registry Number 891-86-1) and Endosulfan sulfate (CAS Registry Number 1031-07-8).
10. Calculated from *Australian Drinking Water Guidelines* (NHMRC 1994)
11. The following moderately harmful pesticides (CAS Registry Number) are to be included in the total values specified:

Atrazine (1912-24-9), Azoxystrobin (131860-33-8), Bifenthrin (82657-04-3), Brodifacoum (56073-10-0), Carboxin (5234-68-4), Copper naphthenate (1338-02-9), Cyfluthrin (68359-37-5), Cyhalothrin (68085-85-8), Cypermethrin (52315-07-08), Deltamethrin (52918-63-5), Dichlofluanid (1085-98-9), Dichlorvos (62-73-7), Difenconazole (119446-68-3), Dimethoate (60-51-5), Diquat dibromide (85-00-7), Emamectin benzoate (137515-75-4 & 155569-91-8), Ethion (563-12-2), Fenthion (55-38-9), Fenitrothion (122-14-5), Fipronil (120068-37-3), Fluazifop-P-butyl (79241-46-6), Fludioxonil (131341-86-1), Glyphosate (1071-83-6), Imidacloprid (138261-41-3), Indoxacarb (173584-44-6), Malathion (Maldison) (121-75-5), Metalaxyl (57837-19-1), Metalaxyl-M (70630-17-0), Methidathion (950-37-8), 3-Methyl-4-chlorophenol (59-50-7), Methyl chlorpyrifos (5598-13-0), N-Methyl pyrrolidone (872-50-4), 2-octylthiazol-3-one (26530-20-1), Oxyfluorfen (42874-03-3), Paraquat dichloride (1910-42-5), Parathion methyl (298-00-0), Permethrin (52645-53-1), Profenofos (41198-08-7), Prometryn (7287-19-6), Propargite (2312-35-8), Pentachloronitrobenzene (Quintozone) (82-68-8), Simazine (122-34-9), Thiabendazole (148-79-8), Thiamethoxam (153719-23-4), Thiodicarb (59669-26-0) and Thiram (137-26-8).
12. No TCLP analysis is required. Moderately harmful pesticides, petroleum hydrocarbons, polychlorinated biphenyls, polycyclic aromatic hydrocarbons and scheduled chemicals are assessed using SCC1 and SCC2.
13. Approximate range of petroleum hydrocarbon fractions: petrol C6-C9, kerosene C10-C18, diesel C12-C18, and lubricating oils above C18. Laboratory results are reported as four different fractions: C6-C9, C10-C14, C15-C28 and C29-C36. The results of total petroleum hydrocarbons (C10-C36) analyses are reported as a sum of the relevant three fractions. Please note that hydrocarbons are defined as molecules that only contain carbon and hydrogen atoms. Prior to TPH (C10-C36) analysis, cleanup may be necessary to remove non-petroleum hydrocarbon compounds. Where the presence of other materials that will interfere with the analysis may be present, such as oils and fats from food sources, you are advised to treat the extract that has been solvent exchanged to hexane with silica gel as described in *USEPA Method 1664A* (USEPA 1999).
14. Proposed level for phenol and toluene in *Hazardous Waste Management System: Identification and Listing of Hazardous Waste – Toxicity Characteristics Revisions, Final Rule* (USEPA 1990)
15. Plasticiser compounds means the total of di-2-ethyl hexyl phthalate (CAS Registry Number 117-81-7) and di-2-ethyl hexyl adipate (CAS Registry Number 103-23-1) contained within a waste.

16. The following polycyclic aromatic hydrocarbons (CAS number) are assessed as the total concentration of 16 USEPA Priority Pollutant PAHs, as follows:

Polycyclic aromatic hydrocarbons (total)			
PAH name	CAS Registry Number	PAH name	CAS Registry Number
Acenaphthene	83-32-9	Chrysene	218-01-9
Acenaphthylene	208-96-8	Dibenzo(a,h)anthracene	53-70-3
Anthracene	120-12-7	Fluoranthene	206-44-0
Benzo(a)anthracene	56-55-3	Fluorene	86-73-7
Benzo(a)pyrene	50-32-8	Indeno(1,2,3-cd)pyrene	193-39-5
Benzo(b)fluoranthene	205-99-2	Naphthalene	91-20-3
Benzo(ghi)perylene	191-24-2	Phenanthrene	85-01-8
Benzo(k)fluoranthene	207-08-9	Pyrene	129-00-0

17. The following Scheduled Chemicals (CAS Registry Number) are to be included in the total values specified:

Aldrin (309-00-2), Alpha-BHC (319-84-6), Beta-BHC (319-85-7), Gamma-BHC (Lindane) (58-89-9), Delta-BHC (319-86-8), Chlordane (57-74-9), DDD (72-54-8), DDE (72-55-9), DDT (50-29-3), Dieldrin (60-57-1), Endrin (72-20-8), Endrin aldehyde (7421-93-4), Heptachlor (76-44-8), Heptachlor epoxide (1024-57-3), Hexachlorobenzene (118-74-1), Hexachlorophene (70-30-4), Isodrin (465-73-6), Pentachlorobenzene (608-93-5), Pentachloronitrobenzene (82-68-8), Pentachlorophenol (87-86-5), 1,2,4,5-Tetrachlorobenzene (95-94-3), 2,3,4,6 Tetrachlorophenol (58-90-2), 1,2,4-Trichlorobenzene (120-82-1), 2,4,5-Trichlorophenoxyacetic acid, salts and esters (93-76-5).

18. Calculated from *Guidelines for Drinking Water Quality* (WHO 1993)

Table 3: Summary of criteria for chemical assessment to determine waste classification

Waste classification¹	Criteria² for classification by chemical assessment (any of the alternative options given)	Comments
General solid waste	1. SCC test values $\leq$ CT1	TCLP test not required
	2. TCLP test values $\leq$ TCLP1 and SCC test values $\leq$ SCC1	
	3. TCLP test values $\leq$ TCLP1 and SCC test values $>$ SCC1 and DECC approves immobilisation ³	Without DECC approval of immobilisation, classify as restricted solid or hazardous (as applicable)
Restricted solid waste	1. SCC test values $\leq$ CT2	TCLP test not required
	2. TCLP1 $<$ TCLP test values $\leq$ TCLP2 and SCC test values $\leq$ SCC2	
	3. TCLP test values $\leq$ TCLP2 and SCC1 $<$ SCC test values $\leq$ SCC2	
	4. TCLP1 $<$ TCLP test values $\leq$ TCLP2 and SCC test values $>$ SCC2 and DECC approves immobilisation ³	Without DECC approval of immobilisation, classify as hazardous
Hazardous waste	1. TCLP test values $>$ TCLP 2	
	2. TCLP test values $\leq$ TCLP2 and SCC test values $>$ SCC2 and no DECC approval for immobilisation	

Notes:

1. See also the general waste classification principles on page 2 for other criteria that must be satisfied before the waste can be classified.
2. These criteria apply to each toxic and ecotoxic contaminant present in the waste (see Tables 1 and 2).
3. In certain cases DECC will consider specific conditions, such as segregation of the waste from all other types of waste in a monofill or monocell in order to achieve a greater margin of safety against a possible failure of the immobilisation in the future. Information about the construction and operation of a monofill/monocell is available in the *Draft Environmental Guidelines for Industrial Waste Landfilling* (EPA 1998).

APPENDIX K

BOREHOLE & GROUNDWATER LOGS





Aargus

BOREHOLE NUMBER BH1

PAGE 1 OF 1

CLIENT E & D Danias Pty Ltd

PROJECT NAME Detailed Site Investigation

PROJECT NUMBER ES5611-2

PROJECT LOCATION Victoria & Faversham Streets, Marrickville NSW

DATE STARTED 10/15/13

COMPLETED 10/15/13

R.L. SURFACE

DATUM

DRILLING CONTRACTOR Aargus

SLOPE 90°

BEARING ---

EQUIPMENT Drill Rig / Concrete Corer

HOLE LOCATION

HOLE SIZE 100mm

LOGGED BY MM

CHECKED BY MK

NOTES

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture	Cons./Dens.	Additional Observations
DT					C	Concrete				No hydrocarbon odour, no hydrocarbon staining, no fibro-cement material observed
AST					F	Fill: Silty Sandy Clay, low plasticity, dark grey		M	F	
					F	Fill: Silty Clay, medium plasticity, green, grey with red mottling, traces of sitstone gravels		M	F	
			0.5							No hydrocarbon odour, no hydrocarbon staining, no fibro-cement material observed
			1.0		CI-CH	Silty CLAY, medium to high plasticity, dark grey with red mottling		M	F	No hydrocarbon odour, no hydrocarbon staining, no fibro-cement material observed
			1.5							
						Borehole BH1 terminated at 1.6m				



Aargus

BOREHOLE NUMBER BH10

PAGE 1 OF 1

CLIENT E & D Danias Pty Ltd PROJECT NAME Detailed Site Investigation
PROJECT NUMBER ES5611-2 PROJECT LOCATION Victoria & Faversham Streets, Marrickville NSW
DATE STARTED 10/16/13 COMPLETED 10/16/13 R.L. SURFACE _____ DATUM _____
DRILLING CONTRACTOR Aargus SLOPE 90° BEARING ---
EQUIPMENT Drill Rig / Concrete Corer HOLE LOCATION _____
HOLE SIZE 100mm LOGGED BY MS CHECKED BY MK

NOTES

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture	Cons./Dens.	Additional Observations
AST					F	Fill: Silty Clay, low plasticity, brown to dark brown, traces of angular gravel, glass, concrete & sandstone		D	Fb	
			0.5							No hydrocarbon odour, no hydrocarbon staining, no fibro-cement material observed
					CI-CH	Silty CLAY, medium to high plasticity, yellow, brown & grey		M-W	S-VS	
			1.0							No hydrocarbon odour, no hydrocarbon staining, no fibro-cement material observed
						Borehole BH10 terminated at 1m				



Aargus

BOREHOLE NUMBER BH11

PAGE 1 OF 1

CLIENT E & D Danias Pty Ltd

PROJECT NAME Detailed Site Investigation

PROJECT NUMBER ES5611-2

PROJECT LOCATION Victoria & Faversham Streets, Marrickville NSW

DATE STARTED 10/16/13

COMPLETED 10/16/13

R.L. SURFACE

DATUM

DRILLING CONTRACTOR Aargus

SLOPE 90°

BEARING ---

EQUIPMENT Hand Auger

HOLE LOCATION

HOLE SIZE 50mm

LOGGED BY MS

CHECKED BY MK

NOTES

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture	Cons./Dens.	Additional Observations
HA					F	Fill: Silty Sandy Clay, low plasticity, light brown to brown/ red, with angular gravels, ash, charcoal, bitumen & concrete gravels		D	Fb	
			0.5				D4			No hydrocarbon odour, no hydrocarbon staining, no fibro-cement material observed
					CI-CH	Silty CLAY, medium to high plasticity, yellow, brown & grey		M-W	S	No hydrocarbon odour, no hydrocarbon staining, no fibro-cement material observed
			1.0			Borehole BH11 terminated at 0.9m				



Aargus

BOREHOLE NUMBER BH12

PAGE 1 OF 1

CLIENT E & D Danias Pty Ltd

PROJECT NAME Detailed Site Investigation

PROJECT NUMBER ES5611-2

PROJECT LOCATION Victoria & Faversham Streets, Marrickville NSW

DATE STARTED 10/16/13

COMPLETED 10/16/13

R.L. SURFACE

DATUM

DRILLING CONTRACTOR Aargus

SLOPE 90°

BEARING ---

EQUIPMENT Hand Auger

HOLE LOCATION

HOLE SIZE 50mm

LOGGED BY MS

CHECKED BY MK

NOTES

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture	Cons./Dens.	Additional Observations
HA					F	Fill: Silty Sandy Clay, low plasticity, light brown to brown/ red, with angular gravels, ash, charcoal, bitumen & concrete gravels		D	Fb	
			0.5							No hydrocarbon odour, no hydrocarbon staining, no fibro-cement material observed
					CI-CH	Silty CLAY, medium to high plasticity, yellow, brown & grey		M-W	S	No hydrocarbon odour, no hydrocarbon staining, no fibro-cement material observed
			1.0			Borehole BH12 terminated at 0.9m				



Aargus

BOREHOLE NUMBER BH13

PAGE 1 OF 1

CLIENT E & D Danias Pty Ltd

PROJECT NAME Detailed Site Investigation

PROJECT NUMBER ES5611-2

PROJECT LOCATION Victoria & Faversham Streets, Marrickville NSW

DATE STARTED 10/16/13

COMPLETED 10/16/13

R.L. SURFACE

DATUM

DRILLING CONTRACTOR Aargus

SLOPE 90°

BEARING ---

EQUIPMENT Drill Rig / Concrete Corer

HOLE LOCATION

HOLE SIZE 100mm

LOGGED BY MS

CHECKED BY MK

NOTES

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture	Cons./Dens.	Additional Observations
DT					C	Concrete				
AST			0.5		F	Fill: Silty Clay, low plasticity, brown to dark brown, traces of angular gravel, glass, concrete & sandstone		D	F	No hydrocarbon odour, no hydrocarbon staining, no fibro-cement material observed
			1.0		CI	Silty CLAY, medium plasticity, red, brown & grey, traces of siltstone & shale mottling		M	F	No hydrocarbon odour, no hydrocarbon staining, no fibro-cement material observed
						Borehole BH13 terminated at 1m				



Aargus

BOREHOLE NUMBER BH14

PAGE 1 OF 1

CLIENT E & D Danias Pty Ltd

PROJECT NAME Detailed Site Investigation

PROJECT NUMBER ES5611-2

PROJECT LOCATION Victoria & Faversham Streets, Marrickville NSW

DATE STARTED 10/16/13

COMPLETED 10/16/13

R.L. SURFACE

DATUM

DRILLING CONTRACTOR Aargus

SLOPE 90°

BEARING ---

EQUIPMENT Drill Rig / Concrete Corer

HOLE LOCATION

HOLE SIZE 100mm

LOGGED BY MS

CHECKED BY MK

NOTES

Method	Water	Well Details	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture	Cons./Dens.	Additional Observations
DT						C	Concrete				
AST				0.5		F	Fill: Silty Clay, low to medium plasticity, orange & brown, traces of angular gravels		M	S	No hydrocarbon odour, no hydrocarbon staining, no fibro-cement material observed
				1.0		CI-CH	Silty CLAY, medium to high plasticity, orange & brown		M	S	No hydrocarbon odour, no hydrocarbon staining, no fibro-cement material observed
				1.5		CI-CH	CLAY, medium to high plasticity, red, brown & grey, traces of shale mottling & siltstone		M	S	No hydrocarbon odour, no hydrocarbon staining, no fibro-cement material observed
				2.0							
				2.5							
				3.0		CL-CI	CLAY, low to medium plasticity, grey, red, yellow, brown, traces of shale mottling & weathered siltstone		M	S	
				3.5							
				4.0							
				4.5							
				5.0							
				5.5			Borehole BH14 terminated at 5.5m				



Aargus

BOREHOLE NUMBER BH15

PAGE 1 OF 1

CLIENT E & D Danias Pty Ltd

PROJECT NAME Detailed Site Investigation

PROJECT NUMBER ES5611-2

PROJECT LOCATION Victoria & Faversham Streets, Marrickville NSW

DATE STARTED 10/16/13

COMPLETED 10/16/13

R.L. SURFACE

DATUM

DRILLING CONTRACTOR Aargus

SLOPE 90°

BEARING ---

EQUIPMENT Drill Rig / Concrete Corer

HOLE LOCATION

HOLE SIZE 100mm

LOGGED BY MS

CHECKED BY MK

NOTES

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture	Cons./Dens.	Additional Observations
DT					C	Concrete				
AST					F	Fill: Silty Sandy Clay, low plasticity, light brown to brown/ red, with angular gravels, ash, charcoal, bitumen & concrete gravels		M	S	
			0.5		CI-CH	Silty CLAY, medium to high plasticity, yellow, brown & grey		W	S	
			1.0			Borehole BH15 terminated at 1m				

D3 & SS3

No hydrocarbon odour, no hydrocarbon staining, no fibro-cement material observed

No hydrocarbon odour, no hydrocarbon staining, no fibro-cement material observed



Aargus

BOREHOLE NUMBER BH16

PAGE 1 OF 1

CLIENT E & D Danias Pty Ltd

PROJECT NAME Detailed Site Investigation

PROJECT NUMBER ES5611-2

PROJECT LOCATION Victoria & Faversham Streets, Marrickville NSW

DATE STARTED 10/16/13

COMPLETED 10/16/13

R.L. SURFACE

DATUM

DRILLING CONTRACTOR Aargus

SLOPE 90°

BEARING ---

EQUIPMENT Drill Rig / Concrete Corer

HOLE LOCATION

HOLE SIZE 100mm

LOGGED BY MS

CHECKED BY MK

NOTES

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture	Cons./Dens.	Additional Observations
DT					C	Concrete				
AST					F	Fill: Silty Clay, low plasticity, brown to dark brown, traces of angular gravel, glass, concrete & sandstone		M	F	
			0.5		CI	Silty CLAY, medium plasticity, red, brown & grey, traces of siltstone & shale mottling		M-W	S	No hydrocarbon odour, no hydrocarbon staining, no fibro-cement material observed
			1.0							No hydrocarbon odour, no hydrocarbon staining, no fibro-cement material observed
						Borehole BH16 terminated at 1m				



Aargus

BOREHOLE NUMBER BH17

PAGE 1 OF 1

CLIENT E & D Danias Pty Ltd

PROJECT NAME Detailed Site Investigation

PROJECT NUMBER ES5611-2

PROJECT LOCATION Victoria & Faversham Streets, Marrickville NSW

DATE STARTED 10/17/13

COMPLETED 10/17/13

R.L. SURFACE

DATUM

DRILLING CONTRACTOR Aargus

SLOPE 90°

BEARING ---

EQUIPMENT Drill Rig / Concrete Corer

HOLE LOCATION

HOLE SIZE 100mm

LOGGED BY MS

CHECKED BY MK

NOTES

Method	Water	Well Details	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture	Cons./Dens.	Additional Observations
AST				0.5		F	Fill: Silty Clay, low plasticity, red & brown, traces of angular gravels & blue metal		D	F	No hydrocarbon odour, no hydrocarbon staining, no fibro-cement material observed
				1.0		CL	Silty CLAY, low plasticity, red, brown & grey		D	F	No hydrocarbon odour, no hydrocarbon staining, no fibro-cement material observed
				1.5		CL	Silty CLAY, low plasticity, red, brown & grey, traces of shale mottling		D-M	Fb-F	No hydrocarbon odour, no hydrocarbon staining, no fibro-cement material observed
				2.0							
				2.5							
				3.0							
				3.5		Shale	Weathered Shale, grey, traces of clay		M	Fb	
				4.0							
				4.5			Borehole BH17 terminated at 4.5m				



Aargus

BOREHOLE NUMBER BH18

PAGE 1 OF 1

CLIENT E & D Danias Pty LtdPROJECT NAME Detailed Site InvestigationPROJECT NUMBER ES5611-2PROJECT LOCATION Victoria & Faversham Streets, Marrickville NSWDATE STARTED 10/16/13COMPLETED 10/16/13

R.L. SURFACE _____

DATUM _____

DRILLING CONTRACTOR AargusSLOPE 90°BEARING ---EQUIPMENT Drill Rig / Concrete Corer

HOLE LOCATION _____

HOLE SIZE 100mmLOGGED BY MSCHECKED BY MK

NOTES _____

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture	Cons./Dens.	Additional Observations
DT					C	Concrete				
AST			0.5		F	Fill: Silty Sandy Clay, low plasticity, light brown to brown/ red, with angular gravels, ash, charcoal, bitumen & concrete gravels		M	S	No hydrocarbon odour, hydrocarbon staining, no fibro-cement material observed
			1.0			Due to refusal on fill / concrete Borehole BH18 terminated at 0.8m				No hydrocarbon odour, hydrocarbon staining, no fibro-cement material observed
			1.5							



Aargus

BOREHOLE NUMBER BH19

PAGE 1 OF 1

CLIENT E & D Danias Pty Ltd

PROJECT NAME Detailed Site Investigation

PROJECT NUMBER ES5611-2

PROJECT LOCATION Victoria & Faversham Streets, Marrickville NSW

DATE STARTED 10/16/13

COMPLETED 10/16/13

R.L. SURFACE

DATUM

DRILLING CONTRACTOR Aargus

SLOPE 90°

BEARING ---

EQUIPMENT Drill Rig / Concrete Corer

HOLE LOCATION

HOLE SIZE 100mm

LOGGED BY MS

CHECKED BY MK

NOTES

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture	Cons./Dens.	Additional Observations
DT					C	Concrete				
AST			0.5		F	Fill: Silty Sandy Clay, low plasticity, light brown to brown/ red, with angular gravels, bricks, ash, charcoal, bitumen & concrete gravels		M	Fb	No hydrocarbon odour, no hydrocarbon staining, no fibro-cement material observed
			1.0			Due to refusal on fill Borehole BH19 terminated at 0.5m				



Aargus

BOREHOLE NUMBER BH2

PAGE 1 OF 1

CLIENT E & D Danias Pty Ltd

PROJECT NAME Detailed Site Investigation

PROJECT NUMBER ES5611-2

PROJECT LOCATION Victoria & Faversham Streets, Marrickville NSW

DATE STARTED 10/15/13

COMPLETED 10/15/13

R.L. SURFACE

DATUM

DRILLING CONTRACTOR Aargus

SLOPE 90°

BEARING ---

EQUIPMENT Drill Rig / Concrete Corer

HOLE LOCATION

HOLE SIZE 100mm

LOGGED BY MM

CHECKED BY MK

NOTES

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture	Cons./Dens.	Additional Observations
DT					C	Concrete				No hydrocarbon odour, no hydrocarbon staining, no fibro-cement material observed
AST					F	Fill: Silty Gravelly Sand, coarse grained, grey		M	Fb	
			0.5		F	Fill: Silty Clay, medium plasticity, dark grey		M	S	No hydrocarbon odour, no hydrocarbon staining, no fibro-cement material observed
			1.0							No hydrocarbon odour, no hydrocarbon staining, no fibro-cement material observed
			1.5		CI-CH	Silty CLAY, medium to high plasticity, grey with red mottling, traces of silstone & gravel		M	F	
						Borehole BH2 terminated at 1.6m				



Aargus

BOREHOLE NUMBER BH20

PAGE 1 OF 1

CLIENT E & D Danias Pty Ltd

PROJECT NAME Detailed Site Investigation

PROJECT NUMBER ES5611-2

PROJECT LOCATION Victoria & Faversham Streets, Marrickville NSW

DATE STARTED 10/17/13

COMPLETED 10/17/13

R.L. SURFACE

DATUM

DRILLING CONTRACTOR Aargus

SLOPE 90°

BEARING ---

EQUIPMENT Drill Rig / Concrete Corer

HOLE LOCATION

HOLE SIZE 100mm

LOGGED BY MS

CHECKED BY MK

NOTES

Method	Water	Well Details	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture	Cons./Dens.	Additional Observations
DT						C	Concrete				
AST				0.5		F	Fill: Silty Sandy Clay, low to medium plasticity, brown & orange, traces of gravel & concrete		M	S	No hydrocarbon odour, no hydrocarbon staining, no fibro-cement material observed
				1.0		F	Fill: Silty Clay, low plasticity, brown, traces of gravel & bitumen		M	S	No hydrocarbon odour, no hydrocarbon staining, no fibro-cement material observed
				1.5		CL-CI	Silty CLAY, low to medium plasticity, brown, red, orange & grey, traces of shale mottling		D-M	S	
				2.0							
				2.5							No hydrocarbon odour, no hydrocarbon staining, no fibro-cement material observed
				3.0							
				3.5		CL-CH	CLAY, medium to high plasticity, yellow, brown, white, traces of shale mottling		W	VS	
				4.0							
				4.5							
				5.0							
				5.5			Borehole BH20 terminated at 5.5m				



Aargus

BOREHOLE NUMBER BH21

PAGE 1 OF 1

CLIENT E & D Danias Pty Ltd

PROJECT NAME Detailed Site Investigation

PROJECT NUMBER ES5611-2

PROJECT LOCATION Victoria & Faversham Streets, Marrickville NSW

DATE STARTED 10/16/13

COMPLETED 10/16/13

R.L. SURFACE

DATUM

DRILLING CONTRACTOR Aargus

SLOPE 90°

BEARING ---

EQUIPMENT Drill Rig / Concrete Corer

HOLE LOCATION

HOLE SIZE 100mm

LOGGED BY MS

CHECKED BY MK

NOTES

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture	Cons./Dens.	Additional Observations
DT					C	Concrete				
AST					F	Fill: Silty Sandy Clay, low plasticity, light brown to brown/ red, with angular gravels, bricks, ash, charcoal, bitumen & concrete gravels		M	S	
			0.5							No hydrocarbon odour, no hydrocarbon staining, no fibro-cement material observed
			1.0			Due to refusal on fill Borehole BH21 terminated at 0.6m				



Aargus

BOREHOLE NUMBER BH22

PAGE 1 OF 1

CLIENT E & D Danias Pty Ltd

PROJECT NAME Detailed Site Investigation

PROJECT NUMBER ES5611-2

PROJECT LOCATION Victoria & Faversham Streets, Marrickville NSW

DATE STARTED 10/16/13

COMPLETED 10/16/13

R.L. SURFACE

DATUM

DRILLING CONTRACTOR Aargus

SLOPE 90°

BEARING ---

EQUIPMENT Hand Auger

HOLE LOCATION

HOLE SIZE 50mm

LOGGED BY MS

CHECKED BY MK

NOTES

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture	Cons./Dens.	Additional Observations
AST			0.5		F	Fill: Silty Sandy Clay, low plasticity, light brown to brown/ red, with angular gravels, ash, charcoal, bitumen & concrete gravels		D	F	No hydrocarbon odour, no hydrocarbon staining, no fibro-cement material observed
			1.0			Due to refusal on fill Borehole BH22 terminated at 0.5m				



Aargus

BOREHOLE NUMBER BH3

PAGE 1 OF 1

CLIENT E & D Danias Pty Ltd

PROJECT NAME Detailed Site Investigation

PROJECT NUMBER ES5611-2

PROJECT LOCATION Victoria & Faversham Streets, Marrickville NSW

DATE STARTED 10/15/13

COMPLETED 10/15/13

R.L. SURFACE

DATUM

DRILLING CONTRACTOR Aargus

SLOPE 90°

BEARING ---

EQUIPMENT Drill Rig / Concrete Corer

HOLE LOCATION

HOLE SIZE 100mm

LOGGED BY MS

CHECKED BY MK

NOTES

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture	Cons./Dens.	Additional Observations
AST					F	Fill: Silty Gravel, medium, grey		D	Fb	No hydrocarbon odour, no hydrocarbon staining, no fibro-cement material observed
					F	Fill: Silty Clay, medium plasticity, green & grey with red mottling, traces of siltstone gravels		M	F	
			0.5		CI-CL	Silty CLAY, medium to high plasticity, grey with red mottling, traces of siltstone gravel		M	F	No hydrocarbon odour, no hydrocarbon staining, no fibro-cement material observed
			1.0							No hydrocarbon odour, no hydrocarbon staining, no fibro-cement material observed
			1.5							
						Borehole BH3 terminated at 1.6m				



Aargus

BOREHOLE NUMBER BH4

PAGE 1 OF 1

CLIENT E & D Danias Pty LtdPROJECT NAME Detailed Site InvestigationPROJECT NUMBER ES5611-2PROJECT LOCATION Victoria & Faversham Streets, Marrickville NSWDATE STARTED 10/16/13COMPLETED 10/16/13

R.L. SURFACE _____

DATUM _____

DRILLING CONTRACTOR AargusSLOPE 90°BEARING ---EQUIPMENT Drill Rig / Concrete Corer

HOLE LOCATION _____

HOLE SIZE 100mmLOGGED BY MSCHECKED BY MK**NOTES**

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture	Cons./Dens.	Additional Observations
DT					C	Concrete				
AST					F	Fill: Silty Sandy Clay, low plasticity, light brown to brown/ red, with angular gravels, ash, charcoal, bitumen & concrete gravels		M	S	
			0.5							No hydrocarbon odour, no hydrocarbon staining, no fibro-cement material observed
					CI-CH	Silty CLAY, medium to high plasticity, yellow, brown & grey		M-W	VS	
			1.0							No hydrocarbon odour, no hydrocarbon staining, no fibro-cement material observed
						Borehole BH4 terminated at 1m				



Aargus

BOREHOLE NUMBER BH5

PAGE 1 OF 1

CLIENT E & D Danias Pty Ltd

PROJECT NAME Detailed Site Investigation

PROJECT NUMBER ES5611-2

PROJECT LOCATION Victoria & Faversham Streets, Marrickville NSW

DATE STARTED 10/16/13

COMPLETED 10/16/13

R.L. SURFACE

DATUM

DRILLING CONTRACTOR Aargus

SLOPE 90°

BEARING ---

EQUIPMENT Hand Auger

HOLE LOCATION

HOLE SIZE 50mm

LOGGED BY MS

CHECKED BY MK

NOTES

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture	Cons./Dens.	Additional Observations
HA					F	Fill: Silty Clay, low plasticity, brown to dark brown, traces of angular gravel, glass, concrete & sandstone		D	Fb	
			0.5							No hydrocarbon odour, hydrocarbon staining, no fibro-cement material observed
					CI-CH	Silty CLAY, medium to high plasticity, yellow, brown & grey		M	S	
			1.0							No hydrocarbon odour, no hydrocarbon staining, no fibro-cement material observed
						Borehole BH5 terminated at 1m				
			1.5							



Aargus

BOREHOLE NUMBER BH6

PAGE 1 OF 1

CLIENT E & D Danias Pty Ltd

PROJECT NAME Detailed Site Investigation

PROJECT NUMBER ES5611-2

PROJECT LOCATION Victoria & Faversham Streets, Marrickville NSW

DATE STARTED 10/16/13

COMPLETED 10/16/13

R.L. SURFACE

DATUM

DRILLING CONTRACTOR Aargus

SLOPE 90°

BEARING ---

EQUIPMENT Hand Auger

HOLE LOCATION

HOLE SIZE 50mm

LOGGED BY MS

CHECKED BY MK

NOTES

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture	Cons./Dens.	Additional Observations
HA					F	Fill: Silty Clay, low plasticity, brown to dark brown, traces of angular gravel, glass, concrete & sandstone		D	Fb	No hydrocarbon odour, hydrocarbon staining, no fibro-cement material observed
			0.5							
					CI-CH	Silty CLAY, medium to high plasticity, yellow, brown & grey		M	S	No hydrocarbon odour, hydrocarbon staining, no fibro-cement material observed
			1.0							
						Borehole BH6 terminated at 1.1m				



Aargus

BOREHOLE NUMBER BH7

PAGE 1 OF 1

CLIENT E & D Danias Pty Ltd

PROJECT NAME Detailed Site Investigation

PROJECT NUMBER ES5611-2

PROJECT LOCATION Victoria & Faversham Streets, Marrickville NSW

DATE STARTED 10/16/13

COMPLETED 10/16/13

R.L. SURFACE

DATUM

DRILLING CONTRACTOR Aargus

SLOPE 90°

BEARING ---

EQUIPMENT Hand Auger

HOLE LOCATION

HOLE SIZE 50mm

LOGGED BY MS

CHECKED BY MK

NOTES

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture	Cons./Dens.	Additional Observations
HA					F	Fill: Silty Sandy Clay, low plasticity, light brown to brown/ red, with angular gravels, ash, charcoal, bitumen & concrete gravels		D	Fb	
			0.5							No hydrocarbon odour, hydrocarbon staining, no fibro-cement material observed
			1.0		CI-CH	Silty CLAY, medium to high plasticity, yellow, brown & grey		M-W	VS	No hydrocarbon odour, hydrocarbon staining, no fibro-cement material observed
						Borehole BH7 terminated at 1.3m				



Aargus

BOREHOLE NUMBER BH8

PAGE 1 OF 1

CLIENT E & D Danias Pty Ltd

PROJECT NAME Detailed Site Investigation

PROJECT NUMBER ES5611-2

PROJECT LOCATION Victoria & Faversham Streets, Marrickville NSW

DATE STARTED 10/16/13

COMPLETED 10/16/13

R.L. SURFACE

DATUM

DRILLING CONTRACTOR Aargus

SLOPE 90°

BEARING ---

EQUIPMENT Hand Auger

HOLE LOCATION

HOLE SIZE 50mm

LOGGED BY MS

CHECKED BY MK

NOTES

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture	Cons./Dens.	Additional Observations
HA					F	Fill: Silt, light brown, traces of angular gravels, concrete, river pebbles & organic matter		D	Fb	No hydrocarbon odour, no hydrocarbon staining, no fibro-cement material observed
			0.5			Due to refusal on fill Borehole BH8 terminated at 0.3m				
			1.0							



Aargus

BOREHOLE NUMBER BH9

PAGE 1 OF 1

CLIENT E & D Danias Pty Ltd

PROJECT NAME Detailed Site Investigation

PROJECT NUMBER ES5611-2

PROJECT LOCATION Victoria & Faversham Streets, Marrickville NSW

DATE STARTED 10/16/13

COMPLETED 10/16/13

R.L. SURFACE

DATUM

DRILLING CONTRACTOR Aargus

SLOPE 90°

BEARING ---

EQUIPMENT Drill Rig / Concrete Corer

HOLE LOCATION

HOLE SIZE 100mm

LOGGED BY MS

CHECKED BY MK

NOTES

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Moisture	Cons./Dens.	Additional Observations
AST					F	Fill: Silty Clay, low plasticity, brown to dark brown, traces of angular gravel, glass, concrete & sandstone		D	Fb	
			0.5							No hydrocarbon odour, no hydrocarbon staining, no fibro-cement material observed
					CI-CH	Silty CLAY, medium to high plasticity, yellow, brown & grey		M-W	S	No hydrocarbon odour, no hydrocarbon staining, no fibro-cement material observed
			1.0							
						Borehole BH9 terminated at 1m				

APPENDIX L

FIELD RECORD FORMS



Aargus Pty Ltd

Sampling & Monitoring Details for Individual Determinants

Location/Address: Wicks Park Mansfield
Name of Officer Responsible: Michael Smith
Title of Officer Responsible: Enviro Sci
Phone: _____ Fax: _____
Mobile: 0425 384 390 Other: _____

Other persons involved in inspection & monitoring (including laboratories, passed on information, electronic readings, etc) Ben Gahlin - Dole

Date of Inspection: 16/10/13 Time of Start: 7:30 Finish: 3pm
Description of Weather: Bko Wind Direction: _____
Wind Speed: _____ Rainfall(mm): _____ Humidity: _____

Odours present Y/N Location: _____ Time: _____
Odours spraying Y/N Location: _____ Time: _____
Environmental &/or other accidents/concerns:(details) _____

Installing wells & soil sampling

Actions: _____

Stormwater controls Y/N _____ Location(s): _____ Time: _____

Dust suppression Y/N _____ Location(s): _____ Time: _____

Traffic control Y/N _____ Location(s): _____ Time: _____

Equipment on site: _____

- Hand Auger

- Concrete Corer

- Drill Rig

- Esky's

- Jars

Truck movement tally: N/A

Field Measurements

Location	PID level	Location	PID level	Location	PID level	Location	PID level
Location	PID level	Location	PID level	Location	PID level	Location	PID level
Location	PID level	Location	PID level	Location	PID level	Location	PID level
Location	PID level	Location	PID level	Location	PID level	Location	PID level
Location	PID level	Location	PID level	Location	PID level	Location	PID level
Location	Other	Location	Other	Location	Other	Location	Other
Location	Other	Location	Other	Location	Other	Location	Other
Location	Other	Location	Other	Location	Other	Location	Other
Location	Other	Location	Other	Location	Other	Location	Other

Aargus Pty Ltd

Sampling & Monitoring Details for Individual Determinants

Location/Address: Wicks Park Maridunville
Name of Officer Responsible: Michael Sile
Title of Officer Responsible: Enviro Sci
Phone: _____ Fax: _____
Mobile: 0425 344 390 Other: _____

Other persons involved in inspection & monitoring (including laboratories, passed on information, electronic readings, etc) Ben Galvin - Driller

Date of Inspection: 17/10/13 Time of Start: 7:30 Finish: 4pm
Description of Weather: Fine Wind Direction: _____
Wind Speed: _____ Rainfall(mm): _____ Humidity: _____

Odours present Y/N ☒ Location: _____ Time: _____
Odours spraying Y/N ☒ Location: _____ Time: _____
Environmental &/or other accidents/concerns:(details) _____

Installing wells & soil sampling

Actions: _____

Stormwater controls Y ☒ Location(s): _____ Time: _____

Dust suppression Y ☒ Location(s): _____ Time: _____

Traffic control Y ☒ Location(s): _____ Time: _____

Equipment on site: _____

— Concrete Toner

— Drill Rig

— Hand Auger

Truck movement tally: N/A

Field Measurements

Location	PID level	Location	PID level	Location	PID level	Location	PID level
Location	PID level	Location	PID level	Location	PID level	Location	PID level
Location	PID level	Location	PID level	Location	PID level	Location	PID level
Location	PID level	Location	PID level	Location	PID level	Location	PID level
Location	PID level	Location	PID level	Location	PID level	Location	PID level
Location	Other	Location	Other	Location	Other	Location	Other
Location	Other	Location	Other	Location	Other	Location	Other
Location	Other	Location	Other	Location	Other	Location	Other
Location	Other	Location	Other	Location	Other	Location	Other

Aargus Pty Ltd

Sampling & Monitoring Details for Individual Determinants

Location/Address: Wicks Park, Mascotville NSW
Name of Officer Responsible: Michael Sill
Title of Officer Responsible: Enviro Sci
Phone: _____ Fax: _____
Mobile: 0425 344 390 Other: _____

Other persons involved in inspection & monitoring (including laboratories, passed on information, electronic readings, etc) _____

- Groundswell Labs
- MAT Lab Mark

Date of Inspection: 29/10/13 Time of Start: 9:45am Finish: 1pm
Description of Weather: Clear Wind Direction: _____
Wind Speed: _____ Rainfall(mm): Nil Humidity: _____

Odours present Y/☒N Location: _____ Time: _____
Odours spraying Y/☒N Location: _____ Time: _____
Environmental &/or other accidents/concerns:(details) _____

Groundwater Sampling

GW1

GW2

GW3 / GDI / GSS1

Actions: _____

Equipment

Hand Bail + Low flow attachment
YSI ~~DIP~~ Water Quality
Dip Meter OX/OC

YSI

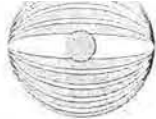
Dep

Water

Dip

Meter

$$Q_A / Q_C$$
 $\frac{2}{x}$
$$\sqrt{x}$$



Aargus

GROUNDWATER MONITORING RECORD FORM

PROJECT INFORMATION

Client:	E & D Danias P/L	Monitoring Well ID:	DH14/GW1
Site Address:	Wicks Park, Marrickville	Logged By:	MS
Project:	OSI	Date:	29.10.13

MONITORING WELL DETAILS

Depth (m) as constructed:	5.5m	Depth (m) as measured:	5.46m
Finish:	Gatic	Co-ordinates:	—
Condition:	OK	Surveyed Levels:	—

METHODOLOGY AND EQUIPMENT

Water Measurement Device:	Dip Meter	Reference Point:	Top of Gatic
Water Quality Meter:	YSI	Reference Point to Ground Surface (mm):	11
GW Extraction Method:	Hand Bail + low flow attachment		

GROUNDWATER GAUGING (PRE-PURGE)

SWL (m bgl):	1.23 BGL	GROUNDWATER GAUGING (POST-PURGE)	
Depth to Product (m bgl):	N/A visible	SWL (m bgl):	1.6m BGL
Product Thickness (mm):	N/A visible	Depth to Product (m bgl):	N/A
Time:	11:46am	Product Thickness (mm):	N/A
		Time:	12.06pm

PURGING AND PHYSICO-CHEMICAL PARAMETERS

Time	Volume Purged	Pump Rate (mL/min)	Temperature (°C)	DO (mg/L)	pH (pH units)	EC (µS/cm)	Redox Potential (mV)
11.54	2L		23.4	1.80	6.32	1256	80.4
11.58	2L		22.6	1.83	6.12	1213	78.8
12.03	2L		22.7	1.80	6.01	1217	77.1
12.08	1L		22.1	1.74	5.95	1192	73.2
Stabilisation Criteria			± 0.2 °C	± 0.2 mg/L	± 0.1 pH units	± 5%	± 10 mV

OBSERVATIONS

Odour:	No	Sheen:	No
Colour / Turbidity:	light brown & turbid	Recent Rain (Days):	No

SAMPLING

Samples Taken:	Primary	Blind	Split	Rinsate	TS/TB
Containers:	4				
Field Filtered:	No				
Preservation:	Yes				

Record Checked by:	29/10/13 MS	Document Version:	0
Date:		Updated:	7/2/13



Aargus

GROUNDWATER MONITORING RECORD FORM

PROJECT INFORMATION			
Client:	E & O Parnas LLC	Monitoring Well ID:	BH17/GW2
Site Address:	Wicks Park Marnickville	Logged By:	MS
Project:	DSI	Date:	29.10.13

MONITORING WELL DETAILS			
Depth (m) as constructed:	4.5	Depth (m) as measured:	4.27m BGL
Finish:	Calic	Co-ordinates:	-
Condition:	OK	Surveyed Levels:	-

METHODOLOGY AND EQUIPMENT			
Water Measurement Device:	Dip Meter	Reference Point:	Top of Calic
Water Quality Meter:	YSI	Reference Point to Ground Surface (mm):	Top of Calic
GW Extraction Method:	Hard Bail & low flow attachment		

GROUNDWATER GAUGING (PRE-PURGE)		GROUNDWATER GAUGING (POST-PURGE)	
SWL (m bgl):	1.2m BGL	SWL (m bgl):	1.53
Depth to Product (m bgl):	Nil	Depth to Product (m bgl):	Nil
Product Thickness (mm):	Nil	Product Thickness (mm):	11
Time:	11:02am	Time:	11:18am

PURGING AND PHYSICO-CHEMICAL PARAMETERS							
Time	Volume Purged	Pump Rate (mL/min)	Temperature (°C)	DO (mg/L)	pH (pH units)	EC (µS/cm)	Redox Potential (mV)
11:05	2L		22.1	1.58	6.68	2320	23.7
11:09	1L		21.5	1.22	6.18	2324	55.2
11:11	1L		21.3	1.44	6.25	2334	44.4
11:16	1L		20.8	1.58	6.10	2323	57.8
Stabilisation Criteria			± 0.2 °C	± 0.2 mg/L	± 0.1 pH units	± 5%	± 10 mV

OBSERVATIONS			
Odour:	Nil	Sheen:	No
Colour / Turbidity:	Light brown / not turbid	Recent Rain (Days):	No

SAMPLING							
Samples Taken:	Primary	Blind	Split	Rinsate	TS/TB		
Containers:	4						
Field Filtered:	No						
Preservation:	Yes						

Record Checked by:	29.10.13 MS	Document Version:	0
Date:		Updated:	7/2/13



Aargus

GROUNDWATER MONITORING RECORD FORM

PROJECT INFORMATION			
Client:	E & D Danias P/L		Monitoring Well ID:
Site Address:	Wicks Park, Marrickville		Logged By:
Project:	DSI		Date:

PH20/GWS
MS
29/10/13

MONITORING WELL DETAILS			
Depth (m) as constructed:	5-5m	Depth (m) as measured:	BGL 4.5m 5.55m
Finish:	Gatic	Co-ordinates:	
Condition:	OK	Surveyed Levels:	

METHODOLOGY AND EQUIPMENT			
Water Measurement Device:	Dip Meter	Reference Point:	Top of Gatic
Water Quality Meter:	YSI	Reference Point to Ground Surface (mm):	Top of Gatic
GW Extraction Method:	Hard Bail + low flow attachment		

GROUNDWATER GAUGING (PRE-PURGE)		GROUNDWATER GAUGING (POST-PURGE)	
SWL (m bgl):	1.15m	SWL (m bgl):	1.79m
Depth to Product (m bgl):	Nil	Depth to Product (m bgl):	Nil
Product Thickness (mm):	11	Product Thickness (mm):	Nil
Time:	10.05am	Time:	10.23am

PURGING AND PHYSICO-CHEMICAL PARAMETERS							
Time	Volume Purged (L)	Pump Rate (mL/min)	Temperature (°C)	DO (mg/L)	pH (pH units)	EC (µS/cm)	Redox Potential (mV)
10.13	2L		23.0	1.58	6.94	2640	122.3
10.15	3L		21.5	1.82	6.85	52.7	109.8
10.16	2L		21.0	1.82 1.74	6.85	4446	56
10.17	1L		21.0	1.74	6.85	5134	-2.4
Stabilisation Criteria			± 0.2 °C	± 0.2 mg/L	± 0.1 pH units	± 5%	± 10 mV

OBSERVATIONS			
Odour:	Nil	Sheen:	No
Colour / Turbidity:	Clear / Not turbid	Recent Rain (Days):	No

SAMPLING							
Samples Taken:	Primary	1	Blind	1	Split	1	Rinsate
Containers:	4	4	4				TS/TB
Field Filtered:	No	No	No				
Preservation:	Yes	Yes	Yes				

Record Checked by:	M.S	Document Version:	0
Date:	29/10/13	Updated:	7/2/13



WELL CONSTRUCTION AND DEVELOPMENT RECORD FORM

PROJECT INFORMATION

Client:	E & J Jones	Monitoring Well ID:	BH14/GW1
Site Address:	Wicks Park Marrickville	Logged By:	M-S
Project:	OSI	Date:	16/12/10/13

WELL CONSTRUCTION DETAILS

Total Bore Depth (m):	5.5	Screening Zone (m bgl):	2.5-5.5m
Borehole Diameter:	100mm	Finish:	Cubic
Standpipe Diameter:	50mm	Coordinates:	

METHODOLOGY AND EQUIPMENT

Water Measurement Device:	Dip Meter	Reference Point:	Top of Cubic
Groundwater Extraction Method:	Hand Bail	Reference Point to Ground Surface (mm):	Top of Cubic

GROUNDWATER GAUGING (PRE-DEVELOPMENT)

SWL (m bgl):	1.5m	GROUNDWATER GAUGING (POST-DEVELOPMENT)	
Depth to Product (m bgl):	Nil	SWL (m bgl):	2.5m
Product Thickness (mm):	"	Depth to Product (m bgl):	Nil
Time:	9.50am	Product Thickness (mm):	"
		Time:	10.05am
		Total GW Volume Extracted (L):	12L

OBSERVATIONS (PRE-DEVELOPMENT)

Odour:	No	OBSERVATIONS (POST-DEVELOPMENT)	
Sheen:	No	Odour:	"
Colour:	Brown	Sheen:	"
Turbidity:	Yes	Colour:	"
Other:		Turbidity:	"
		Other:	

Record Checked by:		Document Version:	0
Date:		Updated:	10/1/13



Aargus

WELL CONSTRUCTION AND DEVELOPMENT RECORD FORM

PROJECT INFORMATION

Client:	E & D Parvas	Monitoring Well ID:	BH17/GW2
Site Address:	Wick Park Marnetville	Logged By:	M/S
Project:	DSI	Date:	17/10/13

WELL CONSTRUCTION DETAILS

Total Bore Depth (m):	4.5	Screening Zone (m bgl):	1-5-4.5
Borehole Diameter:	100mm	Finish:	Catic
Standpipe Diameter:	50mm	Coordinates:	

METHODOLOGY AND EQUIPMENT

Water Measurement Device:	DP Meter	Reference Point:	Top of Catic
Groundwater Extraction Method:	YSI	Reference Point to Ground Surface (mm):	Top of Catic

GROUNDWATER GAUGING (PRE-DEVELOPMENT)

SWL (m bgl):	1.45m	GROUNDWATER GAUGING (POST-DEVELOPMENT)	
Depth to Product (m bgl):	Nil	SWL (m bgl):	2.49m
Product Thickness (mm):	Nil	Depth to Product (m bgl):	Nil
Time:	10.15am	Product Thickness (mm):	Nil
		Time:	10.30am
		Total GW Volume Extracted (L):	12L

OBSERVATIONS (PRE-DEVELOPMENT)

Odour:	No	OBSERVATIONS (POST-DEVELOPMENT)	
Sheen:	Nil	Odour:	Nil
Colour:	Brown/white spec's	Sheen:	Nil
Turbidity:	No	Colour:	Brown/white spec's
Other:		Turbidity:	No
		Other:	

Record Checked by:

Date:

Document Version:

Updated:

0

10/1/13



WELL CONSTRUCTION AND DEVELOPMENT RECORD FORM

PROJECT INFORMATION

Client:	E & D Dennis	Monitoring Well ID:	DM20/GW3
Site Address:	Nicks Park Marnhill	Logged By:	M.S
Project:	OSF	Date:	12/10/13

WELL CONSTRUCTION DETAILS

Total Bore Depth (m):	5.5m	Screening Zone (m bgl):	2-5-5-5
Borehole Diameter:	100mm	Finish:	Gratic
Standpipe Diameter:	50mm	Coordinates:	

METHODOLOGY AND EQUIPMENT

Water Measurement Device:	Dip Meter	Reference Point:	Top of Gratic
Groundwater Extraction Method:	Hard Bail	Reference Point to Ground Surface (mm):	11

GROUNDWATER GAUGING (PRE-DEVELOPMENT)

SWL (m bgl):	4.33	GROUNDWATER GAUGING (POST-DEVELOPMENT)	
Depth to Product (m bgl):	Nil	SWL (m bgl):	5.01
Product Thickness (mm):	11	Depth to Product (m bgl):	Nil
Time:	12.45pm	Product Thickness (mm):	11
		Time:	1.00pm
		Total GW Volume Extracted (L):	8L

OBSERVATIONS (PRE-DEVELOPMENT)

Odour:	Nil	OBSERVATIONS (POST-DEVELOPMENT)	
Sheen:	Nil	Odour:	Nil
Colour:	Brown	Sheen:	Nil
Turbidity:	No	Colour:	Brown
Other:		Turbidity:	No
		Other:	

Record Checked by:		Document Version:	0
Date:		Updated:	10/1/13

Sample ID	Depth Range (m bgl)	PID Reading (ppm)s	Stratum
BH1	0-0.5	0.2	F
BH1	0.5-1.0	0.2	F
BH1	1-1.5	0.1	N
BH2	0-0.5	0.3	F
BH2	0.5-1.0	0.0	F
BH2	1-1.5	0.0	N
BH3	0-0.5	0.1	F
BH3	0.5-1.0	0.0	F
BH3	1-1.5	0.0	N
BH4	0.3-0.5	0.3	F
BH4	0.9-1.0	0.2	N
BH5	0.2-0.4	0.3	F
BH5	0.8-1.0	0.3	N
BH6	0.2-0.4	0.5	F
BH6	0.9-1.0	0.4	N
BH7	0.4-0.6	0.1	F
BH7	1.1-1.3	0.0	N
BH8	0.1-0.3	0.5	F
BH9	0.4-0.6	0.3	F
BH9	0.8-1.0	0.3	N
BH10	0.4-0.5	0.2	F
BH10	0.8-1.0	0.2	N
BH11	0.2-0.4	0.7	F
BH11	0.7-0.9	0.6	N
BH12	0.3-0.5	0.5	F
BH12	0.7-0.9	0.4	N
BH13	0.2-0.4	0.0	F
BH13	0.8-1.0	0.0	N
BH14	0.2-0.3	0.4	F
BH14	0.6-0.8	0.3	N
BH15	0.3-0.5	0.0	F
BH15	0.9-1.0	0.0	N
BH16	0.3-0.5	0.0	F
BH16	0.8-1.0	0.0	N
BH17	0.3-0.5	0.0	F
BH17	0.7-0.8	0.0	N
BH18	0.4-0.5	0.0	F
BH18	0.7-0.8	0.1	N
BH19	0.2-0.4	0.1	F
BH20	0.2-0.4	0.2	F
BH20	1.0-1.1	0.3	F
BH20	2.4-2.5	0.5	N
BH21	0.3-0.5	0.7	F
BH22	0.2-0.3	0.5	F

APPENDIX M

CALIBRATION CERTIFICATES



PID Calibration Certificate

Instrument **PhoCheck Tiger**
Serial No. **T-105429**



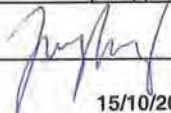
Air-Met Scientific Pty Ltd
1300 137 067

Item	Test	Pass	Comments			
Battery	Charge Condition	✓				
	Fuses	✓				
	Capacity	✓				
	Recharge OK?	✓				
Switch/keypad	Operation	✓				
Display	Intensity	✓				
	Operation (segments)	✓				
Grill Filter	Condition	✓				
	Seal	✓				
Pump	Operation	✓				
	Filter	✓				
	Flow	✓				
	Valves, Diaphragm	✓				
PCB	Condition	✓				
Connectors	Condition	✓				
Sensor	PID	✓	10.6 ev			
Alarms	Beeper	✓	Low	High	TWA	STEL
	Settings	✓	50ppm	100ppm		
Software	Version	✓				
Data logger	Operation	✓				
Download	Operation	✓				
Other tests:	Flowrate					

Certificate of Calibration

This is to certify that the above instrument has been calibrated to the following specifications:

Sensor	Serial no	Calibration gas and concentration	Certified	Gas bottle No	Instrument Reading
PID Lamp		100ppm Isobutylene	NIST	SY21	100.4ppm

Calibrated by:  Joanna Wong

Calibration date: 15/10/2013

Next calibration due: 14/11/2013

APPENDIX N

**LABORATORY TECHNICAL
INFORMATION**



TECHNICAL HOLDING TIMES (THT'S)

Analyte	Matrix	
	Soil	Water
Moisture	14 Days ¹	Not Applicable
pH	7 Days ¹	15 Minutes ²
Alkalinity	Not Applicable	24 Hours ²
Electrical Conductivity	7 Days ¹	28 Days ¹
Total Suspended Solids	Not Applicable	7 Days ²
Total Dissolved Solids	Not Applicable	7 Days ²
Total Solids	Not Applicable	7 Days ²
Fixed & Volatile Solids	Not Applicable	7 Days ²
Dusts	Not Applicable	28 Days ⁴
Chloride	28 Days ¹	28 Days ²
Fluoride	28 Days ¹	28 Days ²
Sulfate	28 Days ¹	28 Days ²
Total Cyanide	14 Days ¹	24 Hours ²
Metals - Cations (Ca, Mg, Na, K)	6 Months ¹	6 Months ²
Metals - Base Metals	6 Months ¹	6 Months ²
Metals - Mercury	28 Days ¹	28 Days ²
Metals - Paint Samples	6 Months ⁴	Not Applicable
Hexavalent Chromium	28 Days ¹	30 Days ³
Total Recoverable Hydrocarbons	14 Days ¹	7 Days ¹
Semi-Volatile Organic Compounds	14 Days ¹	7 Days ¹
Poly Chlorinated Biphenyls	14 Days ¹	7 Days ¹
Volatile Organic Compounds	14 Days ¹	14 Days ¹

The detailed THT's assume appropriate sample containers & preservation

References : 1 - Victorian EPA ; 2 - APHA 21st Edition ; 3 - USEPA Method 1669 ; 4 - None Detailed, THT Arbitrarily Assigned

Reference : AF08.Rev1

Date Issued : 16/3/2010

Groundswell laboratories

TECHNICAL HOLDING TIMES (THT'S)			ANALYTICAL METHODS - SOILS	
Analyte	Matrix		Literature Reference	Analysis Description
	Soil	Water		
Asbestos	Not Applicable	Not Applicable	AS4964-2000	"Method for the Qualitative Identification of Asbestos in Bulk Samples" : Polarized microscopy is the primary analytical technique.
Moisture	14 Days ¹	Not Applicable	NEPM 102	Moisture in the field moist sample is evaporated at 105±5°C. The loss in moisture is expressed as a percentage of the sample as submitted
Total Cyanide	14 Days ¹	24 Hours ²	NEPM 403 APHA 4500 CN ⁻ E	The submitted soil is caustic leached, pH>10 for 16 hours by end-over-end extraction. This extract is then distilled, trapped in a caustic solution, and quantitated colorimetrically
Metals - Base Metals	6 Months ¹	6 Months ²	NEPM Sample Preparation USEPA 200.2 USEPA 7000B	An aliquot (approx. 20%) of the homogenised submitted soil sample is dried at 35±3°C, lightly ground and screened to -2mm. Samples are then digested with nitric and hydrochloric acids for 30 minutes. Metals in solution are then quantitated by flame atomic absorption spectrophotometry.
Metals - Mercury	28 Days ¹	28 Days ²	NEPM Sample Preparation USEPA 200.2 USEPA 7471A	An aliquot (approx. 20%) of the homogenised submitted soil sample is dried at 35±3°C, lightly ground and screened to -2mm. Samples are then digested with nitric and hydrochloric acids for 30 minutes. Mercury in solution is then quantitated by cold-vapour atomic absorption spectrophotometry
Hexavalent Chromium	28 Days ¹	30 Days ³	USEPA 3060A USEPA 7196A	The submitted soil is alkaline digested to extract soluble, adsorbed and precipitated forms of chromium compounds. The digest is then quantitated colorimetrically
Total Recoverable Hydrocarbons	14 Days ¹	7 Days ¹	In House method based on NEPM 506	The submitted soil is extracted with DCM:Acetone (1:1) by end-over-end extraction for 4 hours. This extract is then analysed by GC-FID
Semi-Volatile Organic Compounds	14 Days ¹	7 Days ¹	In House	The submitted soil is extracted with DCM:Acetone. This extract is then analysed by GC-MS
OCP's & Poly Chlorinated Biphenyls	14 Days ¹	7 Days ¹	In House	The submitted soil is extracted with DCM:Acetone. This extract is then analysed by dual GC-ECD.
Volatile Organic Compounds	14 Days ¹	14 Days ¹	In House	The submitted soil is extracted with methanol. This extract is then spiked into water, and analysed by P&T GC-MS.
The detailed THT's assume appropriate sample containers & preservation				
References : 1 - Victorian EPA ; 2 - APHA 24 th Edition ; 3 - USEPA Method 1669				

ANALYTE – Soil	HOLDING TIME
Metals *	6 months
Mercury	28 days
Chromium VI	7 days
Monocyclic Aromatic Hydrocarbons (MAH)	14 days
Total Petroleum Hydrocarbons (TPH)	14 days
Polycyclic Aromatic Hydrocarbons (PAH)	14 days
Organochlorine Pesticides (OCP)	14 days
Polychlorinated Biphenyls (PCB)	28 days
Phenols	14 days
Cyanide	14 days
VHC / Vinyl Chloride	14 / 7 days
VOC	14 days
Asbestos	Indefinite
ANALYTE – Water	HOLDING TIME
Metals *	6 months
Mercury	30 days
Chromium VI	28 days (preserved)
Monocyclic Aromatic Hydrocarbons (MAH)	7 days
Total Petroleum Hydrocarbons (TPH)	7 days
Polycyclic Aromatic Hydrocarbons (PAH)	7 days
Organochlorine Pesticides (OCP)	7 days
Polychlorinated Biphenyls (PCB)	7 days
Phenols (speciated)	7 days
Cyanide	14 days
VHC	7 days
VOC	7 days
Ammonia	28 days (preserved)
Biological (heterotrophic and carbon utilising bacteria)	1 day
Chloride	28 days
Ferrous Iron	1 day (filtered)
Methane	14 days
Nitrate/Nitrite	28 days (filtered & frozen)
Sulphate	28 days
Sulphide (Total)	7 days

* Metals include arsenic (As), cadmium (Cd), chromium (Cr), copper (Cu), lead (Pb), nickel (Ni) and zinc (Zn)

Analyte	Method	APHA/USEPA Method
C₆-C₉ – 1999 NEPM Fractions TRH (Volatile)/BTEX C₆-C₁₀ – 2010 DRAFT NEPM Fractions	10g soil extracted with 20mL methanol, tumbled for 1 hour, and analysed with solvent and instrument check surrogates. Clay samples must be completely disintegrated before an aliquot is taken for analysis. Water direct injection of supplied sample (unopened) and analysis with solvent and instrument check surrogates. Analysis by capillary column Purge and Trap GCMS (mgt LabMark in-house method numbers Method: E029/E016 BTEX, Method: E004 Petroleum Hydrocarbons (TPH), Method: LM-LTM-ORG2010, Method: E005 Moisture Content). Owing to the differential responses of mass spectrometric detectors towards aliphatic and aromatic compounds, it is essential that the standard contain representatives of both groups. This standard should therefore consist of about 40% aromatic and 60% aliphatic target analytes, to be representative of a typical Australian fuel. The aromatic compounds shall comprise the components of BTEX. The aliphatics shall comprise equal proportions of all n-alkanes in the C6 to C10 range.	USEPA Method 8260B
Total Recoverable Hydrocarbons C₁₀-C₃₆ – 1999 NEPM Fractions >C₁₀-C₄₀ – 2010 DRAFT NEPM Fractions	Soil - 10g soil and anhydrous sodium sulfate extracted with 20mL dichloromethane/acetone (1:1), and tumbled for a minimum of 1 hour. Clay samples must be completely disintegrated before an aliquot is taken for analysis. Water - One 250ml of water sequentially extracted in a separatory funnel three times with 20mL dichloromethane. Analysis by capillary column GC/FID (mgt LabMark in-house method numbers Method: E004 Petroleum Hydrocarbons (TPH), Method: LM-LTM-ORG2010, Method: E005 Moisture Content)	USEPA Method 8015C
TPH (Silica Gel)	Exchange an aliquot of sample extract into a suitable solvent for clean-up. For example, a 1:1 dichloromethane/acetone extract should be exchanged into a suitable non-polar solvent to allow for removal of polar substances. To the solvent-exchanged extract add an appropriate weight of silica gel. Mix the extract and silica gel thoroughly (e.g. with vortex mixer) and allow the sorbent to settle before removing a portion of the extract for analysis. (mgt LabMark in-house method numbers Method: LM-LTM-ORG2010, Method: E005 Moisture Content)	USEPA Method 3630C
Phenols/PAH	Soil - 10g soil, surrogates, mixed with anhydrous sodium sulfate and extracted with 20mL dichloromethane/acetone (1:1), and tumbled for a minimum of 1 hour. Clay samples must be completely disintegrated before an aliquot is	USEPA Method 8270D

Analyte	Method	APHA/USEPA Method
	taken for analysis. Water - 250ml water sample plus surrogates triple extracted with dichloromethane (base and neutrals). Analysis by capillary column GC/MS (mgt LabMark in-house Methods E008.1, E008.2, E015.1, E015.2, E017.1 and E017.2, E016.1, E016.2, E017.1 and E017.2, E007.1, E007.2, E015.1, E015.2, E017.1 and E017.2 Method: E005 Moisture Content).	
Total Metals (As, Cd, Cr, Cu, Ni, Pb, Zn)	A 0.5gm portion of soil undergoes acidic microwave digestion. Analysis by ICP/MS.(mgt Labmark in-house method E022.2).	USEPA Method 6020A
Total Mercury (Hg)	0.5g soil acidic microwave digestion. Analysis by FIMS. (mgt Labmark in-house method E026.2).	USEPA Method 7471B
Filtered Metals (As, Cd, Cr, Cu, Ni, Pb ,Zn)	Filtered (0.45mm) and acidified in the field prior to analysis. Analysis by ICP/MS. (mgt LabMark in-house method E022.1).	USEPA Method 6020A
Filtered Metals (Al, As, Be, Cd, Cr, Co, Cu, Fe, Pb, Mo, Ni)	Filtered (0.45mm) and acidified in the field prior to analysis. Analysis by ICP/MS. (mgt LabMark in-house method E022.1).	USEPA Method 6020A
Total Metals (Al, As, Be, Cd, Cr, Co, Cu, Fe, Pb, Mo, Ni)	Acidified in the field prior to analysis and digested in the laboratory using aqua regia. Analysis by ICP/MS. (mgt LabMark in-house method E022.1).	USEPA Method 6020A
Filtered Mercury (Hg)	Filtered, oxidation and final reduction. Analysis by FIMS. (mgt LabMark in-house method E022.1).	USEPA Method 7471B
Conductivity	Direct measurement using a calibrated meter and electrode. (mgt LabMark in-house method E032 Electrical conductivity (EC)).	APHA Method 2520 B
pH	Direct measurement using a calibrated meter and electrode. (mgt LabMark in-house method E018 pH).	APHA Method 4500-H ⁺
Suspended Solids (SS)	Gravimetric measurement of the residue filtered through a GFC filter. (mgt LabMark in-house method 4100 Total Suspended Solids dried at 103-105°C).	APHA Method 2540 D
Ammonia (as N)	Alkaline phenol and hypochlorite react with ammonia to form indophenol blue that is proportional to the ammonia concentration that is determined colorimetrically. (mgt LabMark in-house method E036/E050 Ammonia as N).	APHA Method 4500-N
Phosphorus (as P)	Acid digestion of phosphorus species to form a molybdophosphoric acid complex that is reduced to molybdenum blue which is proportional to the phosphorus concentration that is determined colorimetrically. (mgt LabMark in-house method E038 /E052 Total Phosphorus (as P)).	APHA Method 4500-P

Analyte	Method	APHA/USEPA Method
C₆-C₉ – 1999 NEPM Fractions TRH (Volatile)/BTEX C₆-C₁₀ – 2010 DRAFT NEPM Fractions	10g soil extracted with 20mL methanol, tumbled for 1 hour, and analysed with solvent and instrument check surrogates. Clay samples must be completely disintegrated before an aliquot is taken for analysis. Water direct injection of supplied sample (unopened) and analysis with solvent and instrument check surrogates. Analysis by capillary column Purge and Trap GCMS (mgt LabMark in-house method numbers Method: E029/E016 BTEX, Method: E004 Petroleum Hydrocarbons (TPH), Method: LM-LTM-ORG2010, Method: E005 Moisture Content). Owing to the differential responses of mass spectrometric detectors towards aliphatic and aromatic compounds, it is essential that the standard contain representatives of both groups. This standard should therefore consist of about 40% aromatic and 60% aliphatic target analytes, to be representative of a typical Australian fuel. The aromatic compounds shall comprise the components of BTEX. The aliphatics shall comprise equal proportions of all n-alkanes in the C6 to C10 range.	USEPA Method 8260B
Total Recoverable Hydrocarbons C₁₀-C₃₆ – 1999 NEPM Fractions >C₁₀-C₄₀ – 2010 DRAFT NEPM Fractions	Soil - 10g soil and anhydrous sodium sulfate extracted with 20mL dichloromethane/acetone (1:1), and tumbled for a minimum of 1 hour. Clay samples must be completely disintegrated before an aliquot is taken for analysis. Water - One 250ml of water sequentially extracted in a separatory funnel three times with 20mL dichloromethane. Analysis by capillary column GC/FID (mgt LabMark in-house method numbers Method: E004 Petroleum Hydrocarbons (TPH), Method: LM-LTM-ORG2010, Method: E005 Moisture Content)	USEPA Method 8015C
TPH (Silica Gel)	Exchange an aliquot of sample extract into a suitable solvent for clean-up. For example, a 1:1 dichloromethane/acetone extract should be exchanged into a suitable non-polar solvent to allow for removal of polar substances. To the solvent-exchanged extract add an appropriate weight of silica gel. Mix the extract and silica gel thoroughly (e.g. with vortex mixer) and allow the sorbent to settle before removing a portion of the extract for analysis. (mgt LabMark in-house method numbers Method: LM-LTM-ORG2010, Method: E005 Moisture Content)	USEPA Method 3630C
Phenols/PAH	Soil - 10g soil, surrogates, mixed with anhydrous sodium sulfate and extracted with 20mL dichloromethane/acetone (1:1), and tumbled for a minimum of 1 hour. Clay samples must be completely disintegrated before an aliquot is	USEPA Method 8270D

Analyte	Method	APHA/USEPA Method
	taken for analysis. Water - 250ml water sample plus surrogates triple extracted with dichloromethane (base and neutrals). Analysis by capillary column GC/MS (mgt LabMark in-house Methods E008.1, E008.2, E015.1, E015.2, E017.1 and E017.2, E016.1, E016.2, E017.1 and E017.2, E007.1, E007.2, E015.1, E015.2, E017.1 and E017.2 Method: E005 Moisture Content).	
Total Metals (As, Cd, Cr, Cu, Ni, Pb, Zn)	A 0.5gm portion of soil undergoes acidic microwave digestion. Analysis by ICP/MS.(mgt Labmark in-house method E022.2).	USEPA Method 6020A
Total Mercury (Hg)	0.5g soil acidic microwave digestion. Analysis by FIMS. (mgt Labmark in-house method E026.2).	USEPA Method 7471B
Filtered Metals (As, Cd, Cr, Cu, Ni, Pb ,Zn)	Filtered (0.45mm) and acidified in the field prior to analysis. Analysis by ICP/MS. (mgt LabMark in-house method E022.1).	USEPA Method 6020A
Filtered Metals (Al, As, Be, Cd, Cr, Co, Cu, Fe, Pb, Mo, Ni)	Filtered (0.45mm) and acidified in the field prior to analysis. Analysis by ICP/MS. (mgt LabMark in-house method E022.1).	USEPA Method 6020A
Total Metals (Al, As, Be, Cd, Cr, Co, Cu, Fe, Pb, Mo, Ni)	Acidified in the field prior to analysis and digested in the laboratory using aqua regia. Analysis by ICP/MS. (mgt LabMark in-house method E022.1).	USEPA Method 6020A
Filtered Mercury (Hg)	Filtered, oxidation and final reduction. Analysis by FIMS. (mgt LabMark in-house method E022.1).	USEPA Method 7471B
Conductivity	Direct measurement using a calibrated meter and electrode. (mgt LabMark in-house method E032 Electrical conductivity (EC)).	APHA Method 2520 B
pH	Direct measurement using a calibrated meter and electrode. (mgt LabMark in-house method E018 pH).	APHA Method 4500-H ⁺
Suspended Solids (SS)	Gravimetric measurement of the residue filtered through a GFC filter. (mgt LabMark in-house method 4100 Total Suspended Solids dried at 103-105°C).	APHA Method 2540 D
Ammonia (as N)	Alkaline phenol and hypochlorite react with ammonia to form indophenol blue that is proportional to the ammonia concentration that is determined colorimetrically. (mgt LabMark in-house method E036/E050 Ammonia as N).	APHA Method 4500-N
Phosphorus (as P)	Acid digestion of phosphorus species to form a molybdophosphoric acid complex that is reduced to molybdenum blue which is proportional to the phosphorus concentration that is determined colorimetrically. (mgt LabMark in-house method E038 /E052 Total Phosphorus (as P)).	APHA Method 4500-P

SAMPLE PRESERVATION AND SAMPLING GUIDE



Soils, Sediments & Solid Matrices

mgt-LabMark Recommended Preservation and Container Guide

Parameter	Container	Lab Analysis Portion (g) ⁽¹⁾	mgt-LabMark Preferred Preservation	Recommended Holding Times
Acid Sulphate Soil (SPOCAS/CrS)	P or G	50	6°C / freezing may limit loss of integrity	24 hours [#]
Alcohols	G	20	6°C, Zero Headspace	14 days*
Asbestos	P	50	None, separate sample required	indefinite
BTEX / TPH (C6-C9)	G	20	6°C, Zero Headspace	14 days*
Carbamates	G	20	6°C	14 days*
Cyanides	G	20	6°C	14 days
Dioxins and Furans	G	250	6°C, dark	28 days
Explosives	G	50	6°C	14 days*
Formaldehyde	G	50	6°C	14 days
HRAF (aliphatic / aromatic speciation of TPH)	G	20	6°C, Zero Headspace	14 days*
Inorganics - general anion, cations and CEC	G or P	20	6°C	28 days
Metals (except Hg & Cr VI)	G or P	20	NR	6 months
Mercury or Chromium VI	G or P	20	6°C	28 days
Micro (E. Coli, FC, TC etc.)	P (sterile)	125	6°C	24 hours
Moisture	G or P	20	6°C	14 days
pH or EC	G or P	20	6°C	7 days*
Phenols (Totals or Speciated)	G	20	6°C	14 days*
Phenoxy Acid Herbicides	G	20	6°C	14 days*
Sulphur/Sulphides	G	20	6°C	7 days
Any SVOCs including - OCs, OPs, PCBs, PAHs, Phthalates, SVCCs plus TPH (C10-C36), Glyphosates, TBTs	G	20	6°C	14 days*
SVOC's (USEPA 8270 list)	G	20	6°C	14 days*
TCLP or AS4439.2/3 ^{##}	G	250	6°C	7 days ^{###}
TCLP (Zero Headspace) ^{##}	G	250	6°C, Zero Headspace	7 days
Total Organic Carbon (or TOM)	G	20	6°C, Zero Headspace	28 days
TPH (C6-C9) plus BTEX	G	20	6°C, Zero Headspace	14 days*
TPH/TRH (C10-C36)	G	20	6°C	14 days*
VOCs / VHCs / VACs / THMs	G	20	6°C, Zero Headspace	14 days*
Common Suites of analytes				
TPH, BTEX, Metals, Moisture	G	60	6°C, Zero Headspace	See above
TPH, BTEX, Metals, PAH, SVOCs, VOCs, pH, Moisture	G	80	6°C, Zero Headspace	See above
TPH, BTEX, Metals, PAH, OCPs, PCBs, TCLP, Moisture	G	250	6°C, Zero Headspace	See above
Trip Spikes for VOCs (prepared in the Lab)	G	full jar	<-10°C, Zero Headspace	14 days***
Typical sample weights contained in standard jars (zero headspace)			250 mL jar = 350-420 g	
Dust Gauges - contact Lab				

REFERENCES: USEPA SW846, NEPM, EPA VIC, ISO5667, Queensland Acid Sulfate Soils Management Advisory Committee (QASSMAC), Environmental Analysis Laboratory (EAL)
Please note Maximum THT's may vary upon the guideline document referenced.

NOTES:	(1)	We recommend that you provide additional sample on the 1st, 11th, 21st, 31st etc sample for performance of Duplicates / Matrix Spikes. Note however that Matrix Spike determinations are not appropriate for all tests.
	*	Extract within 14 days and analyse within 40 days (mgt-LabMark's preference is to extract within 7 days for volatiles where sufficient time available).
	**	mgt-LabMark's preference is to analyse as soon as possible
	***	Shelf life in matrix (sand) is low if not frozen, therefore freeze if storing or return to lab with samples immediately
	#	where acidity (hence liming rates) is captured in actual and potential acidity, analysis within one week should be satisfactory
	##	Time from sampling date to tumbling (water THTs for leachate apply)
	###	except Metals/OCPs/PCBs 28 days
CONTAINERS:	P	= Plastic (HDPE or equivalent, teflon lined lid), batch tested
	G	= Glass (teflon lined lid), batch tested

Soil Samples are discarded 3 months from the date received

mgt-LabMark Environmental - Contact Details

LOCATION	DELIVERY ADDRESS	TELEPHONE	FACSIMILE
Sydney	Units F3-F6, Lane Cove Business Park, 16 Mars Rd. Lane Cove NSW	(02) 8215 6222	(02) 9476 8219
Melbourne	2-5 Kingston Town Close, Oakleigh VIC 3166	(03) 9564 7055	(03) 92564 7190
Brisbane	Unit 1/21 Smallwood Place, Murarrie QLD 4172	(07) 3902 4600	(07) 3902 4646
Adelaide	140 Richmond Road, Marlestone SA 5033	(08) 8443 4430	Mobile - 0438 424 511
Perth	Unit 5, 91 Leach Hwy, Kewdale WA	(08) 9353 6535	Mobile - 0418 856 576
Darwin	Unit 3, 83 Coonawarra Rd, Winellie NT 0800	(08) 8947 1557	Mobile - 0428 489 614
Newcastle	Unit 5, 166 Hannell Street, Wickham NSW	(02) 4902 4830	Mobile - 0410 220 750

SAMPLE PRESERVATION AND SAMPLING GUIDE

Liquid Matrices



Recommended Preservation and Container Guide

Parameter	Container	Lab Analysis Portion mL ⁽²⁾	mgt-LabMark Preferred Preservation	Recommended Holding Times
Acidity/Alkalinity	P or G	200	6°C	14 days**
Alcohols	PT	2 x vials	pH<2 (HCl), 6°C, Zero headspace	14 days ⁽³⁾
Ammonia-N	P or G	200	pH<2 (H ₂ SO ₄), 6°C ⁽¹⁾ /site filter and freeze	28 days
BOD ₅	P or G	2 x 500	6°C, Zero headspace	48 Hours [#]
Bromate	P	50	6°C	28 days
Bromide	P	50	6°C	28 days
BTEX plus TPH (C6-C9)	PT	2 x vials	pH<2 (HCl or H ₂ SO ₄), 6°C, Zero headspace	14 days ⁽³⁾
Carbamates/Dioxins/Furans	G	500	6°C	1 month
Carbon, Total Organic (TOC)	G	100	pH<2 (H ₂ SO ₄ or HCl), 6°C	28 days
Carbon, Dissolved Organic (DOC)	G	100	Field filter at 0.45um then pH<2 (H ₂ SO ₄ or HCl), 6°C	28 days
Cations	P	50	6°C, pH<2 (HNO ₃)	6 months ^{APHA}
Chlorate	P	50	6°C	7 days
Chloride	P	50	6°C	28 days
Chlorite	P	50	6°C	24 hours ⁽⁵⁾
Chlorine (residual)	-	--	Field test	Note (5)
Chlorophyll-a (Vol' PQL dependant)	Dark P	500-2000	Unfiltered Dark, 6°C or Filtered residue	24 Hours ^{##}
Chromium VI (hexavalent Cr)	P	100	filtered, unpreserved / pH 8-9 (NaOH), 6°C ⁽¹⁾	1 day / 28 days ^{(1)APHA}
COD	G	100	pH<2 (H ₂ SO ₄), 6°C ⁽¹⁾	28 days
Colour	P	100	6°C	2 days ^{LS}
Conductivity (EC) or Salinity	P	50	6°C, Zero headspace, 60C	28 days
Cyanide (Total/Amenable)	P	100	pH >12 (NaOH), 6°C Dark	14 days ⁽⁶⁾
Cyanide (Free / WAD)	P	100	Free neutral, WAD pH >12 (NaOH), 60C Dark	14 days ^{(6)##}
Dissolved Oxygen	-	--	Field test	Note (5)
Explosives	G	500	6°C	7 days*
Ferrous/Ferric Iron ⁽⁴⁾	P	100	filtered pH <2 (HCl), 6°C, Dark, Zero Headspace	7 days ^{SO}
Fluoride	P	50	6°C	28 days
Formaldehyde	G	100	6°C	7 days
Hardness	P	50	6°C, pH<2 (HNO ₃)	6 months
Iodate	P	50	6°C	1 month
Iodide	P	50	6°C	1 month
Ion Balance	P	500-1000	See Individual Analytes in price book	--
Metals – Total (Recoverable)	P	100	pH<2 (HNO ₃)	6 months
Metals – Dissolved	P	100	Field Filter at 0.45 um then pH<2 (HNO ₃)	6 months
Mercury – (Total Recoverable)	P	100	pH<2 (HNO ₃)	28 days
Mercury – Dissolved	P	100	Field Filter at 0.45 um then pH<2 (HNO ₃)	28 days
Methane (Ethane/Ethane)	PT	2 x vials	Half fill the vials, store upside down at 6°C	14 days
Nitrogen: TKN	P or G	100	pH<2 (H ₂ SO ₄), 6°C ⁽¹⁾	28 days
Nitrate / NOx	P or G	50	unpreserve 6°C / pH<2 (HCl), 6°C	2 days ^{##} / 7 days
Nitrite	P or G	50	unpreserve 6°C	2 days
Nitrogen: Total N	-	--	TKN and NOx sample bottles are required	--
Oil & Grease	G	2 x 500	pH<2 (H ₂ SO ₄ or HCl), 6°C	28 days
OC/OP Pesticides – see SVOCs	G	see SVOC	6°C	7 days*
PAHs – see SVOCs below	G	see SVOC	6°C	7 days*
pH / free CO ₂ / total CO ₂	P or G	100	Field Test, 6°C	Note (5)
Phenolics (total)	P or G	100	pH<2 (H ₂ SO ₄), 6°C	28 days ^{APHA}
Phenols – speciated	G	see SVOC	6°C	7 days*
Phenoxy Acid Herbicides	G	500	6°C, pH 1-2 HCl	14 days
Phosphate (ortho)	P or G	50	6°C	2 days ^{##} 1 month filtered ^{SO}
Phosphorus (Total filtered or unfiltered)	P	100	pH<2 (HNO ₃)	1 month
Solids (suspended, dissolved etc)	P	500-1000	6°C	7 days
Sulphate	P	50	6°C	28 days
Sulphide (Total)	P	200	6°C (Zinc Acetate/NaOH pH>9) zero headspace	7 Days
Sulphide (Dissolved)	P	100	6°C	24 hours
Surfactants – anionic (MBAS)	G	250	6°C/preserved with formalin	2 days/4 days preserved with formalin to 1%
SVOCs including – OCs, OPs, PCBs, PAHs, Phthalates (normal level) plus TPH (C10-C36)	G	2 x 500	6°C	7 days*
Low or Trace level Organics	G	4 x 500	6°C	7 days*
SVOC's (USEPA 8270 list)	G	see SVOC	6°C	7 days*
TPH (C6-C9)	PT	As for BTEX no additional vials needed	pH<2 (HCl), 6°C, Zero headspace	14 days ⁽³⁾
TPH (C10-C36)	G	As for SVOC 'normal' no additional needed	6°C	7 days*
Turbidity	P or G	100	Analyse Immediately, dark, 6°C	48 Hours
VOCs / VHCs / VACs / THMs / MTBEs	PT	2xvials	pH<2 (HCl or H ₂ SO ₄), 6°C, Zero headspace ⁽⁷⁾	14 days ⁽³⁾
Microbiological	P/S	120	6°C	24 hours
Micro ^o – (in Chlorinated Water) Coliforms - Ecoli	P/S	500 (4*120)	6°C - 0.008% Na ₂ S ₂ O ₃	24 hours
Micro ^o – (in Chlorinated Water)	P/S	120	6°C - 0.008% Na ₂ S ₂ O ₃	24 hours

REFERENCES: APHA 21st Edition, USEPA SW846, ISO 5667.3, EPA VIC and AS/NZS 5667.1 1998
Please note Maximum HT's may vary upon the guideline document referenced.

NOTES:	(1)	This test may not require preservation if received and analysed within 24 hours of sampling; this must be pre-arranged with the laboratory.
	(2)	We recommend that you provide additional sample on the 1st, 11th, 21st, 31st etc sample for performance of Duplicates / Matrix Spikes. (Note however that Matrix spike determinations are not appropriate for all tests).
	(3)	USEPA recommends 14 days, Australian Standard recommends 7 days.
	(4)	If Dissolved Metals are requested, the Ferrous Iron sample must be field filtered before being preserved
	(5)	This analyte should be determined in the field, these tests will not be measured for compliance to holding time but are analysed on receipt
	(6)	Holding Time is reduced to 24hrs with the presence of sulphides. Contact the laboratory if the presence of sulphides is suspected
	(7)	Sodium Bisulfate is an alternative preservation for VOC analysis upon request
	*	This holding time requires the samples to be extracted within 7 days and analysed within 40 days.
	**	The mgt-LabMark aim is to perform these analyses within 2 days (where sufficient time available).
	#	The holding times may be extended to one month if the sample is frozen
	##	The holding times may be extended to 28 days if the sample is filtered then frozen.

CONTAINERS:	P	= Plastic (HDPE or equivalent, all teflon lined), batch tested
	PT	= Purge & Trap VOA Vial (with teflon liner), batch tested
	G	= Glass (all teflon lined), batch tested
	P/S	= Plastic Sterile, batch tested

Liquid samples are discarded 4 weeks from the date received

APPENDIX O

LABORATORY CERTIFICATES



Aargus P/L
446 Parramatta Road
Petersham
NSW 2049

Attention: Mark Kelly

Report 396799-S
Client Reference MARRICKVILLE ES5611-2
Received Date Oct 18, 2013



Certificate of Analysis

NATA Accredited
Accreditation Number 1261
Site Number 16217

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.

Client Sample ID Sample Matrix Eurofins mgt Sample No. Date Sampled Test/Reference	LOR	Unit	SS1 Soil S13-Oc14519 Oct 16, 2013	SS2 Soil S13-Oc14520 Oct 16, 2013	SS3 Soil S13-Oc14521 Oct 16, 2013
Total Recoverable Hydrocarbons - 1999 NEPM Fractions					
TRH C6-C9	20	mg/kg	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	90	150	< 50
TRH C29-C36	50	mg/kg	140	130	< 50
TRH C10-36 (Total)	50	mg/kg	230	280	< 50
BTEX					
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1
Xylenes - Total	0.3	mg/kg	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	128	121	123
Total Recoverable Hydrocarbons - 2013 NEPM Fractions					
Naphthalene ^{N02}	0.5	mg/kg	< 0.5	< 0.5	< 0.5
TRH C6-C10	20	mg/kg	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1) ^{N04}	20	mg/kg	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2) ^{N01}	50	mg/kg	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	230	300	< 100
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100
Polycyclic Aromatic Hydrocarbons					
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5	0.6	< 0.5
Anthracene	0.5	mg/kg	0.5	1.2	< 0.5
Benz(a)anthracene	0.5	mg/kg	1.8	4.3	< 0.5
Benzo(a)pyrene	0.5	mg/kg	1.8	4.8	< 0.5
Benzo(b&j)fluoranthene ^{N07}	0.5	mg/kg	3.7	4.8	< 0.5
Benzo(g,h,i)perylene	0.5	mg/kg	< 0.5	2.8	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	2.8	2.5	< 0.5
Chrysene	0.5	mg/kg	1.4	3.5	< 0.5
Dibenz(a,h)anthracene	0.5	mg/kg	< 0.5	0.6	< 0.5
Fluoranthene	0.5	mg/kg	3.2	7.8	< 0.5
Fluorene	0.5	mg/kg	< 0.5	< 0.5	< 0.5
Indeno(1,2,3-cd)pyrene	0.5	mg/kg	1.0	2.3	< 0.5
Naphthalene	0.5	mg/kg	< 0.5	< 0.5	< 0.5

Client Sample ID Sample Matrix Eurofins mgt Sample No. Date Sampled Test/Reference	LOR	Unit	SS1 Soil S13-Oc14519 Oct 16, 2013	SS2 Soil S13-Oc14520 Oct 16, 2013	SS3 Soil S13-Oc14521 Oct 16, 2013
Polycyclic Aromatic Hydrocarbons					
Phenanthrene	0.5	mg/kg	1.3	4.5	< 0.5
Pyrene	0.5	mg/kg	3.0	7.7	< 0.5
Total PAH	0.5	mg/kg	21	47	< 0.5
Benzo(a)pyrene TEQ*	0.5	mg/kg	3.0	6.9	0.6
2-Fluorobiphenyl (surr.)	1	%	95	90	103
p-Terphenyl-d14 (surr.)	1	%	109	96	114
Organochlorine Pesticides					
Chlordanes - Total	0.1	mg/kg	< 0.1	< 0.1	< 0.1
4,4'-DDD	0.05	mg/kg	< 0.05	< 0.05	< 0.05
4,4'-DDE	0.05	mg/kg	< 0.05	< 0.05	< 0.05
4,4'-DDT	0.05	mg/kg	< 0.05	< 0.05	< 0.05
a-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05
Aldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05
b-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05
d-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05
Dieldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05
Endosulfan I	0.05	mg/kg	< 0.05	< 0.05	< 0.05
Endosulfan II	0.05	mg/kg	< 0.05	< 0.05	< 0.05
Endosulfan sulphate	0.05	mg/kg	< 0.05	< 0.05	< 0.05
Endrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05
Endrin aldehyde	0.05	mg/kg	< 0.05	< 0.05	< 0.05
Endrin ketone	0.05	mg/kg	< 0.05	< 0.05	< 0.05
g-BHC (Lindane)	0.05	mg/kg	< 0.05	< 0.05	< 0.05
Heptachlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05
Heptachlor epoxide	0.05	mg/kg	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	0.05	mg/kg	< 0.05	< 0.05	< 0.05
Methoxychlor	0.2	mg/kg	< 0.2	< 0.2	< 0.2
Toxaphene	1	mg/kg	< 1	< 1	< 1
Dibutylchloredate (surr.)	1	%	83	92	122
Tetrachloro-m-xylene (surr.)	1	%	85	88	90
Polychlorinated Biphenyls (PCB)					
Aroclor-1016	0.5	mg/kg	< 0.5	< 0.5	< 0.5
Aroclor-1232	0.5	mg/kg	< 0.5	< 0.5	< 0.5
Aroclor-1242	0.5	mg/kg	< 0.5	< 0.5	< 0.5
Aroclor-1248	0.5	mg/kg	< 0.5	< 0.5	< 0.5
Aroclor-1254	0.5	mg/kg	< 0.5	< 0.5	< 0.5
Aroclor-1260	0.5	mg/kg	< 0.5	< 0.5	< 0.5
Total PCB	0.5	mg/kg	< 0.5	< 0.5	< 0.5
Dibutylchloredate (surr.)	1	%	83	92	122
Speciated Phenols					
2,4-Dichlorophenol	0.5	mg/kg	< 0.5	-	< 0.5
2,4-Dimethylphenol	0.5	mg/kg	< 0.5	-	< 0.5
2,4,5-Trichlorophenol	0.5	mg/kg	< 0.5	-	< 0.5
2,4,6-Trichlorophenol	0.5	mg/kg	< 0.5	-	< 0.5
Phenol	0.5	mg/kg	< 0.5	-	< 0.5
2-Methylphenol (o-Cresol)	0.5	mg/kg	< 0.5	-	< 0.5
3&4-Methylphenol (m&p-Cresol)	1	mg/kg	< 1	-	< 1
2-Chlorophenol	0.5	mg/kg	< 0.5	-	< 0.5

Client Sample ID			SS1	SS2	SS3
Sample Matrix			Soil	Soil	Soil
Eurofins mgt Sample No.			S13-Oc14519	S13-Oc14520	S13-Oc14521
Date Sampled			Oct 16, 2013	Oct 16, 2013	Oct 16, 2013
Test/Reference	LOR	Unit			
Speciated Phenols					
2-Nitrophenol	0.5	mg/kg	< 0.5	-	< 0.5
4-Chloro-3-methylphenol	0.5	mg/kg	< 0.5	-	< 0.5
Pentachlorophenol	1	mg/kg	< 1	-	< 1
Phenol-d5 (surr.)	1	%	87	-	95
Cyanide (total)	1	mg/kg	< 1	-	< 1
% Moisture	0.1	%	11	19	31
Heavy Metals					
Arsenic	2	mg/kg	39	8.5	< 2
Cadmium	0.4	mg/kg	< 0.4	1.8	1.7
Chromium	5	mg/kg	18	15	27
Copper	5	mg/kg	86	110	5.5
Lead	5	mg/kg	450	330	46
Mercury	0.05	mg/kg	0.32	0.31	< 0.05
Nickel	5	mg/kg	22	13	10
Zinc	5	mg/kg	1700	720	15

Sample History

Where samples are submitted/analysed over several days, the last date of extraction and analysis is reported. A recent review of our LIMS has resulted in the correction or clarification of some method identifications. Due to this, some of the method reference information on reports has changed. However, no substantive change has been made to our laboratory methods, and as such there is no change in the validity of current or previous results (regarding both quality and NATA accreditation).

Description	Testing Site	Extracted	Holding Time
Eurofins mgt Suite 7A			
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Sydney	Oct 22, 2013	14 Day
- Method: E004 Petroleum Hydrocarbons (TPH)			
BTEX	Sydney	Oct 22, 2013	14 Day
- Method: E029/E016 BTEX			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Sydney	Oct 22, 2013	14 Day
- Method: LM-LTM-ORG2010			
Polycyclic Aromatic Hydrocarbons	Sydney	Oct 22, 2013	14 Day
- Method: E007 Polyaromatic Hydrocarbons (PAH)			
Speciated Phenols	Sydney	Oct 22, 2013	14 Day
- Method: E008 Speciated Phenols			
Metals M8	Sydney	Oct 22, 2013	28 Day
- Method: E022 Acid Extractable metals in Soils & E026 Mercury			
Eurofins mgt Suite 13			
Organochlorine Pesticides	Sydney	Oct 22, 2013	14 Day
- Method: E013 Organochlorine Pesticides (OC)			
Polychlorinated Biphenyls (PCB)	Sydney	Oct 22, 2013	28 Day
- Method: E013 Polychlorinated Biphenyls (PCB)			
Cyanide (total)	Sydney	Oct 22, 2013	14 Day
- Method: E040 /E054 Total Cyanide			
% Moisture	Sydney	Oct 22, 2013	28 Day
- Method: E005 Moisture Content			

Company Name:	Aargus P/L	Order No.:		Received:	Oct 18, 2013 2:45 PM
Address:	446 Parramatta Road	Report #:	396799	Due:	Oct 25, 2013
	Petersham	Phone:	1300 137 038	Priority:	5 Day
	NSW 2049	Fax:	1300 136 038	Contact Name:	Mark Kelly
Client Job No.:	MARRICKVILLE ES5611-2				
					Eurofins mgt Client Manager: Ruth Callander

Eurofins mgt Suite 7A			X					X	
Eurofins mgt Suite 7			X						X
Eurofins mgt Suite 13			X					X	
Polychlorinated Biphenyls (PCB)			X						X
Organochlorine Pesticides			X						X
Cyanide (total)			X					X	
% Moisture			X					X	
Sample Detail	Laboratory where analysis is conducted								
	Melbourne Laboratory - NATA Site # 1254 & 14271								
	Sydney Laboratory - NATA Site # 18217								
	Brisbane Laboratory - NATA Site # 20794								
	External Laboratory								
	Sample ID	Sample Date	Sampling Time	Matrix	LAB ID				
	SS1	Oct 16, 2013		Soil	S13-Oc14519			X	
	SS2	Oct 16, 2013		Soil	S13-Oc14520			X	
	SS3	Oct 16, 2013		Soil	S13-Oc14521			X	

Eurofins | mgt Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples are included in this QC report where applicable. Additional QC data may be available on request.
2. All soil results are reported on a dry basis, unless otherwise stated.
3. Actual PQLs are matrix dependant. Quoted PQLs may be raised where sample extracts are diluted due to interferences.
4. Results are uncorrected for matrix spikes or surrogate recoveries.
5. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
6. Samples were analysed on an 'as received' basis. 7. This report replaces any interim results previously issued.

Holding Times

Please refer to 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours prior to sample receipt deadlines as stated on the Sample Receipt Acknowledgment.

If the Laboratory did not receive the information in the required timeframe, and regardless of any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the date of sampling, therefore compliance to these may be outside the laboratory's control.

****NOTE:** pH duplicates are reported as a range NOT as RPD

UNITS

mg/kg: milligrams per Kilogram

mg/l: milligrams per litre

ug/l: micrograms per litre

ppm: Parts per million

ppb: Parts per billion

%: Percentage

org/100ml: Organisms per 100 millilitres

NTU: Units

MPN/100mL: Most Probable Number of organisms per 100 millilitres

TERMS

Dry	Where a moisture has been determined on a solid sample the result is expressed on a dry basis.
LOR	Limit of Reporting.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
LCS	Laboratory Control Sample - reported as percent recovery
CRM	Certified Reference Material - reported as percent recovery
Method Blank	In the case of solid samples these are performed on laboratory certified clean sands. In the case of water samples these are performed on de-ionised water.
Surr - Surrogate	The addition of a like compound to the analyte target and reported as percentage recovery.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
Batch Duplicate	A second piece of analysis from a sample outside of the clients batch of samples but run within the laboratory batch of analysis.
Batch SPIKE	Spike recovery reported on a sample from outside of the clients batch of samples but run within the laboratory batch of analysis.
USEPA	United States Environment Protection Authority
APHA	American Public Health Association
ASLP	Australian Standard Leaching Procedure (AS4439.3)
TCLP	Toxicity Characteristic Leaching Procedure
COC	Chain of Custody
SRA	Sample Receipt Advice
CP	Client Parent - QC was performed on samples pertaining to this report
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC is representative of the sequence or batch that client samples were analysed within

QC - ACCEPTANCE CRITERIA

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is 30% however the following acceptance guidelines are equally applicable:

Results <10 times the LOR : No Limit

Results between 10-20 times the LOR : RPD must lie between 0-50%

Results >20 times the LOR : RPD must lie between 0-30%

Surrogate Recoveries : Recoveries must lie between 50-150% - Phenols 20-130%.

QC DATA GENERAL COMMENTS

1. Where a result is reported as a less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch, but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown is not data from your samples.
3. Organochlorine Pesticide analysis - where reporting LCS data, Toxophene & Chlordane are not added to the LCS.
4. Organochlorine Pesticide analysis - where reporting Spike data, Toxophene is not added to the Spike.
5. Total Recoverable Hydrocarbons - where reporting Spike & LCS data, a single spike of commercial Hydrocarbon products in the range of C12-C30 is added and it's Total Recovery is reported in the C10-C14 cell of the Report.
6. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling. Therefore laboratory analysis is unlikely to be completed within holding time. Analysis will begin as soon as possible after sample receipt.
7. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of Recovery the term "INT" appears against that analyte.
8. Polychlorinated Biphenyls are spiked only using Arochlor 1260 in Matrix Spikes and LCS's.
9. For Matrix Spikes and LCS results a dash " - " in the report means that the specific analyte was not added to the QC sample.
10. Duplicate RPD's are calculated from raw analytical data thus it is possible to have two sets of data.

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions E004 Petroleum Hydrocarbons (TPH)							
TRH C6-C9	mg/kg	< 20			20	Pass	
TRH C10-C14	mg/kg	< 20			20	Pass	
TRH C15-C28	mg/kg	< 50			50	Pass	
TRH C29-C36	mg/kg	< 50			50	Pass	
Method Blank							
BTEX E029/E016 BTEX							
Benzene	mg/kg	< 0.1			0.1	Pass	
Toluene	mg/kg	< 0.1			0.1	Pass	
Ethylbenzene	mg/kg	< 0.1			0.1	Pass	
m&p-Xylenes	mg/kg	< 0.2			0.2	Pass	
o-Xylene	mg/kg	< 0.1			0.1	Pass	
Xylenes - Total	mg/kg	< 0.3			0.3	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions LM-LTM-ORG2010							
Naphthalene	mg/kg	< 0.5			0.5	Pass	
TRH C6-C10	mg/kg	< 20			20	Pass	
TRH C6-C10 less BTEX (F1)	mg/kg	< 20			20	Pass	
TRH >C10-C16	mg/kg	< 50			50	Pass	
TRH >C16-C34	mg/kg	< 100			100	Pass	
TRH >C34-C40	mg/kg	< 100			100	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons E007 Polycyclic Aromatic Hydrocarbons (PAH)							
Acenaphthene	mg/kg	< 0.5			0.5	Pass	
Acenaphthylene	mg/kg	< 0.5			0.5	Pass	
Anthracene	mg/kg	< 0.5			0.5	Pass	
Benz(a)anthracene	mg/kg	< 0.5			0.5	Pass	
Benzo(a)pyrene	mg/kg	< 0.5			0.5	Pass	
Benzo(b&j)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Benzo(g,h,i)perylene	mg/kg	< 0.5			0.5	Pass	
Benzo(k)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Chrysene	mg/kg	< 0.5			0.5	Pass	
Dibenz(a,h)anthracene	mg/kg	< 0.5			0.5	Pass	
Fluoranthene	mg/kg	< 0.5			0.5	Pass	
Fluorene	mg/kg	< 0.5			0.5	Pass	
Indeno(1,2,3-cd)pyrene	mg/kg	< 0.5			0.5	Pass	
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Phenanthrene	mg/kg	< 0.5			0.5	Pass	
Pyrene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Organochlorine Pesticides E013 Organochlorine Pesticides (OC)							
Chlordanes - Total	mg/kg	< 0.1			0.1	Pass	
4,4'-DDD	mg/kg	< 0.05			0.05	Pass	
4,4'-DDE	mg/kg	< 0.05			0.05	Pass	
4,4'-DDT	mg/kg	< 0.05			0.05	Pass	
a-BHC	mg/kg	< 0.05			0.05	Pass	
Aldrin	mg/kg	< 0.05			0.05	Pass	
b-BHC	mg/kg	< 0.05			0.05	Pass	
d-BHC	mg/kg	< 0.05			0.05	Pass	
Dieldrin	mg/kg	< 0.05			0.05	Pass	
Endosulfan I	mg/kg	< 0.05			0.05	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Endosulfan II	mg/kg	< 0.05			0.05	Pass	
Endosulfan sulphate	mg/kg	< 0.05			0.05	Pass	
Endrin	mg/kg	< 0.05			0.05	Pass	
Endrin aldehyde	mg/kg	< 0.05			0.05	Pass	
Endrin ketone	mg/kg	< 0.05			0.05	Pass	
g-BHC (Lindane)	mg/kg	< 0.05			0.05	Pass	
Heptachlor	mg/kg	< 0.05			0.05	Pass	
Heptachlor epoxide	mg/kg	< 0.05			0.05	Pass	
Hexachlorobenzene	mg/kg	< 0.05			0.05	Pass	
Methoxychlor	mg/kg	< 0.2			0.2	Pass	
Toxaphene	mg/kg	< 1			1	Pass	
Method Blank							
Polychlorinated Biphenyls (PCB) E013 Polychlorinated Biphenyls (PCB)							
Aroclor-1016	mg/kg	< 0.5			0.5	Pass	
Aroclor-1232	mg/kg	< 0.5			0.5	Pass	
Aroclor-1242	mg/kg	< 0.5			0.5	Pass	
Aroclor-1248	mg/kg	< 0.5			0.5	Pass	
Aroclor-1254	mg/kg	< 0.5			0.5	Pass	
Aroclor-1260	mg/kg	< 0.5			0.5	Pass	
Total PCB	mg/kg	0			0.5	Pass	
Method Blank							
Speciated Phenols E008 Speciated Phenols							
2,4-Dichlorophenol	mg/kg	< 0.5			0.5	Pass	
2,4-Dimethylphenol	mg/kg	< 0.5			0.5	Pass	
2,4,5-Trichlorophenol	mg/kg	< 0.5			0.5	Pass	
2,4,6-Trichlorophenol	mg/kg	< 0.5			0.5	Pass	
Phenol	mg/kg	< 0.5			0.5	Pass	
2-Methylphenol (o-Cresol)	mg/kg	< 0.5			0.5	Pass	
3&4-Methylphenol (m&p-Cresol)	mg/kg	< 1			1	Pass	
2-Chlorophenol	mg/kg	< 0.5			0.5	Pass	
2-Nitrophenol	mg/kg	< 0.5			0.5	Pass	
4-Chloro-3-methylphenol	mg/kg	< 0.5			0.5	Pass	
Pentachlorophenol	mg/kg	< 1			1	Pass	
Method Blank							
Cyanide (total)	mg/kg	< 1			1	Pass	
Method Blank							
Metals M8 E022 Acid Extractable metals in Soils & E026 Mercury							
Cadmium	mg/kg	< 0.4			0.4	Pass	
Chromium	mg/kg	< 5			5	Pass	
Copper	mg/kg	< 5			5	Pass	
Lead	mg/kg	< 5			5	Pass	
Mercury	mg/kg	< 0.05			0.05	Pass	
Nickel	mg/kg	< 5			5	Pass	
Zinc	mg/kg	< 5			5	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions E004 Petroleum Hydrocarbons (TPH)							
TRH C6-C9	%	93			70-130	Pass	
TRH C10-C14	%	78			70-130	Pass	
LCS - % Recovery							
BTEX E029/E016 BTEX							
Benzene	%	98			70-130	Pass	
Toluene	%	96			70-130	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Ethylbenzene	%	97			70-130	Pass	
m&p-Xylenes	%	102			70-130	Pass	
o-Xylene	%	100			70-130	Pass	
Xylenes - Total	%	101			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions LM-LTM-ORG2010							
Naphthalene	%	71			70-130	Pass	
TRH C6-C10	%	82			70-130	Pass	
TRH >C10-C16	%	89			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons E007 Polyaromatic Hydrocarbons (PAH)							
Acenaphthene	%	91			70-130	Pass	
Acenaphthylene	%	94			70-130	Pass	
Anthracene	%	85			70-130	Pass	
Benz(a)anthracene	%	103			70-130	Pass	
Benzo(a)pyrene	%	97			70-130	Pass	
Benzo(b&j)fluoranthene	%	104			70-130	Pass	
Benzo(g,h,i)perylene	%	92			70-130	Pass	
Benzo(k)fluoranthene	%	101			70-130	Pass	
Chrysene	%	96			70-130	Pass	
Dibenz(a,h)anthracene	%	84			70-130	Pass	
Fluoranthene	%	99			70-130	Pass	
Fluorene	%	94			70-130	Pass	
Indeno(1,2,3-cd)pyrene	%	87			70-130	Pass	
Naphthalene	%	90			70-130	Pass	
Phenanthrene	%	90			70-130	Pass	
Pyrene	%	95			70-130	Pass	
LCS - % Recovery							
Organochlorine Pesticides E013 Organochlorine Pesticides (OC)							
Chlordanes - Total	%	94			70-130	Pass	
4,4'-DDD	%	97			70-130	Pass	
4,4'-DDE	%	96			70-130	Pass	
4,4'-DDT	%	93			70-130	Pass	
a-BHC	%	101			70-130	Pass	
Aldrin	%	103			70-130	Pass	
b-BHC	%	86			70-130	Pass	
d-BHC	%	85			70-130	Pass	
Dieldrin	%	96			70-130	Pass	
Endosulfan I	%	102			70-130	Pass	
Endosulfan II	%	86			70-130	Pass	
Endosulfan sulphate	%	70			70-130	Pass	
Endrin	%	98			70-130	Pass	
Endrin aldehyde	%	70			70-130	Pass	
Endrin ketone	%	77			70-130	Pass	
g-BHC (Lindane)	%	96			70-130	Pass	
Heptachlor	%	98			70-130	Pass	
Heptachlor epoxide	%	96			70-130	Pass	
Hexachlorobenzene	%	97			70-130	Pass	
Methoxychlor	%	74			70-130	Pass	
LCS - % Recovery							
Polychlorinated Biphenyls (PCB) E013 Polychlorinated Biphenyls (PCB)							
Aroclor-1260	%	80			70-130	Pass	
LCS - % Recovery							

Test				Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Speciated Phenols E008 Speciated Phenols										
2,4-Dichlorophenol				%	97			30-130	Pass	
2,4-Dimethylphenol				%	94			30-130	Pass	
2,4,5-Trichlorophenol				%	95			30-130	Pass	
2,4,6-Trichlorophenol				%	93			30-130	Pass	
Phenol				%	86			30-130	Pass	
2-Methylphenol (o-Cresol)				%	87			30-130	Pass	
3&4-Methylphenol (m&p-Cresol)				%	82			30-130	Pass	
2-Chlorophenol				%	93			30-130	Pass	
2-Nitrophenol				%	83			30-130	Pass	
4-Chloro-3-methylphenol				%	85			30-130	Pass	
Pentachlorophenol				%	120			30-130	Pass	
LCS - % Recovery										
Cyanide (total)				%	96			70-130	Pass	
LCS - % Recovery										
Metals M8 E022 Acid Extractable metals in Soils & E026 Mercury										
Arsenic				%	97			70-130	Pass	
Cadmium				%	102			70-130	Pass	
Chromium				%	90			70-130	Pass	
Copper				%	111			70-130	Pass	
Lead				%	99			70-130	Pass	
Mercury				%	99			70-130	Pass	
Nickel				%	93			70-130	Pass	
Zinc				%	105			70-130	Pass	
Test	Lab Sample ID	QA Source	Units	Result 1				Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery										
Total Recoverable Hydrocarbons - 1999 NEPM Fractions					Result 1					
TRH C10-C14	S13-Oc16128	NCP	%	76				70-130	Pass	
Spike - % Recovery										
Total Recoverable Hydrocarbons - 2013 NEPM Fractions					Result 1					
TRH >C10-C16	S13-Oc16128	NCP	%	88				70-130	Pass	
Spike - % Recovery										
Polycyclic Aromatic Hydrocarbons					Result 1					
Acenaphthene	S13-Oc15265	NCP	%	106				70-130	Pass	
Acenaphthylene	S13-Oc15265	NCP	%	110				70-130	Pass	
Anthracene	S13-Oc15265	NCP	%	111				70-130	Pass	
Benz(a)anthracene	S13-Oc15265	NCP	%	125				70-130	Pass	
Benzo(a)pyrene	S13-Oc15265	NCP	%	115				70-130	Pass	
Benzo(b&j)fluoranthene	S13-Oc15265	NCP	%	121				70-130	Pass	
Benzo(g,h,i)perylene	S13-Oc15265	NCP	%	103				70-130	Pass	
Benzo(k)fluoranthene	S13-Oc15265	NCP	%	119				70-130	Pass	
Chrysene	S13-Oc15265	NCP	%	115				70-130	Pass	
Dibenz(a,h)anthracene	S13-Oc15265	NCP	%	101				70-130	Pass	
Fluoranthene	S13-Oc15265	NCP	%	118				70-130	Pass	
Fluorene	S13-Oc15265	NCP	%	108				70-130	Pass	
Indeno(1,2,3-cd)pyrene	S13-Oc15265	NCP	%	99				70-130	Pass	
Naphthalene	S13-Oc15265	NCP	%	106				70-130	Pass	
Phenanthrene	S13-Oc15265	NCP	%	108				70-130	Pass	
Pyrene	S13-Oc15265	NCP	%	118				70-130	Pass	
Spike - % Recovery										
Organochlorine Pesticides					Result 1					
Chlordanes - Total	S13-Oc17681	NCP	%	87				70-130	Pass	
4,4'-DDD	S13-Oc17681	NCP	%	94				70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
4,4'-DDE	S13-Oc17681	NCP	%	91			70-130	Pass	
4,4'-DDT	S13-Oc17681	NCP	%	71			70-130	Pass	
a-BHC	S13-Oc17681	NCP	%	99			70-130	Pass	
Aldrin	S13-Oc17681	NCP	%	91			70-130	Pass	
b-BHC	S13-Oc17681	NCP	%	79			70-130	Pass	
d-BHC	S13-Oc17681	NCP	%	81			70-130	Pass	
Dieldrin	S13-Oc17681	NCP	%	92			70-130	Pass	
Endosulfan I	S13-Oc17681	NCP	%	95			70-130	Pass	
Endosulfan II	S13-Oc17681	NCP	%	91			70-130	Pass	
Endosulfan sulphate	S13-Oc17681	NCP	%	71			70-130	Pass	
Endrin	S13-Oc17681	NCP	%	90			70-130	Pass	
Endrin aldehyde	S13-Oc17681	NCP	%	71			70-130	Pass	
Endrin ketone	S13-Oc17681	NCP	%	92			70-130	Pass	
g-BHC (Lindane)	S13-Oc17681	NCP	%	90			70-130	Pass	
Heptachlor	S13-Oc17681	NCP	%	87			70-130	Pass	
Heptachlor epoxide	S13-Oc17681	NCP	%	91			70-130	Pass	
Hexachlorobenzene	S13-Oc17681	NCP	%	123			70-130	Pass	
Methoxychlor	S13-Oc17681	NCP	%	73			70-130	Pass	
Spike - % Recovery									
Polychlorinated Biphenyls (PCB)				Result 1					
Aroclor-1260	S13-Oc16239	NCP	%	91			70-130	Pass	
Spike - % Recovery									
Speciated Phenols				Result 1					
2,4-Dichlorophenol	S13-Oc13461	NCP	%	96			30-130	Pass	
2,4-Dimethylphenol	S13-Oc13461	NCP	%	95			30-130	Pass	
2,4,5-Trichlorophenol	S13-Oc13461	NCP	%	95			30-130	Pass	
2,4,6-Trichlorophenol	S13-Oc13461	NCP	%	92			30-130	Pass	
Phenol	S13-Oc13461	NCP	%	83			30-130	Pass	
2-Methylphenol (o-Cresol)	S13-Oc13461	NCP	%	77			30-130	Pass	
3&4-Methylphenol (m&p-Cresol)	S13-Oc13461	NCP	%	84			30-130	Pass	
2-Chlorophenol	S13-Oc13461	NCP	%	91			30-130	Pass	
2-Nitrophenol	S13-Oc13461	NCP	%	88			30-130	Pass	
4-Chloro-3-methylphenol	S13-Oc13461	NCP	%	85			30-130	Pass	
Pentachlorophenol	S13-Oc13461	NCP	%	78			30-130	Pass	
Spike - % Recovery									
				Result 1					
Cyanide (total)	S13-Oc13558	NCP	%	79			70-130	Pass	
Spike - % Recovery									
Metals M8				Result 1					
Arsenic	S13-Oc16128	NCP	%	116			70-130	Pass	
Cadmium	S13-Oc16128	NCP	%	112			70-130	Pass	
Chromium	S13-Oc16128	NCP	%	127			70-130	Pass	
Copper	S13-Oc16128	NCP	%	101			70-130	Pass	
Lead	S13-Oc16128	NCP	%	123			70-130	Pass	
Mercury	S13-Oc16520	NCP	%	99			70-130	Pass	
Nickel	S13-Oc16520	NCP	%	98			70-130	Pass	
Zinc	S13-Oc16128	NCP	%	100			70-130	Pass	
Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1	Result 2	RPD			
TRH C6-C9	S13-Oc16126	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C10-C14	S13-Oc16128	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C15-C28	S13-Oc16128	NCP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH C29-C36	S13-Oc16128	NCP	mg/kg	< 50	< 50	<1	30%	Pass	

Duplicate								
BTEX				Result 1	Result 2	RPD		
Benzene	S13-Oc16126	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
Toluene	S13-Oc16126	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
Ethylbenzene	S13-Oc16126	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
m&p-Xylenes	S13-Oc16126	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
o-Xylene	S13-Oc16126	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
Xylenes - Total	S13-Oc16126	NCP	mg/kg	< 0.3	< 0.3	<1	30%	Pass
Duplicate								
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD		
Naphthalene	S13-Oc16126	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
TRH C6-C10	S13-Oc16126	NCP	mg/kg	< 20	< 20	<1	30%	Pass
TRH C6-C10 less BTEX (F1)	S13-Oc16126	NCP	mg/kg	< 20	< 20	<1	30%	Pass
TRH >C10-C16	S13-Oc16128	NCP	mg/kg	< 50	< 50	<1	30%	Pass
TRH >C16-C34	S13-Oc16128	NCP	mg/kg	< 100	< 100	<1	30%	Pass
TRH >C34-C40	S13-Oc16128	NCP	mg/kg	< 100	< 100	<1	30%	Pass
Duplicate								
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD		
Acenaphthene	S13-Oc13471	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Acenaphthylene	S13-Oc13471	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Anthracene	S13-Oc13471	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Benz(a)anthracene	S13-Oc13471	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Benzo(a)pyrene	S13-Oc13471	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Benzo(b&j)fluoranthene	S13-Oc13471	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Benzo(g,h,i)perylene	S13-Oc13471	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Benzo(k)fluoranthene	S13-Oc13471	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Chrysene	S13-Oc13471	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Dibenz(a,h)anthracene	S13-Oc13471	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Fluoranthene	S13-Oc13471	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Fluorene	S13-Oc13471	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Indeno(1,2,3-cd)pyrene	S13-Oc13471	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Naphthalene	S13-Oc13471	NCP	mg/kg	3.9	4.4	12	30%	Pass
Phenanthrene	S13-Oc13471	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Pyrene	S13-Oc13471	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Duplicate								
Organochlorine Pesticides				Result 1	Result 2	RPD		
Chlordanes - Total	S13-Oc16239	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
4,4'-DDD	S13-Oc16239	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
4,4'-DDE	S13-Oc16239	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
4,4'-DDT	S13-Oc16239	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
a-BHC	S13-Oc16239	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Aldrin	S13-Oc16239	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
b-BHC	S13-Oc16239	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
d-BHC	S13-Oc16239	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Dieldrin	S13-Oc16239	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endosulfan I	S13-Oc16239	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endosulfan II	S13-Oc16239	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endosulfan sulphate	S13-Oc16239	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endrin	S13-Oc16239	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endrin aldehyde	S13-Oc16239	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endrin ketone	S13-Oc16239	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
g-BHC (Lindane)	S13-Oc16239	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Heptachlor	S13-Oc16239	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Heptachlor epoxide	S13-Oc16239	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Hexachlorobenzene	S13-Oc16239	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Methoxychlor	S13-Oc16239	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass

Duplicate								
Organochlorine Pesticides				Result 1	Result 2	RPD		
Toxaphene	S13-Oc17681	NCP	mg/kg	< 1	< 1	<1	30%	Pass
Duplicate								
Polychlorinated Biphenyls (PCB)				Result 1	Result 2	RPD		
Aroclor-1016	S13-Oc16239	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Aroclor-1232	S13-Oc16239	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Aroclor-1242	S13-Oc16239	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Aroclor-1248	S13-Oc16239	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Aroclor-1254	S13-Oc16239	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Aroclor-1260	S13-Oc16239	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Duplicate								
Speciated Phenols				Result 1	Result 2	RPD		
2,4-Dichlorophenol	S13-Oc13471	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
2,4-Dimethylphenol	S13-Oc13471	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
2,4,5-Trichlorophenol	S13-Oc13471	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
2,4,6-Trichlorophenol	S13-Oc13471	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Phenol	S13-Oc13471	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
2-Methylphenol (o-Cresol)	S13-Oc13471	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
3&4-Methylphenol (m&p-Cresol)	S13-Oc13471	NCP	mg/kg	< 1	< 1	<1	30%	Pass
2-Chlorophenol	S13-Oc13471	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
2-Nitrophenol	S13-Oc13471	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
4-Chloro-3-methylphenol	S13-Oc13471	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Pentachlorophenol	S13-Oc13471	NCP	mg/kg	< 1	< 1	<1	30%	Pass
Duplicate								
				Result 1	Result 2	RPD		
Cyanide (total)	S13-Oc13558	NCP	mg/kg	2.2	2.4	9.0	30%	Pass
Duplicate								
Metals M8				Result 1	Result 2	RPD		
Arsenic	S13-Oc16128	NCP	mg/kg	17	< 2	200	30%	Fail Q15
Cadmium	S13-Oc16128	NCP	mg/kg	< 0.4	0.50	190	30%	Fail Q15
Chromium	S13-Oc16128	NCP	mg/kg	26	23	14	30%	Pass
Copper	S13-Oc16128	NCP	mg/kg	17	24	33	30%	Fail Q15
Lead	S13-Oc16128	NCP	mg/kg	20	22	8.0	30%	Pass
Mercury	S13-Oc16520	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Nickel	S13-Oc16128	NCP	mg/kg	24	36	38	30%	Fail Q15
Zinc	S13-Oc16128	NCP	mg/kg	30	37	20	30%	Pass

Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Organic samples had Teflon liners	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
N01	F2 is determined by arithmetically subtracting the "naphthalene" value from the ">C10-C16" value. The naphthalene value used in this calculation is obtained from volatiles (Purge & Trap analysis).
N02	Where we have reported both volatile (P&T GCMS) and semivolatile (GCMS) naphthalene data, results may not be identical. Provided correct sample handling protocols have been followed, any observed differences in results are likely to be due to procedural differences within each methodology. Results determined by both techniques have passed all QAQC acceptance criteria, and are entirely technically valid.
N04	F1 is determined by arithmetically subtracting the "Total BTEX" value from the "C6-C10" value. The "Total BTEX" value is obtained by summing the concentrations of BTEX analytes. The "C6-C10" value is obtained by quantitating against a standard of mixed aromatic/aliphatic analytes.
N07	Please note:- These two PAH isomers closely co-elute using the most contemporary analytical methods and both the reported concentration (and the TEQ) apply specifically to the total of the two co-eluting PAHs
Q15	The RPD reported passes Eurofins mgt's Acceptance Criteria as stipulated in SOP 05. Refer to Glossary Page of this report for further details

Authorised By

Ruth Callander	Client Services
Bob Symons	Senior Analyst-Inorganic (NSW)
James Norford	Senior Analyst-Metal (NSW)
Ryan Hamilton	Senior Analyst-Organic (NSW)
Ryan Hamilton	Senior Analyst-Volatile (NSW)



Dr. Bob Symons

Laboratory Manager

Final report - this Report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Uncertainty data is available on request

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Aargus P/L
446 Parramatta Road
Petersham
NSW 2049

Attention: Michael Silk

Report 398026-W
Client Reference MARRICKVILLE ES5611-2
Received Date Oct 30, 2013



Certificate of Analysis

NATA Accredited
Accreditation Number 1261
Site Number 16217

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.

Client Sample ID			GSS1
Sample Matrix			Water
Eurofins mgt Sample No.			S13-Oc23431
Date Sampled			Oct 29, 2013
Test/Reference	LOR	Unit	
Total Recoverable Hydrocarbons - 1999 NEPM Fractions			
TRH C6-C9	0.02	mg/L	< 0.02
TRH C10-C14	0.05	mg/L	< 0.05
TRH C15-C28	0.1	mg/L	< 0.1
TRH C29-C36	0.1	mg/L	< 0.1
TRH C10-36 (Total)	0.1	mg/L	< 0.1
BTEX			
Benzene	0.001	mg/L	< 0.001
Toluene	0.001	mg/L	< 0.001
Ethylbenzene	0.001	mg/L	< 0.001
m&p-Xylenes	0.002	mg/L	< 0.002
o-Xylene	0.001	mg/L	< 0.001
Xylenes - Total	0.003	mg/L	< 0.003
4-Bromofluorobenzene (surr.)	1	%	85
Total Recoverable Hydrocarbons - 2013 NEPM Fractions			
Naphthalene ^{N02}	0.02	mg/L	< 0.02
TRH C6-C10	0.02	mg/L	< 0.02
TRH C6-C10 less BTEX (F1) ^{N04}	0.02	mg/L	< 0.02
TRH >C10-C16	0.05	mg/L	< 0.05
TRH >C10-C16 less Naphthalene (F2) ^{N01}	0.05	mg/L	< 0.05
TRH >C16-C34	0.1	mg/L	< 0.1
TRH >C34-C40	0.1	mg/L	< 0.1
Volatile Organics			
1.1-Dichloroethane	0.001	mg/L	< 0.001
1.1-Dichloroethene	0.001	mg/L	< 0.001
1.1.1-Trichloroethane	0.001	mg/L	< 0.001
1.1.1.2-Tetrachloroethane	0.001	mg/L	< 0.001
1.1.2-Trichloroethane	0.001	mg/L	< 0.001
1.1.2.2-Tetrachloroethane	0.005	mg/L	< 0.005
1.2-Dibromoethane	0.001	mg/L	< 0.001
1.2-Dichlorobenzene	0.001	mg/L	< 0.001
1.2-Dichloroethane	0.001	mg/L	< 0.001
1.2-Dichloropropane	0.001	mg/L	< 0.001
1.2.3-Trichloropropane	0.001	mg/L	< 0.001
1.2.4-Trimethylbenzene	0.001	mg/L	< 0.001
1.3-Dichlorobenzene	0.001	mg/L	< 0.001
1.3-Dichloropropane	0.001	mg/L	< 0.001

Client Sample ID			GSS1
Sample Matrix			Water
Eurofins mgt Sample No.			S13-Oc23431
Date Sampled			Oct 29, 2013
Test/Reference	LOR	Unit	
Volatile Organics			
1,3,5-Trimethylbenzene	0.001	mg/L	< 0.001
1,4-Dichlorobenzene	0.001	mg/L	< 0.001
2-Butanone (MEK)	0.001	mg/L	< 0.001
4-Chlorotoluene	0.001	mg/L	< 0.001
4-Methyl-2-pentanone (MIBK)	0.001	mg/L	< 0.001
Benzene	0.001	mg/L	< 0.001
Bromobenzene	0.001	mg/L	< 0.001
Bromochloromethane	0.001	mg/L	< 0.001
Bromodichloromethane	0.001	mg/L	< 0.001
Bromoform	0.001	mg/L	< 0.001
Bromomethane	0.001	mg/L	< 0.001
Carbon disulfide	0.001	mg/L	< 0.001
Carbon Tetrachloride	0.001	mg/L	< 0.001
Chlorobenzene	0.001	mg/L	< 0.001
Chloroethane	0.001	mg/L	< 0.001
Chloroform	0.005	mg/L	< 0.005
Chloromethane	0.001	mg/L	< 0.001
cis-1,2-Dichloroethene	0.001	mg/L	< 0.001
cis-1,3-Dichloropropene	0.001	mg/L	< 0.001
Dibromochloromethane	0.001	mg/L	< 0.001
Dibromomethane	0.005	mg/L	< 0.005
Dichlorodifluoromethane	0.001	mg/L	< 0.001
Ethylbenzene	0.001	mg/L	< 0.001
Iodomethane	0.001	mg/L	< 0.001
Isopropyl benzene (Cumene)	0.001	mg/L	< 0.001
m&p-Xylenes	0.002	mg/L	< 0.002
Methylene Chloride	0.001	mg/L	< 0.001
o-Xylene	0.001	mg/L	< 0.001
Styrene	0.001	mg/L	< 0.001
Tetrachloroethene	0.001	mg/L	< 0.001
Toluene	0.001	mg/L	< 0.001
trans-1,2-Dichloroethene	0.001	mg/L	< 0.001
trans-1,3-Dichloropropene	0.001	mg/L	< 0.001
Trichloroethene	0.001	mg/L	< 0.001
Trichlorofluoromethane	0.001	mg/L	< 0.001
Vinyl chloride	0.001	mg/L	< 0.001
Xylenes - Total	0.003	mg/L	< 0.003
Fluorobenzene (surr.)	1	%	74
4-Bromofluorobenzene (surr.)	1	%	85
Polycyclic Aromatic Hydrocarbons			
Acenaphthene	0.001	mg/L	< 0.001
Acenaphthylene	0.001	mg/L	< 0.001
Anthracene	0.001	mg/L	< 0.001
Benz(a)anthracene	0.001	mg/L	< 0.001
Benzo(a)pyrene	0.001	mg/L	< 0.001
Benzo(b&j)fluoranthene ^{N07}	0.001	mg/L	< 0.001
Benzo(g,h,i)perylene	0.001	mg/L	< 0.001
Benzo(k)fluoranthene	0.001	mg/L	< 0.001
Chrysene	0.001	mg/L	< 0.001

Client Sample ID			GSS1
Sample Matrix			Water
Eurofins mgt Sample No.			S13-Oc23431
Date Sampled			Oct 29, 2013
Test/Reference	LOR	Unit	
Polycyclic Aromatic Hydrocarbons			
Dibenz(a,h)anthracene	0.001	mg/L	< 0.001
Fluoranthene	0.001	mg/L	< 0.001
Fluorene	0.001	mg/L	< 0.001
Indeno(1.2.3-cd)pyrene	0.001	mg/L	< 0.001
Naphthalene	0.001	mg/L	< 0.001
Phenanthrene	0.001	mg/L	< 0.001
Pyrene	0.001	mg/L	< 0.001
Total PAH	0.001	mg/L	< 0.001
2-Fluorobiphenyl (surr.)	1	%	96
p-Terphenyl-d14 (surr.)	1	%	105
Heavy Metals			
Arsenic (filtered)	0.001	mg/L	< 0.001
Cadmium (filtered)	0.0001	mg/L	0.0002
Chromium (filtered)	0.001	mg/L	< 0.001
Copper (filtered)	0.001	mg/L	< 0.001
Lead (filtered)	0.001	mg/L	< 0.001
Mercury (filtered)	0.0001	mg/L	< 0.0001
Nickel (filtered)	0.001	mg/L	0.006
Zinc (filtered)	0.005	mg/L	0.015

Sample History

Where samples are submitted/analysed over several days, the last date of extraction and analysis is reported.
A recent review of our LIMS has resulted in the correction or clarification of some method identifications. Due to this, some of the method reference information on reports has changed. However, no substantive change has been made to our laboratory methods, and as such there is no change in the validity of current or previous results (regarding both quality and NATA accreditation).

Description	Testing Site	Extracted	Holding Time
Total Recoverable Hydrocarbons - 1999 NEPM Fractions - Method: E004 Petroleum Hydrocarbons (TPH)	Sydney	Oct 31, 2013	7 Day
BTEX - Method: E029/E016 BTEX	Sydney	Oct 30, 2013	14 Day
Total Recoverable Hydrocarbons - 2013 NEPM Fractions - Method: LM-LTM-ORG2010	Sydney	Oct 31, 2013	7 Day
Polycyclic Aromatic Hydrocarbons - Method: E007 Polyaromatic Hydrocarbons (PAH)	Sydney	Oct 31, 2013	7 Day
Metals M8 filtered - Method: E020/E030 Filtered Metals in Water & E026 Mercury	Sydney	Oct 30, 2013	28 Day
Volatile Organics - Method: E016 Volatile Organic Compounds (VOC)	Sydney	Oct 31, 2013	7 Day

Melbourne
3/5 Kingston Town Close
Oakleigh VIC 3166
Phone : +61 3 9584 5000
NATA # 1261
Site # 1254 & 14271

Sydney
Unit F6, Building F
16 Mars Road
Lane Cove West NSW 2066
Phone : +61 2 9900 8400
NATA # 1261 Site # 18217

Brisbane
1/21 Smallwood Place
Murrumbidgee QLD 4172
Phone : +61 7 3902 4600
NATA # 1261 Site # 20794

Company Name: Aargus P/L
Address: 446 Parramatta Road
Petersham
NSW 2049

Client Job No.: MARRICKVILLE ES5611-2

Order No.:
Report #: 398026
Phone: 1300 137 038
Fax: 1300 136 038

Received: Oct 30, 2013 2:00 PM
Due: Nov 6, 2013
Priority: 5 Day
Contact Name: Michael Silk

Eurofins | mgt Client Manager: Ruth Callander

Sample Detail						
Laboratory where analysis is conducted					Eurofins mgt Suite 7 (filtered metals)	
					X	X
External Laboratory						
Sample ID	Sample Date	Sampling Time	Matrix	LAB ID		
GSS1	Oct 29, 2013		Water	S13-Oc23431	X	X

Eurofins | mgt Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples are included in this QC report where applicable. Additional QC data may be available on request.
2. All soil results are reported on a dry basis, unless otherwise stated.
3. Actual PQLs are matrix dependant. Quoted PQLs may be raised where sample extracts are diluted due to interferences.
4. Results are uncorrected for matrix spikes or surrogate recoveries.
5. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
6. Samples were analysed on an 'as received' basis. 7. This report replaces any interim results previously issued.

Holding Times

Please refer to 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours prior to sample receipt deadlines as stated on the Sample Receipt Acknowledgment.

If the Laboratory did not receive the information in the required timeframe, and regardless of any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the date of sampling, therefore compliance to these may be outside the laboratory's control.

****NOTE:** pH duplicates are reported as a range NOT as RPD

UNITS

mg/kg: milligrams per Kilogram

mg/l: milligrams per litre

ug/l: micrograms per litre

ppm: Parts per million

ppb: Parts per billion

%: Percentage

org/100ml: Organisms per 100 millilitres

NTU: Units

MPN/100mL: Most Probable Number of organisms per 100 millilitres

TERMS

Dry	Where a moisture has been determined on a solid sample the result is expressed on a dry basis.
LOR	Limit of Reporting.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
LCS	Laboratory Control Sample - reported as percent recovery
CRM	Certified Reference Material - reported as percent recovery
Method Blank	In the case of solid samples these are performed on laboratory certified clean sands. In the case of water samples these are performed on de-ionised water.
Surr - Surrogate	The addition of a like compound to the analyte target and reported as percentage recovery.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
Batch Duplicate	A second piece of analysis from a sample outside of the clients batch of samples but run within the laboratory batch of analysis.
Batch SPIKE	Spike recovery reported on a sample from outside of the clients batch of samples but run within the laboratory batch of analysis.
USEPA	United States Environment Protection Authority
APHA	American Public Health Association
ASLP	Australian Standard Leaching Procedure (AS4439.3)
TCLP	Toxicity Characteristic Leaching Procedure
COC	Chain of Custody
SRA	Sample Receipt Advice
CP	Client Parent - QC was performed on samples pertaining to this report
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC is representative of the sequence or batch that client samples were analysed within

QC - ACCEPTANCE CRITERIA

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is 30% however the following acceptance guidelines are equally applicable:

Results <10 times the LOR : No Limit

Results between 10-20 times the LOR : RPD must lie between 0-50%

Results >20 times the LOR : RPD must lie between 0-30%

Surrogate Recoveries : Recoveries must lie between 50-150% - Phenols 20-130%.

QC DATA GENERAL COMMENTS

1. Where a result is reported as a less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch, but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown is not data from your samples.
3. Organochlorine Pesticide analysis - where reporting LCS data, Toxophene & Chlordane are not added to the LCS.
4. Organochlorine Pesticide analysis - where reporting Spike data, Toxophene is not added to the Spike.
5. Total Recoverable Hydrocarbons - where reporting Spike & LCS data, a single spike of commercial Hydrocarbon products in the range of C12-C30 is added and it's Total Recovery is reported in the C10-C14 cell of the Report.
6. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling. Therefore laboratory analysis is unlikely to be completed within holding time. Analysis will begin as soon as possible after sample receipt.
7. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of Recovery the term "INT" appears against that analyte.
8. Polychlorinated Biphenyls are spiked only using Arochlor 1260 in Matrix Spikes and LCS's.
9. For Matrix Spikes and LCS results a dash " - " in the report means that the specific analyte was not added to the QC sample.
10. Duplicate RPD's are calculated from raw analytical data thus it is possible to have two sets of data.

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C6-C9	mg/L	< 0.02			0.02	Pass	
TRH C10-C14	mg/L	< 0.05			0.05	Pass	
TRH C15-C28	mg/L	< 0.1			0.1	Pass	
TRH C29-C36	mg/L	< 0.1			0.1	Pass	
Method Blank							
BTEX							
Benzene	mg/L	< 0.001			0.001	Pass	
Toluene	mg/L	< 0.001			0.001	Pass	
Ethylbenzene	mg/L	< 0.001			0.001	Pass	
m&p-Xylenes	mg/L	< 0.002			0.002	Pass	
o-Xylene	mg/L	< 0.001			0.001	Pass	
Xylenes - Total	mg/L	< 0.003			0.003	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	mg/L	< 0.02			0.02	Pass	
TRH C6-C10	mg/L	< 0.02			0.02	Pass	
TRH C6-C10 less BTEX (F1)	mg/L	< 0.02			0.02	Pass	
TRH >C10-C16	mg/L	< 0.05			0.05	Pass	
TRH >C16-C34	mg/L	< 0.1			0.1	Pass	
TRH >C34-C40	mg/L	< 0.1			0.1	Pass	
Method Blank							
Volatile Organics							
1.1-Dichloroethane	mg/L	< 0.001			0.001	Pass	
1.1-Dichloroethene	mg/L	< 0.001			0.001	Pass	
1.1.1-Trichloroethane	mg/L	< 0.001			0.001	Pass	
1.1.1.2-Tetrachloroethane	mg/L	< 0.001			0.001	Pass	
1.1.2-Trichloroethane	mg/L	< 0.001			0.001	Pass	
1.1.2.2-Tetrachloroethane	mg/L	< 0.005			0.005	Pass	
1.2-Dibromoethane	mg/L	< 0.001			0.001	Pass	
1.2-Dichlorobenzene	mg/L	< 0.001			0.001	Pass	
1.2-Dichloroethane	mg/L	< 0.001			0.001	Pass	
1.2-Dichloropropane	mg/L	< 0.001			0.001	Pass	
1.2.3-Trichloropropane	mg/L	< 0.001			0.001	Pass	
1.2.4-Trimethylbenzene	mg/L	< 0.001			0.001	Pass	
1.3-Dichlorobenzene	mg/L	< 0.001			0.001	Pass	
1.3-Dichloropropane	mg/L	< 0.001			0.001	Pass	
1.3.5-Trimethylbenzene	mg/L	< 0.001			0.001	Pass	
1.4-Dichlorobenzene	mg/L	< 0.001			0.001	Pass	
2-Butanone (MEK)	mg/L	< 0.001			0.001	Pass	
4-Chlorotoluene	mg/L	< 0.001			0.001	Pass	
4-Methyl-2-pentanone (MIBK)	mg/L	< 0.001			0.001	Pass	
Bromobenzene	mg/L	< 0.001			0.001	Pass	
Bromochloromethane	mg/L	< 0.001			0.001	Pass	
Bromodichloromethane	mg/L	< 0.001			0.001	Pass	
Bromoform	mg/L	< 0.001			0.001	Pass	
Bromomethane	mg/L	< 0.001			0.001	Pass	
Carbon disulfide	mg/L	< 0.001			0.001	Pass	
Carbon Tetrachloride	mg/L	< 0.001			0.001	Pass	
Chlorobenzene	mg/L	< 0.001			0.001	Pass	
Chloroethane	mg/L	< 0.001			0.001	Pass	
Chloroform	mg/L	< 0.005			0.005	Pass	
Chloromethane	mg/L	< 0.001			0.001	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
cis-1.2-Dichloroethene	mg/L	< 0.001			0.001	Pass	
cis-1.3-Dichloropropene	mg/L	< 0.001			0.001	Pass	
Dibromochloromethane	mg/L	< 0.001			0.001	Pass	
Dibromomethane	mg/L	< 0.005			0.005	Pass	
Dichlorodifluoromethane	mg/L	< 0.001			0.001	Pass	
Iodomethane	mg/L	< 0.001			0.001	Pass	
Isopropyl benzene (Cumene)	mg/L	< 0.001			0.001	Pass	
Methylene Chloride	mg/L	< 0.001			0.001	Pass	
Styrene	mg/L	< 0.001			0.001	Pass	
Tetrachloroethene	mg/L	< 0.001			0.001	Pass	
trans-1.2-Dichloroethene	mg/L	< 0.001			0.001	Pass	
trans-1.3-Dichloropropene	mg/L	< 0.001			0.001	Pass	
Trichloroethene	mg/L	< 0.001			0.001	Pass	
Trichlorofluoromethane	mg/L	< 0.001			0.001	Pass	
Vinyl chloride	mg/L	< 0.001			0.001	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	mg/L	< 0.001			0.001	Pass	
Acenaphthylene	mg/L	< 0.001			0.001	Pass	
Anthracene	mg/L	< 0.001			0.001	Pass	
Benz(a)anthracene	mg/L	< 0.001			0.001	Pass	
Benzo(a)pyrene	mg/L	< 0.001			0.001	Pass	
Benzo(b&j)fluoranthene	mg/L	< 0.001			0.001	Pass	
Benzo(g,h,i)perylene	mg/L	< 0.001			0.001	Pass	
Benzo(k)fluoranthene	mg/L	< 0.001			0.001	Pass	
Chrysene	mg/L	< 0.001			0.001	Pass	
Dibenz(a,h)anthracene	mg/L	< 0.001			0.001	Pass	
Fluoranthene	mg/L	< 0.001			0.001	Pass	
Fluorene	mg/L	< 0.001			0.001	Pass	
Indeno(1.2.3-cd)pyrene	mg/L	< 0.001			0.001	Pass	
Naphthalene	mg/L	< 0.001			0.001	Pass	
Phenanthrene	mg/L	< 0.001			0.001	Pass	
Pyrene	mg/L	< 0.001			0.001	Pass	
Method Blank							
Heavy Metals							
Arsenic (filtered)	mg/L	< 0.001			0.001	Pass	
Cadmium (filtered)	mg/L	< 0.0001			0.0001	Pass	
Chromium (filtered)	mg/L	< 0.001			0.001	Pass	
Copper (filtered)	mg/L	< 0.001			0.001	Pass	
Lead (filtered)	mg/L	< 0.001			0.001	Pass	
Mercury (filtered)	mg/L	< 0.0001			0.0001	Pass	
Nickel (filtered)	mg/L	< 0.001			0.001	Pass	
Zinc (filtered)	mg/L	< 0.005			0.005	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C6-C9	%	76			70-130	Pass	
TRH C10-C14	%	80			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	99			70-130	Pass	
Toluene	%	98			70-130	Pass	
Ethylbenzene	%	107			70-130	Pass	
m&p-Xylenes	%	106			70-130	Pass	
o-Xylene	%	104			70-130	Pass	
Xylenes - Total	%	93			70-130	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	%	79			70-130	Pass	
TRH C6-C10	%	81			70-130	Pass	
TRH >C10-C16	%	86			70-130	Pass	
LCS - % Recovery							
Volatile Organics							
1.1-Dichloroethane	%	103			75-125	Pass	
1.1-Dichloroethene	%	104			70-130	Pass	
1.1.1-Trichloroethane	%	111			70-130	Pass	
1.1.1.2-Tetrachloroethane	%	104			70-130	Pass	
1.1.2-Trichloroethane	%	90			70-130	Pass	
1.1.2.2-Tetrachloroethane	%	99			70-130	Pass	
1.2-Dibromoethane	%	93			70-130	Pass	
1.2-Dichlorobenzene	%	99			70-130	Pass	
1.2-Dichloroethane	%	92			70-130	Pass	
1.2-Dichloropropane	%	90			70-130	Pass	
1.2.3-Trichloropropane	%	91			70-130	Pass	
1.2.4-Trimethylbenzene	%	97			70-130	Pass	
1.3-Dichlorobenzene	%	99			70-130	Pass	
1.3-Dichloropropane	%	93			70-130	Pass	
1.3.5-Trimethylbenzene	%	100			70-130	Pass	
1.4-Dichlorobenzene	%	99			70-130	Pass	
2-Butanone (MEK)	%	80			70-130	Pass	
4-Chlorotoluene	%	101			70-130	Pass	
4-Methyl-2-pentanone (MIBK)	%	78			70-130	Pass	
Bromobenzene	%	97			70-130	Pass	
Bromochloromethane	%	105			70-130	Pass	
Bromodichloromethane	%	94			70-130	Pass	
Bromoform	%	116			70-130	Pass	
Bromomethane	%	118			70-130	Pass	
Carbon disulfide	%	109			70-130	Pass	
Carbon Tetrachloride	%	119			70-130	Pass	
Chlorobenzene	%	106			70-130	Pass	
Chloroethane	%	121			70-130	Pass	
Chloroform	%	108			70-130	Pass	
Chloromethane	%	99			70-130	Pass	
cis-1.2-Dichloroethene	%	106			70-130	Pass	
cis-1.3-Dichloropropene	%	92			70-130	Pass	
Dibromochloromethane	%	94			70-130	Pass	
Dibromomethane	%	92			70-130	Pass	
Dichlorodifluoromethane	%	77			70-130	Pass	
Iodomethane	%	90			75-125	Pass	
Isopropyl benzene (Cumene)	%	104			70-130	Pass	
Methylene Chloride	%	108			70-130	Pass	
Styrene	%	102			70-130	Pass	
Tetrachloroethene	%	97			70-130	Pass	
trans-1.2-Dichloroethene	%	108			70-130	Pass	
trans-1.3-Dichloropropene	%	92			70-130	Pass	
Trichloroethene	%	97			70-130	Pass	
Trichlorofluoromethane	%	110			70-130	Pass	
Vinyl chloride	%	99			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	%	109			70-130	Pass	

Test				Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Acenaphthylene				%	106			70-130	Pass	
Anthracene				%	116			70-130	Pass	
Benz(a)anthracene				%	102			70-130	Pass	
Benzo(a)pyrene				%	78			70-130	Pass	
Benzo(b&j)fluoranthene				%	98			70-130	Pass	
Benzo(g,h,i)perylene				%	88			70-130	Pass	
Benzo(k)fluoranthene				%	115			70-130	Pass	
Chrysene				%	113			70-130	Pass	
Dibenz(a,h)anthracene				%	93			70-130	Pass	
Fluoranthene				%	116			70-130	Pass	
Fluorene				%	109			70-130	Pass	
Indeno(1.2.3-cd)pyrene				%	81			70-130	Pass	
Naphthalene				%	110			70-130	Pass	
Phenanthrene				%	115			70-130	Pass	
Pyrene				%	121			70-130	Pass	
LCS - % Recovery										
Heavy Metals										
Arsenic (filtered)				%	104			70-130	Pass	
Cadmium (filtered)				%	106			70-130	Pass	
Chromium (filtered)				%	101			70-130	Pass	
Copper (filtered)				%	102			70-130	Pass	
Lead (filtered)				%	105			70-130	Pass	
Mercury (filtered)				%	91			70-130	Pass	
Nickel (filtered)				%	103			70-130	Pass	
Zinc (filtered)				%	110			70-130	Pass	
Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code	
Spike - % Recovery										
Total Recoverable Hydrocarbons - 1999 NEPM Fractions					Result 1					
TRH C6-C9	S13-Oc21181	NCP	%	91			70-130	Pass		
TRH C10-C14	S13-Oc21165	NCP	%	81			70-130	Pass		
Spike - % Recovery										
BTEX					Result 1					
Benzene	S13-Oc23829	NCP	%	103			70-130	Pass		
Toluene	S13-Oc23829	NCP	%	111			70-130	Pass		
Ethylbenzene	S13-Oc23829	NCP	%	123			70-130	Pass		
m&p-Xylenes	S13-Oc23829	NCP	%	110			70-130	Pass		
o-Xylene	S13-Oc23829	NCP	%	115			70-130	Pass		
Xylenes - Total	S13-Oc21181	NCP	%	94			70-130	Pass		
Spike - % Recovery										
Total Recoverable Hydrocarbons - 2013 NEPM Fractions					Result 1					
Naphthalene	S13-Oc23829	NCP	%	72			70-130	Pass		
TRH C6-C10	S13-Oc21181	NCP	%	82			70-130	Pass		
TRH >C10-C16	S13-Oc21165	NCP	%	88			70-130	Pass		
Spike - % Recovery										
Volatile Organics					Result 1					
1.1-Dichloroethane	S13-Oc23829	NCP	%	99			75-125	Pass		
1.1-Dichloroethene	S13-Oc23829	NCP	%	106			70-130	Pass		
1.1.1-Trichloroethane	S13-Oc23829	NCP	%	111			70-130	Pass		
1.1.1.2-Tetrachloroethane	S13-Oc23829	NCP	%	109			70-130	Pass		
1.1.2-Trichloroethane	S13-Oc23829	NCP	%	120			70-130	Pass		
1.1.2.2-Tetrachloroethane	S13-Oc23829	NCP	%	111			70-130	Pass		
1.2-Dibromoethane	S13-Oc23829	NCP	%	119			70-130	Pass		
1.2-Dichlorobenzene	S13-Oc23829	NCP	%	126			70-130	Pass		
1.2-Dichloroethane	S13-Oc23829	NCP	%	95			70-130	Pass		

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
1.2-Dichloropropane	S13-Oc23829	NCP	%	94			70-130	Pass	
1.2.3-Trichloropropane	S13-Oc23829	NCP	%	104			70-130	Pass	
1.2.4-Trimethylbenzene	S13-Oc23829	NCP	%	102			70-130	Pass	
1.3-Dichlorobenzene	S13-Oc23829	NCP	%	99			70-130	Pass	
1.3-Dichloropropane	S13-Oc23829	NCP	%	112			70-130	Pass	
1.3.5-Trimethylbenzene	S13-Oc23829	NCP	%	102			70-130	Pass	
1.4-Dichlorobenzene	S13-Oc23829	NCP	%	106			70-130	Pass	
2-Butanone (MEK)	S13-Oc23829	NCP	%	89			70-130	Pass	
4-Chlorotoluene	S13-Oc23829	NCP	%	100			70-130	Pass	
4-Methyl-2-pentanone (MIBK)	S13-Oc23829	NCP	%	123			70-130	Pass	
Bromobenzene	S13-Oc23829	NCP	%	106			70-130	Pass	
Bromoform	S13-Oc23829	NCP	%	115			70-130	Pass	
Bromomethane	S13-Oc23829	NCP	%	109			70-130	Pass	
Carbon disulfide	S13-Oc23829	NCP	%	108			70-130	Pass	
Carbon Tetrachloride	S13-Oc23829	NCP	%	119			70-130	Pass	
Chlorobenzene	S13-Oc23829	NCP	%	110			70-130	Pass	
Chloroethane	S13-Oc23829	NCP	%	129			70-130	Pass	
cis-1.2-Dichloroethene	S13-Oc23829	NCP	%	101			70-130	Pass	
cis-1.3-Dichloropropene	S13-Oc23829	NCP	%	118			70-130	Pass	
Dibromochloromethane	S13-Oc23829	NCP	%	112			70-130	Pass	
Dibromomethane	S13-Oc23829	NCP	%	98			70-130	Pass	
Dichlorodifluoromethane	S13-Oc23829	NCP	%	119			70-130	Pass	
Iodomethane	S13-Oc23829	NCP	%	96			75-125	Pass	
Isopropyl benzene (Cumene)	S13-Oc23829	NCP	%	112			70-130	Pass	
Methylene Chloride	S13-Oc23829	NCP	%	101			70-130	Pass	
Styrene	S13-Oc23829	NCP	%	111			70-130	Pass	
Tetrachloroethene	S13-Oc23829	NCP	%	115			70-130	Pass	
trans-1.2-Dichloroethene	S13-Oc23829	NCP	%	106			70-130	Pass	
trans-1.3-Dichloropropene	S13-Oc23829	NCP	%	118			70-130	Pass	
Trichloroethene	S13-Oc23829	NCP	%	103			70-130	Pass	
Trichlorofluoromethane	S13-Oc23829	NCP	%	113			70-130	Pass	
Vinyl chloride	S13-Oc23829	NCP	%	123			70-130	Pass	

Spike - % Recovery
Polycyclic Aromatic Hydrocarbons

				Result 1					
Acenaphthene	S13-Oc24820	NCP	%	104			70-130	Pass	
Acenaphthylene	S13-Oc24820	NCP	%	103			70-130	Pass	
Anthracene	S13-Oc24820	NCP	%	95			70-130	Pass	
Benz(a)anthracene	S13-Oc24820	NCP	%	109			70-130	Pass	
Benzo(a)pyrene	S13-Oc24820	NCP	%	96			70-130	Pass	
Benzo(b&j)fluoranthene	S13-Oc24820	NCP	%	116			70-130	Pass	
Benzo(g,h,i)perylene	S13-Oc24820	NCP	%	94			70-130	Pass	
Benzo(k)fluoranthene	S13-Oc24820	NCP	%	105			70-130	Pass	
Chrysene	S13-Oc24820	NCP	%	103			70-130	Pass	
Dibenz(a,h)anthracene	S13-Oc24820	NCP	%	85			70-130	Pass	
Fluoranthene	S13-Oc24820	NCP	%	114			70-130	Pass	
Fluorene	S13-Oc24820	NCP	%	107			70-130	Pass	
Indeno(1.2.3-cd)pyrene	S13-Oc24820	NCP	%	95			70-130	Pass	
Naphthalene	S13-Oc24820	NCP	%	104			70-130	Pass	
Phenanthrene	S13-Oc24820	NCP	%	110			70-130	Pass	
Pyrene	S13-Oc24820	NCP	%	113			70-130	Pass	

Spike - % Recovery
Heavy Metals

				Result 1					
Arsenic (filtered)	S13-Oc23415	NCP	%	110			70-130	Pass	
Cadmium (filtered)	S13-Oc23415	NCP	%	110			70-130	Pass	
Chromium (filtered)	S13-Oc23415	NCP	%	102			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Copper (filtered)	S13-Oc23415	NCP	%	94			70-130	Pass	
Lead (filtered)	S13-Oc23415	NCP	%	93			70-130	Pass	
Mercury (filtered)	S13-Oc23415	NCP	%	98			70-130	Pass	
Nickel (filtered)	S13-Oc23415	NCP	%	95			70-130	Pass	
Zinc (filtered)	S13-Oc23415	NCP	%	99			70-130	Pass	
Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1	Result 2	RPD			
TRH C6-C9	S13-Oc21164	NCP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
TRH C10-C14	S13-Oc24112	NCP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
TRH C15-C28	S13-Oc24112	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
TRH C29-C36	S13-Oc24112	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	S13-Oc23828	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Toluene	S13-Oc23828	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Ethylbenzene	S13-Oc23828	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
m&p-Xylenes	S13-Oc23828	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
o-Xylene	S13-Oc23828	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Xylenes - Total	S13-Oc21164	NCP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	S13-Oc23828	NCP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
TRH C6-C10	S13-Oc21164	NCP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
TRH C6-C10 less BTEX (F1)	S13-Oc21164	NCP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
TRH >C10-C16	S13-Oc24112	NCP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
TRH >C16-C34	S13-Oc24112	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
TRH >C34-C40	S13-Oc24112	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
Duplicate									
Volatile Organics				Result 1	Result 2	RPD			
1.1-Dichloroethane	S13-Oc23828	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
1.1-Dichloroethene	S13-Oc23828	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
1.1.1-Trichloroethane	S13-Oc23828	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
1.1.1.2-Tetrachloroethane	S13-Oc23828	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
1.1.2-Trichloroethane	S13-Oc23828	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
1.1.2.2-Tetrachloroethane	S13-Oc23828	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
1.2-Dibromoethane	S13-Oc23828	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
1.2-Dichlorobenzene	S13-Oc23828	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
1.2-Dichloroethane	S13-Oc23828	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
1.2-Dichloropropane	S13-Oc23828	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
1.2.3-Trichloropropane	S13-Oc23828	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
1.2.4-Trimethylbenzene	S13-Oc23828	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
1.3-Dichlorobenzene	S13-Oc23828	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
1.3-Dichloropropane	S13-Oc23828	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
1.3.5-Trimethylbenzene	S13-Oc23828	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
1.4-Dichlorobenzene	S13-Oc23828	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
2-Butanone (MEK)	S13-Oc23828	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
4-Chlorotoluene	S13-Oc23828	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
4-Methyl-2-pentanone (MIBK)	S13-Oc23828	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Bromobenzene	S13-Oc23828	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Bromochloromethane	S13-Oc23828	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Bromodichloromethane	S13-Oc23828	NCP	mg/L	0.022	0.021	4.0	30%	Pass	
Bromoform	S13-Oc23828	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Bromomethane	S13-Oc23828	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	

Duplicate								
Volatile Organics				Result 1	Result 2	RPD		
Carbon disulfide	S13-Oc23828	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Carbon Tetrachloride	S13-Oc23828	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Chlorobenzene	S13-Oc23828	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Chloroethane	S13-Oc23828	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Chloroform	S13-Oc23828	NCP	mg/L	0.12	0.12	4.0	30%	Pass
Chloromethane	S13-Oc23828	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
cis-1.2-Dichloroethene	S13-Oc23828	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
cis-1.3-Dichloropropene	S13-Oc23828	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Dibromochloromethane	S13-Oc23828	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Dibromomethane	S13-Oc23828	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass
Dichlorodifluoromethane	S13-Oc23828	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Iodomethane	S13-Oc23828	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Isopropyl benzene (Cumene)	S13-Oc23828	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Methylene Chloride	S13-Oc23828	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Styrene	S13-Oc23828	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Tetrachloroethene	S13-Oc23828	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
trans-1.2-Dichloroethene	S13-Oc23828	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
trans-1.3-Dichloropropene	S13-Oc23828	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Trichloroethene	S13-Oc23828	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Trichlorofluoromethane	S13-Oc23828	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Vinyl chloride	S13-Oc23828	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Duplicate								
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD		
Acenaphthene	S13-Oc24819	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Acenaphthylene	S13-Oc24819	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Anthracene	S13-Oc24819	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Benz(a)anthracene	S13-Oc24819	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Benzo(a)pyrene	S13-Oc24819	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Benzo(b&j)fluoranthene	S13-Oc24819	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Benzo(g,h,i)perylene	S13-Oc24819	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Benzo(k)fluoranthene	S13-Oc24819	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Chrysene	S13-Oc24819	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Dibenz(a,h)anthracene	S13-Oc24819	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Fluoranthene	S13-Oc24819	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Fluorene	S13-Oc24819	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Indeno(1.2.3-cd)pyrene	S13-Oc24819	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Naphthalene	S13-Oc24819	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Phenanthrene	S13-Oc24819	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Pyrene	S13-Oc24819	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Duplicate								
Heavy Metals				Result 1	Result 2	RPD		
Arsenic (filtered)	S13-Oc23414	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Cadmium (filtered)	S13-Oc23414	NCP	mg/L	0.00010	0.00030	76	30%	Fail
Chromium (filtered)	S13-Oc23414	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Copper (filtered)	S13-Oc23414	NCP	mg/L	0.0050	0.0060	14	30%	Pass
Lead (filtered)	S13-Oc23414	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Mercury (filtered)	S13-Oc23414	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass
Nickel (filtered)	S13-Oc23414	NCP	mg/L	0.0060	0.0060	6.0	30%	Pass
Zinc (filtered)	S13-Oc23414	NCP	mg/L	0.019	0.019	<1	30%	Pass

Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Organic samples had Teflon liners	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
N01	F2 is determined by arithmetically subtracting the "naphthalene" value from the ">C10-C16" value. The naphthalene value used in this calculation is obtained from volatiles (Purge & Trap analysis).
N02	Where we have reported both volatile (P&T GCMS) and semivolatile (GCMS) naphthalene data, results may not be identical. Provided correct sample handling protocols have been followed, any observed differences in results are likely to be due to procedural differences within each methodology. Results determined by both techniques have passed all QAQC acceptance criteria, and are entirely technically valid.
N04	F1 is determined by arithmetically subtracting the "Total BTEX" value from the "C6-C10" value. The "Total BTEX" value is obtained by summing the concentrations of BTEX analytes. The "C6-C10" value is obtained by quantitating against a standard of mixed aromatic/aliphatic analytes.
N07	Please note:- These two PAH isomers closely co-elute using the most contemporary analytical methods and both the reported concentration (and the TEQ) apply specifically to the total of the two co-eluting PAHs
Q15	The RPD reported passes Eurofins mgt's Acceptance Criteria as stipulated in SOP 05. Refer to Glossary Page of this report for further details

Authorised By

Ruth Callander	Client Services
James Norford	Senior Analyst-Metal (NSW)
Ryan Hamilton	Senior Analyst-Organic (NSW)
Ryan Hamilton	Senior Analyst-Volatile (NSW)



Dr. Bob Symons

Laboratory Manager

Final report - this Report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Uncertainty data is available on request

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Clay Content Assessment

Sample Drop Off: 16 Chilvers Road
Thornleigh NSW 2120
Mailing Address: PO Box 357
Pennant Hills NSW 1715

Tel: 1300 30 40 80
Fax: 1300 64 46 89
Em: info@sesl.com.au
Web: www.sesl.com.au

Client Name: Groundswell Laboratories
Client Contact: Paul Woodward
Client Job N°:
Client Order N°:
Address: 116 Moray Street
South Melbourne VIC 3205

Project Name: Marrickville
Location:
SES Quote N°:
Date Received: 28-10-2013
Test Type: PSA_SC

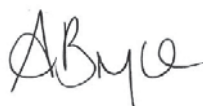
Batch N°	Sample N°	Sample Name	Description	Clay Content (%)
28185	1	BH9 0.4-0.6	Soil	5.2
28185	2	BH9 0.8-1.0	Soil	27.8
28185	3	BH13 0.2-0.4	Soil	36.2
28185	4	BH13 0.8-1.0	Soil	34.2
28185	5	BH16 0.3-0.5	Soil	33.3
28185	6	BH16 0.8-1.0	Soil	48.3

SUMMARY AND RECOMMENDATIONS

Consultant: Alisa Bryce

Authorised Signatory: Ryan Jacka

Date of Report




Report Status:

☐ Draft ☐ Final

Groundswell laboratories

" A New Force in Analytical Testing "

CERTIFICATE OF ANALYSIS

Client Name :	Aargus	Groundswell Batch # :	GS13482
Client Address :	446 Parramatta Road, Pettrsham, NSW, 2049	Project Name :	Marrickville
Client Phone # :	1300 137 038	Project # :	ES5611-2
Client Fax # :	1300 136 038	Date Samples Received :	21/10/2013
Project Manager :	Mark Kelly	Sample Matrix :	Soil & Water
E-mail :	mar.kelly@aargus.net	Sample # Submitted :	49
Project Sample Manager :	Michael Silk	Groundswell Quote # :	Not Applicable
E-mail :	michael@aaargus.net	Date CoFA Issued :	



Paul Woodward
Managing Director
paul@groundswelllabs.com.au



NATA Accredited Laboratory 17067

Accredited for compliance with ISO/IEC
17025



Chris De Luca
Senior Chemist

chris@groundswelllabs.com.au

Reference AF56.Rev4 Date Issued : 3/11/2010

Analytical Results

Client Sample ID																
Laboratory Sample Number	BH1 0-0.5	BH1 0.5-1.0	BH1 1.0-1.5	BH2 0-0.5	BH2 0.5-1.0	BH3 0-0.5	BH3 0.5-1.0	BH3 1.0-1.5	BH4 0.3-0.5	BH4 0.9-1.0						
Date Sampled	17/10/2013	17/10/2013	17/10/2013	17/10/2013	17/10/2013	17/10/2013	17/10/2013	17/10/2013	17/10/2013	17/10/2013	17/10/2013	17/10/2013	17/10/2013	17/10/2013	17/10/2013	17/10/2013
Analytes	Literature Reference	Units	LOR													
Moisture	NEPC 6.1	%	0.1													
pH	NEPC 6.2	oH Units	0.1													
Cation Exchange Capacity																
Electrical Conductivity	NEPC 6.3	dS/m	0.01													
Soil Chemical Method Used																
Exchangeable Calcium	Soil Chemical	mg/kg	1													
Exchangeable Magnesium	Methods -	mg/kg	1													
Exchangeable Potassium	Australasia (	mg/kg	1													
Exchangeable Sodium	Rayment & Lyons)	mg/kg	1													
CEC		MEQ%	0.1													
Metals																
Arsenic	EPA 200.2	mg/kg	1	4	4	6	27	11	1	5	4	5	5	5	5	5
Cadmium	EPA 200.2	mg/kg	0.1	0.2	0.2	<0.1	0.4	<0.1	<0.1	<0.1	<0.1	0.8	0.3	0.3	0.3	0.3
Chromium	EPA 200.2	mg/kg	1	12	13	14	17	14	4	14	14	9	11	11	11	11
Copper	EPA 200.2	mg/kg	1	9	131	10	26	5	1	9	8	35	22	22	22	22
Lead	EPA 200.2	mg/kg	1	27	21	13	2437	345	14	18	17	128	82	82	82	82
Mercury	EPA 200.2	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.1	0.1	0.1	0.1
Nickel	EPA 200.2	mg/kg	1	2	8	1	4	2	1	1	1	3	4	4	4	4
Zinc	EPA 200.2	mg/kg	1	188	56	22	804	99	5	33	16	378	172	172	172	172
Hexavalent Chromium	USEPA 3060A	mg/kg	1													
Trivalent Chromium	In House	mg/kg	1													
WAD Cyanide	NEPC 9.1	mg/kg	1													

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Comments :

- 1- All metals samples prepared as per NEPC Measure 1999 Schedule B (3), involving air-drying, grinding and screening to -2mm.
- 2 - Samples digested by EPA Method 200.2 prior to the analysis of metals
- 3- pH determined & reported on a 1:5 soil:0.01M calcium chloride extraction
- 4- Soil chemical method 15B1 'Exchangeable bases and cation exchange capacity - 1M ammonium chloride at pH 7.0, no pre-treatment for soluble salts'
- 5- Soil chemical method 15B2 'Exchangeable bases and cation exchange capacity - 1M ammonium chloride at pH 7.0, pre-treatment for soluble salts'
- 6- Hexavalent chromium & WAD cyanide results reported on a dry weight basis.

Analytical Results

Client Sample ID	Laboratory Sample Number												
Date Sampled	Date Sampled												
Analyses	Literature Reference	Units	LOR	BH5 0.2-0.4 GS13482-11 17/10/2013	BH5 0.8-1.0 GS13482-12 17/10/2013	BH6 0.2-0.4 GS13482-13 17/10/2013	BH6 0.9-1.0 GS13482-14 17/10/2013	BH7 0.4-0.6 GS13482-15 17/10/2013	BH7 1.1-1.3 GS13482-16 17/10/2013	BH8 0.1-0.3 GS13482-17 17/10/2013	BH9 0.4-0.6 GS13482-18 17/10/2013	BH9 0.8-1.0 GS13482-19 17/10/2013	BH10 0.4-0.5 GS13482-20 17/10/2013
Moisture	NEPC 6.1	%	0.1										
pH	NEPC 6.2	oH Units	0.1					19.0			13.0	18.4	
Cation Exchange Capacity											6.3	6.7	
Electrical Conductivity	NEPC 6.3	dS/m	0.01								0.10	0.06	
Soil Chemical Method Used											15B1	15B1	
Exchangeable Calcium	Soil Chemical	mg/kg	1								325	262	
Exchangeable Magnesium	Methods -	mg/kg	1								144	147	
Exchangeable Potassium	Australasia (	mg/kg	1								198	113	
Exchangeable Sodium	Rayment & Lyons)	mg/kg	1								63	84	
CEC		MEQ%	0.1								3.6	3.2	
Metals													
Arsenic	EPA 200.2	mg/kg	1	11	4	6	4	10	2	4	10	7	10
Cadmium	EPA 200.2	mg/kg	0.1	3.4	<0.1	0.8	<0.1	0.5	0.2	1.1	0.5	<0.1	0.3
Chromium	EPA 200.2	mg/kg	1	28	13	16	13	14	15	43	14	12	9
Copper	EPA 200.2	mg/kg	1	275	10	134	14	68	19	113	34	7	19
Lead	EPA 200.2	mg/kg	1	1176	24	947	30	518	81	527	156	23	73
Mercury	EPA 200.2	mg/kg	0.1	0.9	<0.1	0.5	<0.1	0.3	<0.1	0.2	<0.1	<0.1	<0.1
Nickel	EPA 200.2	mg/kg	1	19	2	11	2	10	2	8	16	2	8
Zinc	EPA 200.2	mg/kg	1	1200	61	994	92	760	272	760	1310	83	355
Hexavalent Chromium	USEPA 3060A	mg/kg	1								<1	<1	
Trivalent Chromium	In House	mg/kg	1								14	12	
WAD Cyanide	NEPC 9.1	mg/kg	1					<1					

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Analytical Results

Client Sample ID		BH10 0.8-1.0		BH11 0.2-0.4		BH11 0.7-0.9		BH12 0.3-0.5		BH12 0.7-0.9		BH13 0.2-0.4		BH13 0.8-1.0		BH14 0.2-0.3		BH14 0.6-0.8		BH15 0.3-0.5	
Laboratory Sample Number		GS13482-21		GS13482-22		GS13482-23		GS13482-24		GS13482-25		GS13482-26		GS13482-27		GS13482-28		GS13482-29		GS13482-30	
Date Sampled		17/10/2013		17/10/2013		17/10/2013		17/10/2013		17/10/2013		17/10/2013		17/10/2013		17/10/2013		17/10/2013		17/10/2013	
Analytes	Literature Reference	Units	LOR																		
Moisture	NEPC 6.1	%	0.1																		
pH	NEPC 6.2	oH Units	0.1																		
Cation Exchange Capacity																					
Electrical Conductivity	NEPC 6.3	dS/m	0.01																		
Soil Chemical Method Used																					
Exchangeable Calcium	Soil Chemical	mg/kg	1																		
Exchangeable Magnesium	Methods -	mg/kg	1																		
Exchangeable Potassium	Australasia (	mg/kg	1																		
Exchangeable Sodium	Rayment & Lyons)	mg/kg	1																		
CEC		MEQ%	0.1																		
Metals																					
Arsenic	EPA 200.2	mg/kg	1																		
Cadmium	EPA 200.2	mg/kg	0.1																		
Chromium	EPA 200.2	mg/kg	1																		
Copper	EPA 200.2	mg/kg	1																		
Lead	EPA 200.2	mg/kg	1																		
Mercury	EPA 200.2	mg/kg	0.1																		
Nickel	EPA 200.2	mg/kg	1																		
Zinc	EPA 200.2	mg/kg	1																		
Hexavalent Chromium	USEPA 3060A	mg/kg	1																		
Trivalent Chromium	In House	mg/kg	1																		
WAD Cyanide	NEPC 9.1	mg/kg	1																		

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Analytical Results

Client Sample ID		BH15 0.9-1.0 BH16 0.3-0.5 BH16 0.8-1.0 BH17 0.3-0.5 BH17 0.7-0.8 BH18 0.4-0.5 BH18 0.7-0.8 BH19 0.2-0.4 BH20 0.2-0.4 BH20 1.0-1.1													
Laboratory Sample Number		GS13482-31 GS13482-32 GS13482-33 GS13482-34 GS13482-35 GS13482-36 GS13482-37 GS13482-38 GS13482-39 GS13482-40													
Date Sampled		17/10/2013 17/10/2013 17/10/2013 17/10/2013 17/10/2013 17/10/2013 17/10/2013 17/10/2013 17/10/2013 17/10/2013													
Analytes	Literature Reference	Units	LOR												
Moisture	NEPC 6.1	%	0.1												
pH	NEPC 6.2	oH Units	0.1	28.0	8.2	17.4	19.0								
Cation Exchange Capacity															
Electrical Conductivity	NEPC 6.3	dS/m	0.01	0.23	0.18										
Soil Chemical Method Used															
Exchangeable Calcium	Soil Chemical Methods -	mg/kg	1	801		269									
Exchangeable Magnesium	Methods -	mg/kg	1	132		349									
Exchangeable Potassium	Australasia (	mg/kg	1	336		145									
Exchangeable Sodium	Rayment & Lyons)	mg/kg	1	197		283									
CEC		MEQ%	0.1	6.8		5.8									
Metals															
Arsenic	EPA 200.2	mg/kg	1	7		7									
Cadmium	EPA 200.2	mg/kg	0.1	0.1		<0.1									
Chromium	EPA 200.2	mg/kg	1	21		21									
Copper	EPA 200.2	mg/kg	1	15		2									
Lead	EPA 200.2	mg/kg	1	67		20									
Mercury	EPA 200.2	mg/kg	0.1	<0.1		<0.1									
Nickel	EPA 200.2	mg/kg	1	6		1									
Zinc	EPA 200.2	mg/kg	1	60		11									
Hexavalent Chromium															
Trivalent Chromium	USEPA 3060A	mg/kg	1	<1		<1									
WAD Cyanide	In House	mg/kg	1	21		21									
	NEPC 9.1	mg/kg	1												

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Analytical Results

Client Sample ID	BH20 1.1-1.1	BH21 0.3-0.5	BH22 0.2-0.3	D1	D2	D3	D4	R1	R2
Laboratory Sample Number	GS13482-41	GS13482-42	GS13482-43	GS13482-44	GS13482-45	GS13482-46	GS13482-47	GS13482-46	GS13482-47
Date Sampled	17/10/2013	17/10/2013	17/10/2013	17/10/2013	17/10/2013	17/10/2013	17/10/2013	17/10/2013	17/10/2013
Analytes	Literature Reference	Units	LOR						
Moisture	NEPC 6.1	%	0.1						
pH	NEPC 6.2	oH Units	0.1	12.0		30.0	24.0		
Cation Exchange Capacity									
Electrical Conductivity	NEPC 6.3	dS/m	0.01						
Soil Chemical Method Used									
Exchangeable Calcium	Soil Chemical	mg/kg	1						
Exchangeable Magnesium	Methods -	mg/kg	1						
Exchangeable Potassium	Australasia (	mg/kg	1						
Exchangeable Sodium	Rayment & Lyons)	mg/kg	1						
CEC		MEQ%	0.1						
Metals									
Arsenic	EPA 200.2	mg/kg	1	15	11	15	6	<5	<5
Cadmium	EPA 200.2	mg/kg	0.1	0.5	1.2	<0.1	0.6	<0.1	<0.1
Chromium	EPA 200.2	mg/kg	1	11	11	22	13	<1	<1
Copper	EPA 200.2	mg/kg	1	32	48	5	128	7	6
Lead	EPA 200.2	mg/kg	1	209	191	33	270	<1	<1
Mercury	EPA 200.2	mg/kg	0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1
Nickel	EPA 200.2	mg/kg	1	10	9	5	6	1	<0.1
Zinc	EPA 200.2	mg/kg	1	945	575	16	1360	8	8
Hexavalent Chromium	USEPA 3060A	mg/kg	1						
Trivalent Chromium	In House	mg/kg	1	<1		<1	<1		
WAD Cyanide	NEPC 9.1	mg/kg	1						

Reference AF56.Rev4 Date issued : 3/11/2010

Quality Control Report

Client Sample ID		BH1 0-0.5		BH4 0.9-1.0		BH10 0.4-0.5								
Laboratory Sample Number		GS13482-1		GS13482-10		GS13482-20								
QC Parameter		Matrix Spike		Laboratory Duplicate		Laboratory Duplicate								
Analytes	Units	LOR	Matrix Spike	Recovery Limit	Within GSL	Original Result	Duplicate	%RPD	%RPD	Original Result	Duplicate	%RPD	%RPD	Within GSL
			(%R)	Acceptance Criteria(%)	Acceptance Criteria (Pass/Fail)	Result		Acceptance Criteria	Acceptance Criteria	Criteria (Pass/Fail)	Criteria (Pass/Fail)	Criteria (Pass/Fail)	Criteria (Pass/Fail)	Criteria (Pass/Fail)
Moisture	%	0.1	NA	NA	NA	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
pH	pH Units	0.1	NA	NA	NA	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Cation Exchange Capacity														
Electrical Conductivity	dS/m	0.01	NA	NA	NA	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Soil Chemical Method Used														
Exchangeable Calcium	mg/kg	1	NA	NA	NA	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Exchangeable Magnesium	mg/kg	1	NA	NA	NA	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Exchangeable Potassium	mg/kg	1	NA	NA	NA	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Exchangeable Sodium	mg/kg	1	NA	NA	NA	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
CEC	MEQ%	0.1	NA	NA	NA	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Metals														
Arsenic	mg/kg	1	102%	70-130%	Pass	5	5	<1%	No limit	10	10	<1%	≤15%	Pass
Cadmium	mg/kg	0.1	96%	70-130%	Pass	0.3	0.5	50%	No limit	0.3	0.3	<1%	No limit	Pass
Chromium	mg/kg	1	93%	70-130%	Pass	11	12	8%	≤15%	9	9	<1%	No limit	Pass
Copper	mg/kg	1	88%	70-130%	Pass	22	24	8%	≤15%	19	19	<1%	No limit	Pass
Lead	mg/kg	1	95%	70-130%	Pass	82	91	10%	≤15%	73	82	12%	≤15%	Pass
Mercury	mg/kg	0.1	101%	70-130%	Pass	0.1	0.1	<1%	No limit	<0.1	<0.1	<1%	No limit	Pass
Nickel	mg/kg	1	101%	70-130%	Pass	4	4	<1%	No limit	8	7	13%	No limit	Pass
Zinc	mg/kg	1	73%	70-130%	Pass	172	201	16%	≤15%	355	373	5%	≤15%	Pass
Hexavalent Chromium	mg/kg	1	100.00	80-120%	100.00	100.00	100.00	100.00	≤20%	100.00	100.00	100.00	≤20%	100.00
Trivalent Chromium	mg/kg	1	NA	NA	NA	100.00	100.00	100.00	≤20%	100.00	100.00	100.00	≤20%	100.00
WAD Cyanide	mg/kg	1	100.00	80-120%	100.00	100.00	100.00	100.00	≤20%	100.00	100.00	100.00	≤20%	100.00

Reference AF56.Rev4 Date Issued : 3/11/2010

Comments :

1. NA = Not Applicable

Quality Control Report

Client Sample ID		BH10 0.8-1.0		BH15 0.3-0.5		BH20 1.0-1.1								
Laboratory Sample Number		GS13482-21		GS13482-30		GS13482-40								
QC Parameter		Matrix Spike		Laboratory Duplicate		Laboratory Duplicate								
Analytes	Units	LOR	Matrix Spike	Recovery	Within GSL	Original	Duplicate	%RPD	%RPD	Original	Duplicate	%RPD	%RPD	Within GSL
			(%R)	Limit	Acceptance	Result	Criteria	Acceptance	Acceptance	Criteria	Criteria	Criteria	Criteria	Criteria
				Acceptance	(Pass/Fail)									(Pass/Fail)
				Criteria(%)										
Cation Exchange Capacity														
Moisture	%	0.1	NA	NA	NA	16.000	16.000	16.000	16.000	16.000	16.000	16.000	16.000	16.000
pH	pH Units	0.1	NA	NA	NA	16.000	16.000	16.000	16.000	16.000	16.000	16.000	16.000	16.000
Electrical Conductivity														
Electrical Conductivity	dS/m	0.01	NA	NA	NA	16.000	16.000	16.000	16.000	16.000	16.000	16.000	16.000	16.000
Soil Chemical Method Used														
Exchangeable Calcium	mg/kg	1	NA	NA	NA	16.000	16.000	16.000	16.000	16.000	16.000	16.000	16.000	16.000
Exchangeable Magnesium	mg/kg	1	NA	NA	NA	16.000	16.000	16.000	16.000	16.000	16.000	16.000	16.000	16.000
Exchangeable Potassium	mg/kg	1	NA	NA	NA	16.000	16.000	16.000	16.000	16.000	16.000	16.000	16.000	16.000
Exchangeable Sodium	mg/kg	1	NA	NA	NA	16.000	16.000	16.000	16.000	16.000	16.000	16.000	16.000	16.000
CEC	MEQ%	0.1	NA	NA	NA	16.000	16.000	16.000	16.000	16.000	16.000	16.000	16.000	16.000
Metals														
Arsenic	mg/kg	1	109%	70-130%	Pass	16	15	6%	≤15%	Pass	9	10	11%	No limit
Cadmium	mg/kg	0.1	99%	70-130%	Pass	<0.1	<0.1	<1%	No limit	Pass	0.4	0.5	22%	No limit
Chromium	mg/kg	1	96%	70-130%	Pass	23	21	9%	≤15%	Pass	20	21	5%	≤15%
Copper	mg/kg	1	89%	70-130%	Pass	8	6	29%	No limit	Pass	66	71	7%	≤15%
Lead	mg/kg	1	93%	70-130%	Pass	37	35	6%	≤15%	Pass	468	482	3%	≤15%
Mercury	mg/kg	0.1	---	70-130%	---	<0.1	<0.1	<1%	No limit	Pass	0.5	0.6	20%	No limit
Nickel	mg/kg	1	98%	70-130%	Pass	6	5	18%	No limit	Pass	5	6	14%	No limit
Zinc	mg/kg	1	91%	70-130%	Pass	17	19	11%	≤15%	Pass	369	395	7%	≤15%
Hexavalent Chromium														
Hexavalent Chromium	mg/kg	1	---	80-120%	---	16.000	16.000	16.000	≤20%	16.000	16.000	16.000	16.000	≤20%
Trivalent Chromium	mg/kg	1	NA	NA	NA	16.000	16.000	16.000	≤20%	16.000	16.000	16.000	16.000	≤20%
WAD Cyanide	mg/kg	1	---	80-120%	---	<1	<1	<1%	≤20%	Pass	16.000	16.000	16.000	16.000

Reference AF56.Rev4 Date Issued : 3/11/2010

Comments :

1. NA = Not Applicable

Quality Control Report

Client Sample ID											
Laboratory Sample Number											
QC Parameter		Method Blank		Laboratory Control Standard (LCS)			Certified Reference Material - AGAL10			Certified Reference Material - AGAL12	
		Method Blank	Within GSL Acceptance Criteria (<LOR) (Pass/Fail)	LCS (%R)	LCS Acceptance Criteria	Within GSL Acceptance Criteria (Pass/Fail)	CRM (%R)	Within GSL Acceptance Criteria	CRM (%R)	Within GSL Acceptance Criteria	
Analytes	Units	LOR									
Moisture	%	0.1	NA	NA	NA	NA	NA	NA	NA	NA	NA
pH	pH Units	0.1	NA	7.03	7.00±0.1 pH Units	Pass	NA	NA	NA	NA	NA
Cation Exchange Capacity											
Electrical Conductivity	dS/m	0.01	Pass	99%	70-130%	Pass	NA	NA	NA	NA	NA
Soil Chemical Method Used	---	---	---	NA	NA	NA	NA	NA	NA	NA	NA
Exchangeable Calcium	mg/kg	1	Pass	NA	NA	NA	NA	NA	NA	NA	NA
Exchangeable Magnesium	mg/kg	1	Pass	NA	NA	NA	NA	NA	NA	NA	NA
Exchangeable Potassium	mg/kg	1	Pass	NA	NA	NA	NA	NA	NA	NA	NA
Exchangeable Sodium	mg/kg	1	Pass	NA	NA	NA	NA	NA	NA	NA	NA
CEC	MEQ%	0.1	Pass	NA	NA	NA	NA	NA	NA	NA	NA
Metals											
Arsenic	mg/kg	1	Pass	114%	85-115%	Pass	113%	70-130%	119%	70-130%	Pass
Cadmium	mg/kg	0.1	Pass	113%	85-115%	Pass	103%	85-115%	87%	75-125%	Pass
Chromium	mg/kg	1	Pass	107%	85-115%	Pass	98%	75-125%	93%	80-120%	Pass
Copper	mg/kg	1	Pass	96%	85-115%	Pass	96%	85-115%	91%	85-115%	Pass
Lead	mg/kg	1	Pass	89%	85-115%	Pass	102%	85-115%	100%	80-120%	Pass
Mercury	mg/kg	0.1	Pass	---	85-115%	---	85%	80-120%	---	75-125%	---
Nickel	mg/kg	1	Pass	108%	85-115%	Pass	101%	70-130%	89%	75-125%	Pass
Zinc	mg/kg	1	Pass	107%	85-115%	Pass	97%	85-115%	95%	85-115%	Pass
Hexavalent Chromium	mg/kg	1	Pass	99%	90-110%	Pass	<2s	±2s	---	±2s	---
Trivalent Chromium	mg/kg	1	NA	NA	NA	NA	NA	NA	NA	NA	NA
WAD Cyanide	mg/kg	1	Pass	---	80-120%	---	±2s	±2s	NA	NA	NA

Reference AF56.Rev4 Date Issued : 3/11/2010

Comments :

1- The analysis of hexavalent chromium involves the analysis of in-house reference materials.

Technical Holding Time Compliance Report

Client Sample ID											
Laboratory Sample Number											
Date Sampled											
Analyte	THT Parameters	THT (Days)									All Samples
Moisture	Date Analysed	14									All Samples
	Analysis Time (Days)										All Samples
	THT Compliant										17/10/2013
pH	Date Analysed	14									28/10/2013
	Analysis Time (Days)										11
	THT Compliant										Yes
Metals	Date Digested	180									25/10/2013
	Analysis Time (Days)										8
	THT Compliant										Yes
Hexavalent chromium	Date Analysed	28									29/10/2013
	Analysis Time (Days)										12
	THT Compliant										Yes
WAD cyanide	Date Extracted	14									28/10/2013
	Analysis Time (Days)										11
	THT Compliant										Yes
	Date Analysed										27/10/2013
	Analysis Time (Days)										10
	THT Compliant										Yes

Reference AF56.Rev4 Date Issued : 3/11/2010

TRH BTEXN Analytical Results

Client Sample ID	Laboratory Sample Number		BH10-0-5	BH10-5-1.0	BH2 0-0.5	BH3 0-0.5	BH3 0.5-1.0	BH4 0.3-0.5	BH5 0.2-0.4	BH6 0.2-0.4	BH7 0.4-0.6	BH8 0.1-0.3
Date Sampled			17/10/2013	17/10/2013	17/10/2013	17/10/2013	17/10/2013	17/10/2013	17/10/2013	17/10/2013	17/10/2013	17/10/2013
Analytes	Literature Reference	Units	LOR									
Moisture	NEPM 102	%	0.1	18.0	19.0	28.0	16.0	20.0	16.0	13.0	19.0	9.4
TRH Fraction												
TRH C ₆₋₉	GSLs	mg/kg	25	<25	<25	<25	<25	<25	<25	<25	<25	<25
TRH C ₆₋₁₀	GSLs	mg/kg	25	<25	<25	<25	<25	<25	<25	<25	<25	<25
TRH C ₆₋₁₀ less BTEX(F1)	GSLs	mg/kg	25	<25	<25	<25	<25	<25	<25	<25	<25	<25
TRH C ₁₀₋₁₄	500.2	mg/kg	50	<50	<50	<50	<50	<50	<50	<50	<50	<50
TRH C ₁₅₋₂₈	500.2	mg/kg	100	<100	<100	<100	<100	<100	190	170	<100	130
TRH C ₂₉₋₃₆	500.2	mg/kg	50	<50	<50	<50	<50	<50	180	170	<50	190
TRH C ₁₀₋₃₆ Sum	---	mg/kg	100	<100	<100	<100	<100	<100	370	340	<100	320
TRH >C ₁₀₋₁₆	500.2	mg/kg	50	<50	<50	<50	<50	<50	<50	<50	<50	<50
TRH >C ₁₆₋₃₄	500.2	mg/kg	100	<100	<100	<100	<100	<100	270	260	<100	210
TRH >C ₃₄₋₄₀	500.2	mg/kg	50	<50	<50	<50	<50	<50	200	170	<50	210
TRH >C ₁₀₋₄₀ Sum	---	mg/kg	100	<100	<100	<100	<100	<100	470	430	<100	420
BTEXN												
Benzene	GSLs	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	GSLs	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	GSLs	mg/kg	1	<1	<1	<1	<1	<1	<1	<1	<1	<1
meta- & para-Xylene	GSLs	mg/kg	2	<2	<2	<2	<2	<2	<2	<2	<2	<2
ortho-Xylene	GSLs	mg/kg	1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Naphthalene	GSLs	mg/kg	1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Sum of BTEXN	---	mg/kg	3	<3	<3	<3	<3	<3	<3	<3	<3	<3
Total Xylenes	---	mg/kg	2	<2	<2	<2	<2	<2	<2	<2	<2	<2
BTEXN Surrogates												
aaa-Trifluorotoluene	GSLs	%	1	109%	99%	89%	104%	95%	93%	97%	83%	97%

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Comments :

- 1- TRH & BTEXN results reported on a dry weight basis
- 2- Organics analysis has been conducted by Envirolab Melbourne, report#2741, NATA accreditation #21192

TRH BTEXN Analytical Results

Client Sample ID	Laboratory Sample Number		BH9 0.4-0.6	BH10 0.4-0.5	BH11 0.2-0.4	BH12 0.3-0.5	BH13 0.2-0.4	BH14 0.2-0.3	BH15 0.3-0.5	BH16 0.3-0.5	BH17 0.3-0.5	BH18 0.4-0.5
Date Sampled			17/10/2013	17/10/2013	17/10/2013	17/10/2013	17/10/2013	17/10/2013	17/10/2013	17/10/2013	17/10/2013	17/10/2013
Analytes	Literature Reference	Units	LOR									
Moisture	NEPM 102	%	0.1	14.0	23.0	27.0	20.0	21.0	31.0	28.0	19.0	15.0
TRH Fraction												
TRH C ₆₋₉	GSLs	mg/kg	25	<25	<25	<25	<25	<25	<25	<25	<25	<25
TRH C ₆₋₁₀	GSLs	mg/kg	25	<25	<25	<25	<25	<25	<25	<25	<25	<25
TRH C ₆₋₁₀ less BTEX(F1)	GSLs	mg/kg	25	<25	<25	<25	<25	<25	<25	<25	<25	<25
TRH C ₁₀₋₁₄	500.2	mg/kg	50	<50	<50	<50	<50	<50	<50	<50	<50	<50
TRH C ₁₅₋₂₈	500.2	mg/kg	100	<100	320	210	<100	<100	<100	<100	<100	<100
TRH C ₂₉₋₃₆	500.2	mg/kg	50	110	340	280	<50	170	<50	<50	<50	<50
TRH C ₁₀₋₃₆ Sum	---	mg/kg	100	110	660	490	<100	170	<100	<100	<100	<100
TRH >C ₁₀₋₁₆	500.2	mg/kg	50	<50	<50	<50	<50	<50	<50	<50	<50	<50
TRH >C ₁₆₋₃₄	500.2	mg/kg	100	<100	500	350	<100	190	<100	<100	<100	<100
TRH >C ₃₄₋₄₀	500.2	mg/kg	50	160	320	280	<50	210	<50	<50	<50	<50
TRH >C ₁₀₋₄₀ Sum	---	mg/kg	100	160	820	630	<100	400	<100	<100	<100	<100
BTEXN												
Benzene	GSLs	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	GSLs	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	GSLs	mg/kg	1	<1	<1	<1	<1	<1	<1	<1	<1	<1
meta- & para-Xylene	GSLs	mg/kg	2	<2	<2	<2	<2	<2	<2	<2	<2	<2
ortho-Xylene	GSLs	mg/kg	1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Naphthalene	GSLs	mg/kg	1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Sum of BTEXN	---	mg/kg	3	<3	<3	<3	<3	<3	<3	<3	<3	<3
Total Xylenes	---	mg/kg	2	<2	<2	<2	<2	<2	<2	<2	<2	<2
BTEXN Surrogates												
aaa-Trifluorotoluene	GSLs	%	1	98%	97%	90%	98%	91%	85%	89%	88%	85%

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TRH BTEXN Analytical Results

Client Sample ID	Laboratory Sample Number		BH19 0.2-0.4	BH20 0.2-0.4	BH20 1.0-1.1	BH20 0.3-0.5	BH22 0.2-0.3	D1	D2	D3	D4
Date Sampled			17/10/2013	17/10/2013	17/10/2013	17/10/2013	17/10/2013	17/10/2013	17/10/2013	17/10/2013	17/10/2013
Analytes	Literature Reference	Units	LOR								
Moisture	NEPM 102	%	0.1	21.0	17.0	19.0	22.0	20.0	20.0	30.0	24.0
TRH Fraction											
TRH C ₆₋₉	GSLs	mg/kg	25	<25	<25	<25	<25	<25	<25	<25	<25
TRH C ₆₋₁₀	GSLs	mg/kg	25	<25	<25	<25	<25	<25	<25	<25	<25
TRH C ₆₋₁₀ less BTEX(F1)	GSLs	mg/kg	25	<25	<25	<25	<25	<25	<25	<25	<25
TRH C ₁₀₋₁₄	500.2	mg/kg	50	<50	<50	<50	<50	<50	<50	<50	<50
TRH C ₁₅₋₂₈	500.2	mg/kg	100	<100	510	250	650	190	180	240	210
TRH C ₂₉₋₃₆	500.2	mg/kg	50	100	640	370	690	320	240	170	290
TRH C ₁₀₋₃₆ Sum	---	mg/kg	100	100	1150	620	1340	520	420	410	500
TRH >C ₁₀₋₁₆	500.2	mg/kg	50	<50	<50	<50	<50	<50	<50	<50	<50
TRH >C ₁₆₋₃₄	500.2	mg/kg	100	100	970	460	1120	380	300	300	260
TRH >C ₃₄₋₄₀	500.2	mg/kg	50	120	380	300	440	270	240	240	290
TRH >C ₁₀₋₄₀ Sum	---	mg/kg	100	220	1350	760	1560	650	540	540	550
BTEXN											
Benzene	GSLs	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	GSLs	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	GSLs	mg/kg	1	<1	<1	<1	<1	<1	<1	<1	<1
meta- & para-Xylene	GSLs	mg/kg	2	<2	<2	<2	<2	<2	<2	<2	<2
ortho-Xylene	GSLs	mg/kg	1	<1	<1	<1	<1	<1	<1	<1	<1
Naphthalene	GSLs	mg/kg	1	<1	<1	<1	<1	<1	<1	<1	<1
Sum of BTEXN	---	mg/kg	3	<3	<3	<3	<3	<3	<3	<3	<3
Total Xylenes	---	mg/kg	2	<2	<2	<2	<2	<2	<2	<2	<2
BTEXN Surrogates											
aaa-Trifluorotoluene	GSLs	%	1	90%	88%	83%	94%	88%	86%	83%	96%

Reference AF56.Rev4 Date Issued : 3/11/2010

TRH BTEXN Analytical Results

Reference AF56.Rev4 Date Issued : 3/11/2010

Comments:

1. Samples R1 & R2 are water samples

TRH & BTEXN Quality Control Report

Client Sample ID		BH1 0-0.5		BH1 0-0.5				BH9 0.4-0.6									
Laboratory Sample Number		GS13482-1		GS13482-1				GS13482-18									
QC Parameter		Matrix Spike		Laboratory Duplicate				Laboratory Duplicate									
		Matrix Spike (%R)	Recovery Limit Acceptance Criteria(%)	Within GSL Acceptance Criteria (Pass/Fail)	Original Result	Duplicate	%RPD	%RPD Acceptance Criteria	Within GSL Acceptance Criteria (Pass/Fail)	Original Result	Duplicate	%RPD	%RPD Acceptance Criteria	Within GSL Acceptance Criteria (Pass/Fail)			
TRH Fraction		Units	LOR														
TRH C ₆₋₉ TRH C ₆₋₁₀ TRH C ₆₋₁₀ less BTEX(F1) TRH C ₁₀₋₁₄ TRH C ₁₅₋₂₈ TRH C ₂₉₋₃₆ TRH >C ₁₀₋₁₆ TRH >C ₁₆₋₃₄ TRH >C ₃₄₋₄₀	25	mg/kg	25	88%	70-130%	Pass	<25	<25	NA	No Limit	Pass	<25	<25	NA	No Limit	Pass	
	25	mg/kg	25	78%	70-130%	Pass	<25	<25	NA	No Limit	Pass	<25	<25	NA	No Limit	Pass	
	25	mg/kg	25	---	70-130%	---	---	---	---	≤30%	---	---	---	---	---	≤30%	---
	50	mg/kg	50	83%	70-130%	Pass	---	---	---	≤30%	---	---	---	---	---	≤30%	---
	100	mg/kg	100	91%	70-130%	Pass	---	---	---	≤30%	---	---	---	---	---	≤30%	---
	50	mg/kg	50	95%	70-130%	Pass	---	---	---	≤30%	---	---	---	---	---	≤30%	---
	50	mg/kg	50	---	70-130%	---	---	---	---	≤30%	---	---	---	---	---	≤30%	---
	100	mg/kg	100	---	70-130%	---	---	---	---	≤30%	---	---	---	---	---	≤30%	---
	50	mg/kg	50	---	70-130%	---	---	---	---	≤30%	---	---	---	---	---	≤30%	---
BTEXN																	
Benzene	0.2	mg/Kg	0.2	80%	70-130%	Pass	<0.2	<0.2	NA	No Limit	Pass	<0.2	<0.2	NA	No Limit	Pass	
Toluene	0.5	mg/kg	0.5	84%	70-130%	Pass	<0.5	<0.5	NA	No Limit	Pass	<0.5	<0.5	NA	No Limit	Pass	
Ethylbenzene	1	mg/kg	1	83%	70-130%	Pass	<1	<1	NA	No Limit	Pass	<1	<1	NA	No Limit	Pass	
meta- & para-Xylene	2	mg/kg	2	83%	70-130%	Pass	<2	<2	NA	No Limit	Pass	<2	<2	NA	No Limit	Pass	
ortho-Xylene	1	mg/kg	1	85%	70-130%	Pass	<1	<1	NA	No Limit	Pass	<1	<1	NA	No Limit	Pass	
Napthalene	1	mg/kg	1	---	70-130%	---	<1	<1	NA	No Limit	Pass	<1	<1	NA	No Limit	Pass	

Reference AF56 Rev4 Date Issued: 3/11/2010

Comments :

1. NA = Not Applicable

TRH & BTEXN Quality Control Report

Client Sample ID	BH10 0.4-0.5				BH20 1.0-1.1			
Laboratory Sample Number	GS13482-20				GS13482-40			
QC Parameter	Laboratory Duplicate				Laboratory Duplicate			
	Original Result	Duplicate	%RPD Acceptance Criteria	Within GSL Acceptance Criteria (Pass/Fail)	Original Result	Duplicate	%RPD Acceptance Criteria	Within GSL Acceptance Criteria (Pass/Fail)
TRH Fraction	LOR	Units						
TRH C ₆₋₉	25	mg/kg	---	---	---	---	---	---
TRH C ₆₋₁₀	25	mg/kg	---	---	---	---	---	---
TRH C ₆₋₁₀ less BTEX(F1)	25	mg/kg	---	---	---	---	---	---
TRH C ₁₀₋₁₄	50	mg/kg	---	---	---	---	---	---
TRH C ₁₅₋₂₈	100	mg/kg	---	---	---	---	---	---
TRH C ₂₉₋₃₆	50	mg/kg	---	---	---	---	---	---
TRH >C ₁₀₋₁₆	50	mg/kg	---	---	---	---	---	---
TRH >C ₁₆₋₃₄	100	mg/kg	---	---	---	---	---	---
TRH >C ₃₄₋₄₀	50	mg/kg	---	---	---	---	---	---
BTEXN								
Benzene	0.2	mg/kg	---	---	---	---	---	---
Toluene	0.5	mg/kg	---	---	---	---	---	---
Ethylbenzene	1	mg/kg	---	---	---	---	---	---
meta- & para-Xylene	2	mg/kg	---	---	---	---	---	---
ortho-Xylene	1	mg/kg	---	---	---	---	---	---
Naphthalene	1	mg/kg	---	---	---	---	---	---

Reference AF56.Rev4 Date Issued : 3/11/2010

Comments :

1. NA = Not Applicable

TRH & BTEXN Quality Control Report

Client Sample ID									
Laboratory Sample Number									
QC Parameter		Method Blank		Laboratory Control Standard (LCS)			Certified Reference Material		
		Method Blank	Within GSL Acceptance Criteria (<LOR) (Pass/Fail)	LCS (%R)	LCS Acceptance Criteria	Within GSL Acceptance Criteria (Pass/Fail)	CRM Recovery (mg/kg)	CRM Acceptance Criteria (mg/kg)	Within GSL Acceptance Criteria (Pass/Fail)
TRH Fraction	Units	LOR							
TRH C ₆₋₉	mg/kg	25	Pass	92%	70-130%	Pass	NA	NA	NA
TRH C ₆₋₁₀	mg/kg	25	Pass	81%	70-130%	Pass	NA	NA	NA
TRH C ₆₋₁₀ less BTEX(F1)	mg/kg	25	Pass	---	70-130%	---	NA	NA	NA
TRH C ₁₀₋₁₄	mg/kg	50	Pass	74%	70-130%	Pass			
TRH C ₁₅₋₂₈	mg/kg	100	Pass	75%	70-130%	Pass	3610	2790-4510	Pass
TRH C ₂₉₋₃₆	mg/kg	50	Pass	88%	70-130%	Pass			
TRH >C ₁₀₋₁₆	mg/kg	50	Pass	70%	70-130%	Pass	NA	NA	NA
TRH >C ₁₆₋₃₄	mg/kg	100	Pass	79%	70-130%	Pass	NA	NA	NA
TRH >C ₃₄₋₄₀	mg/kg	50	Pass	128%	70-130%	Pass	NA	NA	NA
BTEXN									
Benzene	mg/kg	0.2	Pass	88%	70-130%	Pass	NA	NA	NA
Toluene	mg/kg	0.5	Pass	95%	70-130%	Pass	NA	NA	NA
Ethylbenzene	mg/kg	1	Pass	93%	70-130%	Pass	NA	NA	NA
meta- & para-Xylene	mg/kg	2	Pass	90%	70-130%	Pass	NA	NA	NA
ortho-Xylene	mg/kg	1	Pass	93%	70-130%	Pass	NA	NA	NA
Naphthalene	mg/kg	1	Pass	---	70-130%	---	NA	NA	NA

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VOC Results

Client Sample ID	Laboratory Sample Number		Literature Reference		Units	LOR	BH2 0-0.5 17/10/2013	BH7 0.4-0.6 17/10/2013	BH17 0.3-0.5 17/10/2013	BH19 0.2-0.4 17/10/2013					
Date Sampled	GS13482-4		NEPC 102		%	0.1	28.0	19.0	19.0	21.0					
Analytes															
Moisture															
VOC															
Dichlorodifluoromethane	GSLs				mg/kg	1	<1	<1	<1	<1					
Chloromethane	GSLs				mg/kg	1	<1	<1	<1	<1					
Vinyl Chloride	GSLs				mg/kg	1	<1	<1	<1	<1					
Bromomethane	GSLs				mg/kg	1	<1	<1	<1	<1					
Chloroethane	GSLs				mg/kg	1	<1	<1	<1	<1					
Trichlorofluoromethane	GSLs				mg/kg	1	<1	<1	<1	<1					
1,1-Dichloroethene	GSLs				mg/kg	0.5	<0.5	<0.5	<0.5	<0.5					
trans-1,2-dichloroethene	GSLs				mg/kg	0.5	<0.5	<0.5	<0.5	<0.5					
1,1-dichloroethane	GSLs				mg/kg	0.5	<0.5	<0.5	<0.5	<0.5					
cis-1,2-dichloroethene	GSLs				mg/kg	0.5	<0.5	<0.5	<0.5	<0.5					
bromochloromethane	GSLs				mg/kg	0.5	<0.5	<0.5	<0.5	<0.5					
chloroform	GSLs				mg/kg	0.5	<0.5	<0.5	<0.5	<0.5					
2,2-dichloropropane	GSLs				mg/kg	0.5	<0.5	<0.5	<0.5	<0.5					
1,2-dichloroethane	GSLs				mg/kg	0.5	<0.5	<0.5	<0.5	<0.5					
1,1,1-trichloroethane	GSLs				mg/kg	0.5	<0.5	<0.5	<0.5	<0.5					
1,1-dichloropropene	GSLs				mg/kg	0.5	<0.5	<0.5	<0.5	<0.5					
Cyclohexane	GSLs				mg/kg	1	<1	<1	<1	<1					
carbon tetrachloride	GSLs				mg/kg	0.5	<0.5	<0.5	<0.5	<0.5					
Benzene	GSLs				mg/kg	0.2	<0.2	<0.2	<0.2	<0.2					
dibromomethane	GSLs				mg/kg	0.5	<0.5	<0.5	<0.5	<0.5					
1,2-dichloropropane	GSLs				mg/kg	0.5	<0.5	<0.5	<0.5	<0.5					
trichloroethene	GSLs				mg/kg	0.5	<0.5	1	<0.5	<0.5					
bromodichloromethane	GSLs				mg/kg	0.5	<0.5	<0.5	<0.5	<0.5					
trans-1,3-dichloropropene	GSLs				mg/kg	0.5	<0.5	<0.5	<0.5	<0.5					
cis-1,3-dichloropropene	GSLs				mg/kg	0.5	<0.5	<0.5	<0.5	<0.5					
1,1,1,2-trichloroethane	GSLs				mg/kg	0.5	<0.5	<0.5	<0.5	<0.5					
Toluene	GSLs				mg/kg	0.5	<0.5	<0.5	<0.5	<0.5					
1,3-dichloropropane	GSLs				mg/kg	0.5	<0.5	<0.5	<0.5	<0.5					
dibromochloromethane	GSLs				mg/kg	0.5	<0.5	<0.5	<0.5	<0.5					
1,2-dibromoethane	GSLs				mg/kg	0.5	<0.5	<0.5	<0.5	<0.5					
tetrachloroethene	GSLs				mg/kg	0.5	<0.5	<0.5	<0.5	<0.5					
1,1,1,2-tetrachloroethane	GSLs				mg/kg	0.5	<0.5	<0.5	<0.5	<0.5					
chlorobenzene	GSLs				mg/kg	0.5	<0.5	<0.5	<0.5	<0.5					

Reference AF55.Rev4 Date issued : 3/11/2010

VOC Results

Client Sample ID	BH2 0.0.5	BH7 0.4-0.6	BH17 0.3-0.5	BH19 0.2-0.4					
Laboratory Sample Number	GS13482-4	GS13482-15	GS13482-34	GS13482-38					
Date Sampled	17/10/2013	17/10/2013	17/10/2013	17/10/2013					
VOC	Literature Reference	Units	LOR						
Ethylbenzene	GSLS	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
bromofom	GSLS	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
m+p-xylene	GSLS	mg/kg	1	<1	<2	<3	<4	<4	<4
styrene	GSLS	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1,2,2-tetrachloroethane	GSLS	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
o-Xylene	GSLS	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2,3-trichloropropane	GSLS	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
isopropylbenzene	GSLS	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
bromobenzene	GSLS	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
n-propyl benzene	GSLS	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2-chlorotoluene	GSLS	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
4-chlorotoluene	GSLS	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,3,5-trimethyl benzene	GSLS	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
tert-butyl benzene	GSLS	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2,4-trimethyl benzene	GSLS	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,3-dichlorobenzene	GSLS	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
sec-butyl benzene	GSLS	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,4-dichlorobenzene	GSLS	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
4-isopropyl toluene	GSLS	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2-dichlorobenzene	GSLS	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
n-butyl benzene	GSLS	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2-dibromo-3-chloropropane	GSLS	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2,4-trichlorobenzene	GSLS	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
hexachlorobutadiene	GSLS	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2,3-trichlorobenzene	GSLS	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
VOC Surrogates									
Dibromofluoromethane	GSLS	%	1	90%	85%	79%	80%	80%	80%
aaa-Trifluorotoluene	GSLS	%	1	85%	78%	84%	82%	82%	82%
Toluene-d8	GSLS	%	1	82%	97%	92%	90%	90%	90%
4-bromofluorobenzene	GSLS	%	1	89%	91%	89%	89%	89%	89%

Reference AF55 Rev4 Date issued : 3/11/2010

Comments :

- VOC results reported on a dry weight basis.

VOC Quality Control Report

Client Sample ID Laboratory Sample Number QC Parameter		BH19 0.2-0.4 GS13482-38										
		Laboratory Duplicate						Method Blank		Laboratory Control Standard (LCS)		
		Original Result	Duplicate	%RPD	%RPD Acceptance Criteria	Within GSL Acceptance Criteria (Pass/Fail)						
VHC	Units	LOR						Method Blank	Within GSL Acceptance Criteria (<LOR) (Pass/Fail)	LCS (%R)	LCS Acceptance Criteria	Within GSL Acceptance Criteria (Pass/Fail)
Dichlorodifluoromethane	mg/kg	1	<1	<1	NA	No Limit	Pass	<1	Pass	---	70-130%	---
Chloromethane	mg/kg	1	<1	<1	NA	No Limit	Pass	<1	Pass	---	70-130%	---
Vinyl Chloride	mg/kg	1	<1	<1	NA	No Limit	Pass	<1	Pass	---	70-130%	---
Bromomethane	mg/kg	1	<1	<1	NA	No Limit	Pass	<1	Pass	---	70-130%	---
Chloroethane	mg/kg	1	<1	<1	NA	No Limit	Pass	<1	Pass	---	70-130%	---
Trichlorofluoromethane	mg/kg	1	<1	<1	NA	No Limit	Pass	<1	Pass	---	70-130%	---
1,1-Dichloroethene	mg/kg	0.5	<0.5	<0.5	NA	No Limit	Pass	<0.5	Pass	---	70-130%	---
trans-1,2-dichloroethene	mg/kg	0.5	<0.5	<0.5	NA	No Limit	Pass	<0.5	Pass	---	70-130%	---
1,1-dichloroethane	mg/kg	0.5	<0.5	<0.5	NA	No Limit	Pass	<0.5	Pass	81%	70-130%	Pass
cis-1,2-dichloroethene	mg/kg	0.5	<0.5	<0.5	NA	No Limit	Pass	<0.5	Pass	---	70-130%	---
bromochloromethane	mg/kg	0.5	<0.5	<0.5	NA	No Limit	Pass	<0.5	Pass	---	70-130%	---
chloroform	mg/kg	0.5	<0.5	<0.5	NA	No Limit	Pass	<0.5	Pass	76%	70-130%	Pass
2,2-dichloropropane	mg/kg	0.5	<0.5	<0.5	NA	No Limit	Pass	<0.5	Pass	---	70-130%	---
1,2-dichloroethane	mg/kg	0.5	<0.5	<0.5	NA	No Limit	Pass	<0.5	Pass	83%	70-130%	Pass
1,1,1-trichloroethane	mg/kg	0.5	<0.5	<0.5	NA	No Limit	Pass	<0.5	Pass	97%	70-130%	Pass
1,1,1-dichloropropene	mg/kg	0.5	<0.5	<0.5	NA	No Limit	Pass	<0.5	Pass	---	70-130%	---
Cyclohexane	mg/kg	1	<1	<1	NA	No Limit	Pass	<1	Pass	---	70-130%	---
carbon tetrachloride	mg/kg	0.5	<0.5	<0.5	NA	No Limit	Pass	<0.5	Pass	---	70-130%	---
Benzene	mg/kg	0.2	<0.2	<0.2	NA	No Limit	Pass	<0.2	Pass	---	70-130%	---
dibromomethane	mg/kg	0.5	<0.5	<0.5	NA	No Limit	Pass	<0.5	Pass	---	70-130%	---
1,2-dichloropropane	mg/kg	0.5	<0.5	<0.5	NA	No Limit	Pass	<0.5	Pass	---	70-130%	---
trichloroethene	mg/kg	0.5	<0.5	<0.5	NA	No Limit	Pass	1	Pass	84%	70-130%	Pass
bromodichloromethane	mg/kg	0.5	<0.5	<0.5	NA	No Limit	Pass	<0.5	Pass	69%	60-140%	Pass
trans-1,3-dichloropropene	mg/kg	0.5	<0.5	<0.5	NA	No Limit	Pass	<0.5	Pass	---	70-130%	---
cis-1,3-dichloropropene	mg/kg	0.5	<0.5	<0.5	NA	No Limit	Pass	<0.5	Pass	---	70-130%	---
1,1,2-trichloroethane	mg/kg	0.5	<0.5	<0.5	NA	No Limit	Pass	<0.5	Pass	---	70-130%	---
Toluene	mg/kg	0.5	<0.5	<0.5	NA	No Limit	Pass	<0.5	Pass	---	70-130%	---
1,3-dichloropropane	mg/kg	0.5	<0.5	<0.5	NA	No Limit	Pass	<0.5	Pass	---	70-130%	---
dibromochloromethane	mg/kg	0.5	<0.5	<0.5	NA	No Limit	Pass	<0.5	Pass	79%	70-130%	Pass
1,2-dibromoethane	mg/kg	0.5	<0.5	<0.5	NA	No Limit	Pass	<0.5	Pass	---	70-130%	---
tetrachloroethene	mg/kg	0.5	<0.5	<0.5	NA	No Limit	Pass	<0.5	Pass	86%	70-130%	Pass
1,1,1,2-tetrachloroethane	mg/kg	0.5	<0.5	<0.5	NA	No Limit	Pass	<0.5	Pass	---	70-130%	---
chlorobenzene	mg/kg	0.5	<0.5	<0.5	NA	No Limit	Pass	<0.5	Pass	---	70-130%	---

Reference AF55.Rev4 Date Issued : 3/11/2010

VOC Quality Control Report

Client Sample ID Laboratory Sample Number QC Parameter		BH19 0.2-0.4 GS13482-38									
		Laboratory Duplicate				Method Blank					
		Original Result	Duplicate	%RPD	%RPD Acceptance Criteria	Within GSL Acceptance Criteria (Pass/Fail)	Method Blank Within GSL Acceptance Criteria (<LOR) (Pass/Fail)	LCS (%R) LCS Acceptance Criteria	Within GSL Acceptance Criteria (Pass/Fail)		
VHC	Units	LOR									
Ethylbenzene bromoform m+p-xylene styrene 1,1,1,2,2-tetrachloroethane o-Xylene 1,2,3-trichloropropane isopropylbenzene bromobenzene n-propyl benzene 2-chlorotoluene 4-chlorotoluene 1,3,5-trimethyl benzene tert-butyl benzene 1,2,4-trimethyl benzene 1,3-dichlorobenzene sec-butyl benzene 1,4-dichlorobenzene 4-isopropyl toluene 1,2-dichlorobenzene n-butyl benzene 1,2-dibromo-3-chloropropane 1,2,4-trichlorobenzene hexachlorobutadiene 1,2,3-trichlorobenzene	mg/kg	0.5	<0.5	<0.5	NA	No Limit	Pass	<0.5	Pass	70-130%	Pass
	mg/kg	0.5	<0.5	<0.5	NA	No Limit	Pass	<0.5	Pass	70-130%	Pass
	mg/kg	1	<1	<1	NA	No Limit	Pass	<1	Pass	70-130%	Pass
	mg/kg	0.5	<0.5	<0.5	NA	No Limit	Pass	<0.5	Pass	70-130%	Pass
	mg/kg	0.5	<0.5	<0.5	NA	No Limit	Pass	<0.5	Pass	70-130%	Pass
	mg/kg	0.5	<0.5	<0.5	NA	No Limit	Pass	<0.5	Pass	70-130%	Pass
	mg/kg	0.5	<0.5	<0.5	NA	No Limit	Pass	<0.5	Pass	70-130%	Pass
	mg/kg	0.5	<0.5	<0.5	NA	No Limit	Pass	<0.5	Pass	70-130%	Pass
	mg/kg	0.5	<0.5	<0.5	NA	No Limit	Pass	<0.5	Pass	70-130%	Pass
	mg/kg	0.5	<0.5	<0.5	NA	No Limit	Pass	<0.5	Pass	70-130%	Pass
	mg/kg	0.5	<0.5	<0.5	NA	No Limit	Pass	<0.5	Pass	70-130%	Pass
	mg/kg	0.5	<0.5	<0.5	NA	No Limit	Pass	<0.5	Pass	70-130%	Pass
	mg/kg	0.5	<0.5	<0.5	NA	No Limit	Pass	<0.5	Pass	70-130%	Pass
	mg/kg	0.5	<0.5	<0.5	NA	No Limit	Pass	<0.5	Pass	70-130%	Pass
	mg/kg	0.5	<0.5	<0.5	NA	No Limit	Pass	<0.5	Pass	70-130%	Pass
	mg/kg	0.5	<0.5	<0.5	NA	No Limit	Pass	<0.5	Pass	70-130%	Pass
	mg/kg	0.5	<0.5	<0.5	NA	No Limit	Pass	<0.5	Pass	70-130%	Pass
	mg/kg	0.5	<0.5	<0.5	NA	No Limit	Pass	<0.5	Pass	70-130%	Pass
	mg/kg	0.5	<0.5	<0.5	NA	No Limit	Pass	<0.5	Pass	70-130%	Pass
	mg/kg	0.5	<0.5	<0.5	NA	No Limit	Pass	<0.5	Pass	70-130%	Pass

Reference AF55.Rev4 Date Issued: 3/11/2010

VOC Technical Holding Time Compliance												
Client Sample ID		BH2 0-0.5	BH7 0.4-0.6	BH17 0.3-0.5	BH19 0.2-0.4							
Laboratory Sample Number		GS13482-4	GS13482-15	GS13482-34	GS13482-38							
Date Sampled		17/10/2013	17/10/2013	17/10/2013	17/10/2013							
Analyte	THT Parameters	THT (Days)										
VOC	Extraction Date	28/10/2013	29/10/2013	30/10/2013	31/10/2013							
	Analysis Time (Days)	11	12	13	14							
	THT Compliant	Yes	Yes	Yes	Yes							

Reference AF55.Rev4 Date Issued : 3/11/2010

PAH Results

Client Sample ID	BH1 0-0.5	BH1 0.5-1.0	BH2 0-0.5	BH3 0-0.5	BH3 0.5-1.0	BH4 0.3-0.5	BH5 0.2-0.4	BH6 0.2-0.4	BH7 0.4-0.6	BH9 0.4-0.6
Laboratory Sample Number	GS13482-1	GS13482-2	GS13482-4	GS13482-6	GS13482-7	GS13482-9	GS13482-11	GS13482-13	GS13482-15	GS13482-18
Date Sampled	17/10/2013	17/10/2013	17/10/2013	17/10/2013	17/10/2013	17/10/2013	17/10/2013	17/10/2013	17/10/2013	17/10/2013
ANALYTE	Literature Reference	Units	LOR							
Moisture	NEPC 102	%	0.1							
PAH										
Naphthalene	GSLs	mg/kg	0.1	<0.1	<0.1	<0.1	0.2	0.1	<0.1	<0.1
Acenaphthylene	GSLs	mg/kg	0.1	<0.1	<0.1	<0.1	0.5	0.5	0.4	0.3
Acenaphthene	GSLs	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	GSLs	mg/kg	0.1	<0.1	<0.1	<0.1	0.1	0.3	0.2	<0.1
Phenanthrene	GSLs	mg/kg	0.1	<0.1	<0.1	<0.1	2.7	4.2	3.5	1.6
Anthracene	GSLs	mg/kg	0.1	<0.1	<0.1	<0.1	0.6	0.8	0.7	0.3
Fluoranthene	GSLs	mg/kg	0.1	<0.1	<0.1	<0.1	6.6	6.4	6.7	3.3
Pyrene	GSLs	mg/kg	0.1	<0.1	<0.1	<0.1	6.5	5.5	5.7	2.6
Benz(a)anthracene	GSLs	mg/kg	0.1	<0.1	<0.1	<0.1	3.9	3.1	3.5	1.7
Chrysene	GSLs	mg/kg	0.1	<0.1	<0.1	<0.1	3.3	2.4	2.8	1.1
Benzo(b)&(k)fluoranthene	GSLs	mg/kg	0.2	<0.2	<0.2	<0.2	6.1	4.0	5.2	2.3
Benzo(a)pyrene	GSLs	mg/kg	0.05	<0.05	<0.05	<0.05	4.90	3.10	3.50	1.75
Indeno(1,2,3-cd)pyrene	GSLs	mg/kg	0.1	<0.1	1.3	<0.1	4.6	2.9	3.2	1.8
Dibenz(a,h)anthracene	GSLs	mg/kg	0.1	<0.1	0.8	<0.1	1.3	1.1	1.1	0.9
Benzo(ghi)perylene	GSLs	mg/kg	0.1	<0.1	0.9	<0.1	4.2	2.5	2.5	1.3
Sum of PAH's	---	mg/kg	1	<1	<1	<1	<1	<1	<1	<1
B(a)P TEQ	---	mg/kg	1	<1	1.8	<1	7.7	5.2	5.8	3.3
Surrogates										
p-terphenyl-d14	GSLs	%	1	101%	106%	95%	97%	96%	103%	99%
				Reference AF56 Rev4 Date issued : 3/11/2010						

Comments :

1. PAH results reported on a dry weight basis

PAH Results

Client Sample ID		BH10 0.4-0.5	BH11 0.2-0.4	BH12 0.3-0.5	BH13 0.2-0.4	BH14 0.2-0.3	BH15 0.3-0.5	BH16 0.3-0.5	BH17 0.3-0.5	BH18 0.4-0.5	BH19 0.2-0.4
Laboratory Sample Number		GS13482-20	GS13482-22	GS13482-24	GS13482-26	GS13482-28	GS13482-30	GS13482-32	GS13482-34	GS13482-36	GS13482-38
Date Sampled		17/10/2013	17/10/2013	17/10/2013	17/10/2013	17/10/2013	17/10/2013	17/10/2013	17/10/2013	17/10/2013	17/10/2013
ANALYTE	Literature Reference	Units	LOR								
Moisture	NEPC 102	%	0.1								
PAH											
Naphthalene	GSLs	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	GSLs	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1
Acenaphthene	GSLs	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	GSLs	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	GSLs	mg/kg	0.1	<0.1	<0.1	1.1	<0.1	<0.1	<0.1	0.5	<0.1
Anthracene	GSLs	mg/kg	0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	GSLs	mg/kg	0.1	0.6	0.9	7	<0.1	<0.1	<0.1	1.2	0.4
Pyrene	GSLs	mg/kg	0.1	0.2	0.6	6	<0.1	<0.1	<0.1	0.9	0.2
Benz(a)anthracene	GSLs	mg/kg	0.1	0.3	0.6	4.4	<0.1	<0.1	<0.1	0.7	0.3
Chrysene	GSLs	mg/kg	0.1	0.1	0.3	3.6	<0.1	<0.1	<0.1	0.4	<0.1
Benzo(b)&(k)fluoranthene	GSLs	mg/kg	0.2	0.7	0.8	7.8	<0.2	0.2	<0.2	0.9	0.4
Benzo(a)pyrene	GSLs	mg/kg	0.05	0.60	0.70	5.50	<0.05	<0.05	<0.05	0.70	0.40
Indeno(1,2,3-cd)pyrene	GSLs	mg/kg	0.1	0.9	0.9	6.3	<0.1	<0.1	<0.1	1.0	<0.1
Dibenz(a,h)anthracene	GSLs	mg/kg	0.1	0.8	<0.1	1.7	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(ghi)perylene	GSLs	mg/kg	0.1	0.3	0.6	5.6	<0.1	<0.1	<0.1	0.6	0.4
Sum of PAH's	---	mg/kg	1	<1	<1	<1	<1	<1	<1	<1	<1
B(a)P TEQ	---	mg/kg	1	1.6	1.6	9.1	<1	<1	<1	1.0	<1
Surrogates											
p-terphenyl-d14	GSLs	%	1	11.2%	88%	89%	94%	96%	103%	93%	82%

Reference AF56 Rev4 Date issued : 3/11/2010

PAH Results

Client Sample ID	BH20 0.2-0.4	BH20 1.0-1.1	BH20 0.3-0.5	BH22 0.2-0.3	D1	D2	D3	D4	R1	R2
Laboratory Sample Number	GS13482-39	GS13482-40	GS13482-42	GS13482-43	GS13482-44	GS13482-45	GS13482-46	GS13482-47	GS13482-48	GS13482-49
Date Sampled	17/10/2013	17/10/2013	17/10/2013	17/10/2013	17/10/2013	17/10/2013	17/10/2013	17/10/2013	17/10/2013	17/10/2013
ANALYTE	Literature Reference	Units	LOR							
Moisture	NEPC 102	%	0.1							
PAH										
Naphthalene	GSLS	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5
Acenaphthylene	GSLS	mg/kg	0.1	<0.1	0.3	0.5	<0.1	<0.1	<0.5	<0.5
Acenaphthene	GSLS	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5
Fluorene	GSLS	mg/kg	0.1	<0.1	16.4	0.1	<0.1	<0.1	<0.5	<0.5
Phenanthrene	GSLS	mg/kg	0.1	4.3	3.7	2.8	<0.1	<0.1	<0.5	<0.5
Anthracene	GSLS	mg/kg	0.1	0.8	18.3	0.6	<0.1	<0.1	<0.5	<0.5
Fluoranthene	GSLS	mg/kg	0.1	5.7	3.3	1.9	<0.1	0.8	<0.5	<0.5
Pyrene	GSLS	mg/kg	0.1	4.5	14.1	5.2	<0.1	0.5	<0.5	<0.5
Benz(a)anthracene	GSLS	mg/kg	0.1	2.6	7.4	4.7	<0.1	0.6	<0.5	<0.5
Chrysene	GSLS	mg/kg	0.1	2.1	6.3	3	<0.1	0.2	<0.5	<0.5
Benzo(b) & (k) fluoranthene	GSLS	mg/kg	0.2	3.3	8.6	2.5	<0.1	0.8	<0.5	<0.5
Benzo(a)pyrene	GSLS	mg/kg	0.05	2.30	6.10	3.80	<0.05	0.60	<0.5	<0.5
Indeno(1,2,3-cd)pyrene	GSLS	mg/kg	0.1	2.3	5.4	3.6	<0.1	<0.1	<0.5	<0.5
Dibenz(a,h)anthracene	GSLS	mg/kg	0.1	1	1.7	1.2	<0.1	<0.1	<0.5	<0.5
Benzo(ghi)perylene	GSLS	mg/kg	0.1	1.8	4.3	3.1	<0.1	0.6	<0.5	<0.5
Sum of PAH's	---	mg/kg	1	<1	<1	<1	<1	<1	<4	<4
Bi(a)p TEQ	---	mg/kg	1	4.2	3.9	6.2	<1	<1	---	---
Surrogates										
p-terphenyl-d14	GSLS	%	1	90%	88%	97%	86%	110%	92%	95%

Reference AF56.Rev4 Date Issued : 3/11/2010

Comments :

1. Samples R1 & R2 are water samples, with results expressed in µg/L

PAH Quality Control Report

Client Sample ID		BH10 0.4-0.5				BH20 1.0-1.1									
Laboratory Sample Number		GS13482-20				GS13482-40									
QC Parameter				Laboratory Duplicate				Laboratory Duplicate							
				Original Result	Duplicate	%RPD	Acceptance Criteria	Within GSL Acceptance Criteria (Pass/Fail)	Original Result	Duplicate	%RPD	Acceptance Criteria	Within GSL Acceptance Criteria (Pass/Fail)		
PAH		Units	LOR												
Naphthalene		mg/kg	0.1	<0.1	<0.1	NA	No Limit	Pass	<0.1	<0.1	NA	No Limit	Pass		
Acenaphthylene		mg/kg	0.1	<0.1	<0.1	NA	No Limit	Pass	<0.1	0.3	NA	No Limit	Pass		
Acenaphthene		mg/kg	0.1	<0.1	<0.1	NA	No Limit	Pass	<0.1	<0.1	NA	No Limit	Pass		
Fluorene		mg/kg	0.1	<0.1	<0.1	NA	No Limit	Pass	<0.1	<0.1	NA	No Limit	Pass		
Phenanthrene		mg/kg	0.1	<0.1	<0.1	NA	No Limit	Pass	1.0	0.9	10%	No Limit	Pass		
Anthracene		mg/kg	0.1	<0.1	<0.1	NA	No Limit	Pass	0.2	<0.1	NA	No Limit	Pass		
Fluoranthene		mg/kg	0.1	0.4	0.3	29%	No Limit	Pass	3.3	2.7	20%	≤30%	Pass		
Pyrene		mg/kg	0.1	0.2	<0.1	NA	No Limit	Pass	2.8	2.2	24%	≤30%	Pass		
Benz(a)anthracene		mg/kg	0.1	0.3	0.3	<0.1%	No Limit	Pass	1.9	1.5	23%	No Limit	Pass		
Chrysene		mg/kg	0.1	<0.1	<0.1	NA	No Limit	Pass	1.4	1.1	25%	No Limit	Pass		
Benzo(b)&(k)fluoranthene		mg/kg	0.2	0.4	0.3	<1%	No Limit	Pass	2.2	1.6	32%	No Limit	Pass		
Benzo(a)pyrene		mg/kg	0.05	0.40	0.30	29%	No Limit	Pass	2.15	1.6	28%	No Limit	Pass		
Indeno(1,2,3-cd)pyrene		mg/kg	0.1	0.5	0.5	<1%	No Limit	Pass	2.2	1.7	30%	No Limit	Pass		
Dibenz(a,h)anthracene		mg/kg	0.1	0.5	0.3	50%	No Limit	Pass	1.0	0.9	10%	No Limit	Pass		
Benzo(ghi)perylene		mg/kg	0.1	0.3	0.3	<1%	No Limit	Pass	1.7	1.3	27%	No Limit	Pass		
Surrogates															
p-terphenyl-d14		%	1	100%	95%	---	---	---	88%	91%	---	---	---	---	---

Reference AF56.Rev4 Date Issued : 3/11/2010

Comments :

1. NA = Not Applicable

PAH Quality Control Report

Client Sample ID					
Laboratory Sample Number					
QC Parameter		Method Blank		Laboratory Control Standard (LCS)	
		Method Blank	Within GSL Acceptance Criteria (<LOR) (Pass/Fail)	LCS (%R)	Within GSL Acceptance Criteria (Pass/Fail)
PAH	Units	LOR			
Naphthalene	mg/kg	0.1	Pass	107%	Pass
Acenaphthylene	mg/kg	0.1	Pass	---	---
Acenaphthene	mg/kg	0.1	Pass	---	---
Fluorene	mg/kg	0.1	Pass	108%	Pass
Phenanthrene	mg/kg	0.1	Pass	104%	Pass
Anthracene	mg/kg	0.1	Pass	---	---
Fluoranthene	mg/kg	0.1	Pass	112%	Pass
Pyrene	mg/kg	0.1	Pass	100%	Pass
Benz(a)anthracene	mg/kg	0.1	Pass	---	---
Chrysene	mg/kg	0.1	Pass	107%	Pass
Benzo(b)&(k)fluoranthene	mg/kg	0.2	Pass	---	---
Benzo(a)pyrene	mg/kg	0.05	Pass	108%	Pass
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	Pass	---	---
Dibenz(a,h)anthracene	mg/kg	0.1	Pass	---	---
Benzo(ghi)perylene	mg/kg	0.1	Pass	---	---
Surrogates					
p-terphenyl-d14	%	1	93%	126%	---

Reference AF56 Rev4 Date Issued : 3/11/2010

Phenol Results

Comments :
1- Phenol results reported on a dry weight basis

Phenols Quality Control Report

Client Sample ID					
Laboratory Sample Number					
QC Parameter		Method Blank		Within GSL Acceptance Criteria (<LOR) (Pass/Fail)	
		LCS (%R)		Within GSL Acceptance Criteria (Pass/Fail)	
Phenols	Units	LOR			
Phenol	mg/kg	1	<1	Pass	96% 70-130% Pass
2-Chlorophenol	mg/kg	1	<1	Pass	110% 70-130% Pass
2-Methylphenol	mg/kg	1	<1	Pass	--- 70-130% ---
3 & 4-Methylphenol	mg/kg	2	<2	Pass	--- 70-130% ---
2-Nitrophenol	mg/kg	1	<1	Pass	--- 70-130% ---
2,4-Dimethylphenol	mg/kg	1	<1	Pass	--- 70-130% ---
2,4-Dichlorophenol	mg/kg	1	<1	Pass	--- 70-130% ---
2,6-Dichlorophenol	mg/kg	1	<1	Pass	--- 70-130% ---
2,4,6-Trichlorophenol	mg/kg	1	<1	Pass	--- 70-130% ---
2,4,5-Trichlorophenol	mg/kg	1	<1	Pass	--- 70-130% ---
2,4-Dinitrophenol	mg/kg	10	<10	Pass	--- 70-130% ---
4-Nitrophenol	mg/kg	10	<10	Pass	130% 70-130% Pass
2,3,4,6-Tetrachlorophenol	mg/kg	1	<1	Pass	--- 70-130% ---
2-methyl-4,6-dinitrophenol	mg/kg	10	<10	Pass	--- 70-130% ---
Pentachlorophenol	mg/kg	10	<10	Pass	--- 70-130% ---
Surrogates					
2-Fluorophenol	%	1	83%	---	132% ---

Reference AF55.Rev4 Date Issued : 3/11/2010

Phenol Technical Holding Time Compliance

[illegible]

Reference AF55.Rev4 Date Issued : 3/11/2010

OCP & PCB Results

Client Sample ID	BH3 0.0-5	BH4 0.3-0.5	BH5 0.2-0.4	BH6 0.2-0.4	BH7 0.4-0.6	BH8 0.1-0.3	BH9 0.4-0.6	BH11 0.2-0.4	BH12 0.3-0.5	BH15 0.3-0.5
Laboratory Sample Number	GS13482-6	GS13482-9	GS13482-11	GS13482-13	GS13482-15	GS13482-17	GS13482-18	GS13482-22	GS13482-24	GS13482-30
Date Sampled	17/10/2013	17/10/2013	17/10/2013	17/10/2013	17/10/2013	17/10/2013	17/10/2013	17/10/2013	17/10/2013	17/10/2013
Analyses	Literature Reference	Units	LOR							
Moisture	NEPC 102	%	0.1	16.0	17.0	16.0	13.0	19.0	9.4	13.0
OCP										
Hexachlorobutadiene	GSLS	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha-BHC	GSLS	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Gamma-BHC	GSLS	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Beta-BHC	GSLS	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	GSLS	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Delta-BHC	GSLS	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	GSLS	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor epoxide	GSLS	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-Chlordane	GSLS	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-Chlordane	GSLS	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan-I	GSLS	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDE	GSLS	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	GSLS	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin	GSLS	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDD	GSLS	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan-II	GSLS	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDT	GSLS	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin aldehyde	GSLS	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan Sulfate	GSLS	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	GSLS	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
PCB										
Arochlor 1016	GSLS	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Arochlor 1221	GSLS	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Arochlor 1232	GSLS	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Arochlor 1242	GSLS	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Arochlor 1248	GSLS	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Arochlor 1254	GSLS	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Arochlor 1260	GSLS	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
OCP Surrogates										
TCMX	GSLS	%	1	68%	69%	76%	82%	81%	73%	75%
PCB Surrogate										
TCMX	GSLS	%	1	68%	67%	72%	77%	73%	68%	69%

Reference AF55 Rev4 Date issued : 3/11/2010

Comments :

1- OCP & PCB results reported on a dry weight basis

OCP & PCB Results

Client Sample ID	BH17 0.3-0.5 GS13482-34 17/10/2013	BH19 0.2-0.4 GS13482-38 17/10/2013	BH20 0.2-0.4 GS13482-39 17/10/2013	BH20 1.0-1.1 GS13482-40 17/10/2013	BH20 0.3-0.5 GS13482-42 17/10/2013	BH22 0.2-0.3 GS13482-43 17/10/2013	D1 GS13482-44 17/10/2013	D2 GS13482-45 17/10/2013	D3 GS13482-46 17/10/2013	D4 GS13482-47 17/10/2013
Laboratory Sample Number										
Date Sampled										
Analyses	Literature Reference	Units	LOR							
Moisture	NEPC 102	%	0.1							
OCP										
Hexachlorobutadiene	GSLS	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha-BHC	GSLS	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Gamma-BHC	GSLS	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Beta-BHC	GSLS	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	GSLS	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Delta-BHC	GSLS	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	GSLS	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor epoxide	GSLS	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-Chlordane	GSLS	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-Chlordane	GSLS	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan-I	GSLS	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDE	GSLS	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	GSLS	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin	GSLS	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDD	GSLS	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan-II	GSLS	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDT	GSLS	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin aldehyde	GSLS	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan Sulfate	GSLS	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	GSLS	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
PCB										
Arochlor 1016	GSLS	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Arochlor 1221	GSLS	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Arochlor 1232	GSLS	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Arochlor 1242	GSLS	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Arochlor 1248	GSLS	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Arochlor 1254	GSLS	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Arochlor 1260	GSLS	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
OCP Surrogates										
TCMX	GSLS	%	1	73%	74%	72%	74%	71%	65%	90%
PCB Surrogate										
TCMX	GSLS	%	1	69%	60%	68%	67%	64%	80%	83%

Reference AF55 Rev4 Date issued : 3/11/2010

OCP & PCB Quality Control Report

Client Sample ID		BH20 1.0-1.1										
Laboratory Sample Number		G513482-40										
QC Parameter		Laboratory Duplicate										
		Original Result	Duplicate	%RPD	%RPD	Acceptance Criteria	Within GSL Acceptance Criteria (Pass/Fail)	Method Blank	Within GSL Acceptance Criteria (<LOR) (Pass/Fail)	LCS (%R)	Acceptance Criteria	Within GSL Acceptance Criteria (Pass/Fail)
OCP	Units	LOR										
Hexachlorobutadiene	mg/Kg	0.1	<0.1	<0.1	NA	No Limit	Pass	Pass	<0.1	Pass	---	70-130%
Alpha-BHC	mg/Kg	0.1	<0.1	<0.1	NA	No Limit	Pass	Pass	<0.1	Pass	99%	70-130%
Gamma-BHC	mg/Kg	0.1	<0.1	<0.1	NA	No Limit	Pass	Pass	<0.1	Pass	---	70-130%
Beta-BHC	mg/Kg	0.1	<0.1	<0.1	NA	No Limit	Pass	Pass	<0.1	Pass	98%	70-130%
Heptachlor	mg/Kg	0.1	<0.1	<0.1	NA	No Limit	Pass	Pass	<0.1	Pass	91%	70-130%
Delta-BHC	mg/Kg	0.1	<0.1	<0.1	NA	No Limit	Pass	Pass	<0.1	Pass	---	70-130%
Aldrin	mg/Kg	0.1	<0.1	<0.1	NA	No Limit	Pass	Pass	<0.1	Pass	---	70-130%
Heptachlor epoxide	mg/Kg	0.1	<0.1	<0.1	NA	No Limit	Pass	Pass	<0.1	Pass	---	70-130%
gamma-Chlordane	mg/Kg	0.1	<0.1	<0.1	NA	No Limit	Pass	Pass	<0.1	Pass	---	70-130%
alpha-Chlordane	mg/Kg	0.1	<0.1	<0.1	NA	No Limit	Pass	Pass	<0.1	Pass	---	70-130%
Endosulfan-I	mg/Kg	0.1	<0.1	<0.1	NA	No Limit	Pass	Pass	<0.1	Pass	---	70-130%
pp-DDE	mg/Kg	0.1	<0.1	<0.1	NA	No Limit	Pass	Pass	<0.1	Pass	93%	70-130%
Dieldrin	mg/Kg	0.1	<0.1	<0.1	NA	No Limit	Pass	Pass	<0.1	Pass	121%	70-130%
Endrin	mg/Kg	0.1	<0.1	<0.1	NA	No Limit	Pass	Pass	<0.1	Pass	118%	70-130%
pp-DDD	mg/Kg	0.1	<0.1	<0.1	NA	No Limit	Pass	Pass	<0.1	Pass	97%	70-130%
Endosulfan-II	mg/Kg	0.1	<0.1	<0.1	NA	No Limit	Pass	Pass	<0.1	Pass	---	70-130%
pp-DDT	mg/Kg	0.1	<0.1	<0.1	NA	No Limit	Pass	Pass	<0.1	Pass	---	70-130%
Endrin aldehyde	mg/Kg	0.1	<0.1	<0.1	NA	No Limit	Pass	Pass	<0.1	Pass	---	70-130%
Endosulfan Sulfate	mg/Kg	0.1	<0.1	<0.1	NA	No Limit	Pass	Pass	<0.1	Pass	70%	70-130%
Methoxychlor	mg/Kg	0.1	<0.1	<0.1	NA	No Limit	Pass	Pass	<0.1	Pass	---	70-130%
PCB												
Arochlor 1016	mg/Kg	0.1	<0.1	<0.1	NA	No Limit	Pass	Pass	<0.1	Pass	---	70-130%
Arochlor 1221	mg/Kg	0.1	<0.1	<0.1	NA	No Limit	Pass	Pass	<0.1	Pass	---	70-130%
Arochlor 1232	mg/Kg	0.1	<0.1	<0.1	NA	No Limit	Pass	Pass	<0.1	Pass	---	70-130%
Arochlor 1242	mg/Kg	0.1	<0.1	<0.1	NA	No Limit	Pass	Pass	<0.1	Pass	---	70-130%
Arochlor 1248	mg/Kg	0.1	<0.1	<0.1	NA	No Limit	Pass	Pass	<0.1	Pass	---	70-130%
Arochlor 1254	mg/Kg	0.1	<0.1	<0.1	NA	No Limit	Pass	Pass	<0.1	Pass	102%	70-130%
Arochlor 1260	mg/Kg	0.1	<0.1	<0.1	NA	No Limit	Pass	Pass	<0.1	Pass	---	70-130%

Reference AFS5.Rev4 Date issued : 3/11/2010

Groundswell Laboratories

116 Moray Street, South Melbourne, Victoria, 3205.
Ph (03) 8669 1450 Fax (03) 8669 1451 (M) 0416 203 845 e-mail : admin@groundswelllabs.com.au

Sample Receipt Notice

Client Name Aargus
Client Project Manager Mark Kelly
Client e-mail mark.kelly@aargus.net
Client Address 446 Parramatta Road, Petersham, NSW, 2049
Client Phone 1300 137 038

Project Name Marrickville
Project Number ES5611-2
CofC Serial Number Not Applicable
Purchase Order Number Not Applicable

Date Sampled / Sampling Period 17/10/2013
Date Samples Received 21/10/2013
Date Sample Receipt Notice Issued 22/10/2013
Date Analytical Report Due 30/10/2013

Groundswell Batch Number GS13482
Groundswell Quote Number Not Applicable
Groundswell Sample Receipt Contact Chris De Luca
E-mail chris@groundswelllabs.com.au
Groundswell Reporting Contact Paul Woodward
E-mail paul@groundswelllabs.com.au

Reporting Requirements pdf, xlsx

Sample Condition Samples chilled when received
COC received with samples & samples detailed on the COC match those received
Analytical request on the CofC clear
Samples were received in appropriate containers, and appropriately preserved
Samples were received within the THT's adopted by Groundswell

Comments

Subcontracted Analysis Asbestos samples sent to LRM Global on the 22/10/2013
A range of organics sent to Envirolab on the 22/10/2013

Secondary Laboratory Analysis

Thanks for choosing Groundswell Laboratories

Reference : AF10.Rev1 Date Issued : 10/08/2010

Grandsirell Bath: GS13482

AARGUS PTY LTD

Laboratory Test Request / Chain of Custody Record

446 Parramatta Road
PETERSHAM NSW 2049
P O Box 398
DURMOYNE NSW 1470

Tel: 1300 137 038
Fax: 1300 136 038
email: admin@aargus.net & michael@aargus.net

Sampling Date: 16-17.10.2013
Job No: ES611-2
Project: MARRICKVILLE
Location: MARRICKVILLE

116 MORAY STREET
SOUTH MELBOURNE VIC 3205

PH: 03 8669 1450

FAX:

Project Manager: MK

Location: MARRICKVILLE

Page 1 of 5

Results required by: STANDARD

Location	Depth (m)	Soil	Water	Heavy Metals As, Cd, Cr, Cu, Pb, Hg, Ni and Zn	Cr III	pH, CEC & % Clay	TPH and BTEX	PAH	OCP	PCB	Phenols	Cyanide	ASBESTOS PRESENCE	ABESTOS %	VOC	KEEP SAMPLE
BH1	0-0.5	DSG		✓			✓	✓					✓	✓		YES
BH1	0.5-1.0	DSG		✓			✓	✓					✓	✓	✓	YES
BH1	1-1.5	DSG		✓			✓	✓								YES
BH2	0-0.5	DSG		✓												YES
BH2	0.5-1.0	DSG		✓									✓	✓		YES
BH2	1-1.5	DSG		✓			✓	✓	✓	✓						YES
BH3	0-0.5	DSG		✓			✓	✓								YES
BH3	0.5-1.0	DSG		✓			✓	✓	✓	✓			✓	✓		YES
BH3	1-1.5	DSG		✓			✓	✓	✓	✓						YES
BH4	0-0.5	DSG		✓			✓	✓	✓	✓			✓	✓		YES
BH4	0.5-1.0	DSG		✓			✓	✓	✓	✓						YES
BH4	1-1.5	DSG		✓			✓	✓	✓	✓						YES
BH5	0-0.5	DSG		✓			✓	✓	✓	✓			✓	✓		YES
BH5	0.5-1.0	DSG		✓			✓	✓	✓	✓						YES
BH6	0-0.5	DSG		✓			✓	✓	✓	✓						YES
BH6	0.5-1.0	DSG		✓			✓	✓	✓	✓						YES
BH6	1-1.5	DSG		✓			✓	✓	✓	✓						YES
Received by _____ Date _____																

Name: Michael Silk Signature: [Signature] Date: 18.10.2013

Legend: WG Water sample, glass bottle USG Undisturbed soil sample (glass jar) DSP Disturbed soil sample (small plastic bag)
WP Water sample, plastic bottle DSG Disturbed soil sample (glass jar) Test required

AARGUS PTY LTD

Laboratory Test Request / Chain of Custody Record

446 Parramatta Road
PETERSHAM NSW 2049
P O Box 398
DRUMMOYNE NSW 1470
Tel: 1300 137 038
Fax: 1300 136 038
email: admin@aargus.net & michael@aargus.net

Sampling Date: 16-17.10.2013
Job No: ES5611-2
Project: MARRICKVILLE
Sampled By: MS
Project Manager: MKK
Location: MARRICKVILLE

Page 3 of 5

PH: 03 8669 1450
ATTN: 116 MORAY STREET
SOUTH MELBOURNE VIC 3205
FAX:

Results required by: STANDARD

Sampling details		Sample type	Heavy Metals As, Cd, Cr, Cu, Pb, Hg, Ni and Zn	Cr III	pH, CEC & % Clay	TPH and BTEX	PAH	OCP	PCB	Phenols	Cyanide	ASBESTOS PRESENCE	ASBESTOS %	VOC	KEEP SAMPLE	
Location	Depth (m)	Soil Water														
BH13	0.2-0.4	DSG	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	YES	
BH13	0.8-1.0	DSG	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	YES	
BH14	0.2-0.3	DSG	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	YES	
BH14	0.6-0.8	DSG	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	YES	
BH14	1.8-2.0	DSG	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	YES	
BH15	0.3-0.5	DSG	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	YES	
BH15	0.9-1.0	DSG	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	YES	
BH16	0.3-0.5	DSG	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	YES	
BH16	0.8-1.0	DSG	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	YES	
BH17	0.3-0.5	DSG	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	YES	
BH17	0.7-0.8	DSG	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	YES	
BH17	1.9-2.0	DSG	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	YES	
Name: Michael Sik		Signature: MS	Date: 18.10.2013		Name: Michael Sik		Signature: Michael Sik		Date: 21/10/13		Name: Michael Sik		Signature: Michael Sik		Date: 21/10/13	

Legend:
WG Water sample, glass bottle
WP Water sample, plastic bottle
USG Undisturbed soil sample (glass jar)
DSG Disturbed soil sample (glass jar)

DSP Disturbed soil sample (small plastic bag)
Test required

AARGUS PTY LTD

Laboratory Test Request / Chain of Custody Record

446 Parramatta Road
PETERSHAM NSW 2049
TO: GROUNDWELL LABORATORIES

P O Box 398
DRUMMOYNE NSW 1470

Tel: 1300 137 038
Fax: 1300 136 038
email: admin@aargus.net & michael@aargus.net

Sampling Date: 16-17.10.2013
Sampled By: MS
Project: MARRICKVILLE

Project Manager: MK Location: MARRICKVILLE

PH: 03 8669 1450

FAX:

ATTN:

Results required by: STANDARD

Sampling details		Sample type	Results required by: STANDARD										KEEP SAMPLE	
Location	Depth (m)	Soil / Water	Heavy Metals As, Cd, Cr, Cu, Pb, Hg, Ni and Zn	Cr III	pH, CEC & % Clay	TPH and BTX	PAH	OCP	PCB	Phenols	Cyanide	ASBESTOS PRESENCE	ASBESTOS %	YES YES
R1	-	WGMF	✓			✓	✓							
R2	-	WGMF												
Relinquished by			Received by											
Name	Signature	Date	Name		Signature		Date							
Michael Silk	MS	18.10.2013	Pat Patrick		[Signature]		21/10/13							

Legend:
W/G Water sample, glass bottle
W/P Water sample, plastic bottle

USG Undisturbed soil sample (glass jar)
DSG Disturbed soil sample (glass jar)

DSP Disturbed soil sample (small plastic bag)
Test required

@ mole H'homme

AARGUS PTY LTD

446 Parramatta Road
PETERSHAM NSW 2049
TO: GROUNDWELL LABORATORIES
116 MORAY STREET
SOUTH MELBOURNE VIC 3205

Tel: 1300 137 038
Fax: 1300 136 038
email: admin@aargus.net & michael@aargus.net

Laboratory Test Request / Chain of Custody Record

Sampling Date: 16-17.10.2013 Job No: ES5611-2 Page 4 of 5

Sampled By: MS Project: MARRICKVILLE

Project Manager: MK Location: MARRICKVILLE

PH: 03 8669 1450 FAX:

ATTN:

Results required by: STANDARD

Sampling details		Sample type		Depth (m)	Heavy Metals As, Cd, Cr, Cu, Pb, Hg, Ni and Zn	Cr III	pH, CEC & % Clay	TPH and BTEX	PAH	OCP	PCB	Phenols	Cyanide	ASBESTOS PRESENCE	ASBESTOS %	VOC	KEEP SAMPLE
Location		Soil	Water														
BH18		DSG		0.4-0.5	✓			✓	✓					✓	✓		YES
BH18		DSG		0.7-0.8	✓										✓		YES
BH19		DSG		0.2-0.4	✓			✓	✓	✓	✓	✓	✓	✓	✓	✓	YES
BH20		DSG		0.2-0.4	✓			✓	✓	✓	✓			✓	✓		YES
BH20		DSG		1.0-1.1	✓			✓	✓								YES
BH20		DSG		2.4-2.5	✓			✓	✓	✓	✓			✓	✓		YES
BH21		DSG		0.3-0.5	✓			✓	✓	✓	✓			✓	✓		YES
BH22		DSG		0.2-0.3	✓			✓	✓	✓	✓			✓	✓		YES
D1		DSG		-	✓			✓	✓	✓	✓						YES
D2		DSG		-	✓			✓	✓	✓	✓						YES
D3		DSG		-	✓			✓	✓	✓	✓						YES
D4		DSG		-	✓			✓	✓	✓	✓						YES

Relinquished by		Received by	
Name	Signature	Name	Signature
Michael Silk	MS		
Date: 18.10.2013		Date:	

Legend:	WG	WP	USG	DSG	DSP	Test required
Water sample, glass bottle					✓	Disturbed soil sample (small plastic bag)
Water sample, plastic bottle					✓	Test required

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AARGUS PTY LTD

446 Parramatta Road
PETERSHAM NSW 2049
TO: GROUNDWELL LABORATORIES
116 MORAY STREET
SOUTH MELBOURNE VIC 3205

Tel: 1300 137 038
Fax: 1300 136 038
email: admin@aargus.net & michael@aargus.net

Laboratory Test Request / Chain of Custody Record

PH: 03 8669 1450 FAX: 03 8669 1450
P O Box 398
DRUMMOYNE NSW 1470
Project: MARRICKVILLE
Job No: ES5611-2
Sampling Date: 16-17.10.2013
Sampled By: MS
Project Manager: MK
Location: MARRICKVILLE

Page 2 of 5

Results required by: STANDARD

Sampling details			Sample type	
Location	Depth	Soil	Water	
	(m)			
BH7	0.4-0.6	DSG		
BH7	1.1-1.3	DSG		
BH8	0.1-0.3	DSG		
BH9	0.4-0.6	DSG		
BH9	0.8-1.0	DSG		
BH10	0.4-0.5	DSG		
BH10	0.8-1.0	DSG		
BH11	0.2-0.4	DSG		
BH11	0.7-0.9	DSG		
BH12	0.3-0.5	DSG		
BH12	0.7-0.9	DSG		

Results required by: STANDARD															
	Heavy Metals As, Cd, Cr, Cu, Pb, Hg, Ni and Zn	Cr III	pH, CEC & % Clay	TPH and BTEX	PAH	OCP	PCB	Phenols	Cyanide	ASBESTOS PRESENCE	ABESTOS %	VOC	KEEP SAMPLE		
	✓			✓	✓	✓	✓	✓	✓	✓	✓	✓	YES		
	✓			✓		✓	✓			✓	✓		YES		
	✓												YES		
	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		YES		
	✓	✓	✓	✓	✓								YES		
	✓			✓						✓	✓		YES		
	✓			✓	✓	✓	✓	✓	✓	✓	✓		YES		
	✓			✓	✓	✓	✓			✓	✓		YES		
	✓			✓	✓	✓	✓			✓	✓		YES		
	✓												YES		

Name Michael Silk		Signature MS	Date 18.10.2013	Name Paul Woodhead		Signature [Signature]	Date 24/10/13
Relinquished by		Received by					
Legend:		USG Undisturbed soil sample (glass jar)		DSP Disturbed soil sample (small plastic bag)			
WG Water sample, glass bottle		DSG Disturbed soil sample (glass jar)		Test required			
WP Water sample, plastic bottle				® mole H ⁺ /tonne			



Liability & Risk Management Consulting

LRM Global Pty Ltd
65 Stubbs Street
Kensington VIC 3031

Fax: (03) 9371 3499
Email: enquiries@lrmglobal.com.au
Web: www.lrmglobal.com.au
Telephone: (03) 9371 3400
ABN: 34 116 540 277

Aargus Pty Ltd
446 Paramatta Road
Petersham NSW 2049

Client Ref: ES5611-2

Job Number: 11161.000

Batch Number: B8653

Received Date: October 24, 2013

Analysed Date: November 01, 2013

No of Samples: 22

Dear Mark Kelly,

This report presents the analytical results of samples forwarded by Aargus Pty Ltd for asbestos analysis.

Methodology:

The samples were examined under a Stereo Microscope and selected fibres were analysed by Polarized Light Microscopy in conjunction with Dispersion Staining Method. (LRM Global ID Method 1)

Analytical Results:

Sample No.	Sample Description	Result
BH1_0-0.5	The sample consisted of fibres, plant matter and soils Sample weight = 340.0 grams	Chrysotile Asbestos Detected Organic Fibre Detected
BH2_0-0.5	The sample consisted of soils Sample weight = 374.0 grams	No Asbestos Detected
BH3_0-0.5	The sample consisted of soils and plant matter Sample weight = 176.0 grams	No Asbestos Detected Organic Fibre Detected
BH4_0.3-0.5	The sample consisted of soils and plant matter Sample weight = 189.0 grams	No Asbestos Detected Organic Fibre Detected
BH5_0.2-0.4	The sample consisted of soils Sample weight = 140.0 grams	No Asbestos Detected
BH6_0.2-0.4	The sample consisted of soils and plant matter Sample weight = 203.0 grams	No Asbestos Detected Organic Fibre Detected

BH7_0.4-0.6	The sample consisted of fibres and soil with fibro cement fragments Sample weight = 161.0 grams	Chrysotile Asbestos Detected Crocidolite Asbestos Detected
BH8_0.1-0.3	The sample consisted of soils and plant matter Sample weight = 112.0 grams	No Asbestos Detected Organic Fibre Detected
BH9_0.4-0.6	The sample consisted of soils and plant matter Sample weight = 26.0 grams	No Asbestos Detected Organic Fibre Detected Synthetic Mineral Fibre Detected
BH10_0.4-0.5	The sample consisted of soils Sample weight = 140.0 grams	No Asbestos Detected
BH11_0.2-0.4	The sample consisted of soils and plant matter Sample weight = 105.0 grams	No Asbestos Detected Organic Fibre Detected
BH12_0.3-0.5	The sample consisted of soils Sample weight = 126.0 grams	No Asbestos Detected
BH13_0.2-0.4	The sample consisted of soils and plant matter Sample weight = 214.0 grams	No Asbestos Detected Organic Fibre Detected
BH14_0.2-0.3	The sample consisted of soils and plant matter Sample weight = 379.0 grams	No Asbestos Detected Organic Fibre Detected
BH15_0.3-0.5	The sample consisted of soils Sample weight = 291.0 grams	No Asbestos Detected
BH16_0.3-0.5	The sample consisted of soils Sample weight = 404.0 grams	No Asbestos Detected
BH17_0.3-0.5	The sample consisted of soils Sample weight = 208.0 grams	No Asbestos Detected
BH18_0.4-0.5	The sample consisted of soils Sample weight = 197.0 grams	No Asbestos Detected
BH19_0.2-0.4	The sample consisted of soils Sample weight = 493.0 grams	No Asbestos Detected
BH20_0.2-0.4	The sample consisted of soils Sample weight = 154.0 grams	No Asbestos Detected

BH21_0.3-0.5	The sample consisted of soils and plant matter Sample weight = 282.0 grams	No Asbestos Detected Organic Fibre Detected
BH22_0.2-0.3	The sample consisted of fibres fibro plaster, soils and plant matter Sample weight = 173.0 grams	Chrysotile Asbestos Detected Organic Fibre Detected

No asbestos found at the reporting limit of 0.1 g/kg.



Approved Identifier
Karu Jayasundara



Report Issued by
Karu Jayasundara



**WORLD RECOGNISED
ACCREDITATION**
Accreditation No: 15684

This document is issued in accordance with NATA's accreditation requirements. 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.

APPENDIX P

QA/QC ASSESSMENT



1 FIELD DATA QUALITY ASSESSMENT GROUNDWATER

1.1 Field Data Completeness

Field Sample Category - Soils	Number (Target)	Non-conformances	Number (Useable)	Overall Completeness %
Primary Samples	3	0	3	100%
Intra-Lab Duplicates	1	0	1	100%
Inter-Lab Duplicates	1	0	1	100%
Rinsate Blanks	1	0	1	100%
Trip Spikes	1	0	1	100%
Trip Blank	1	0	1	100%

Note: (*) – Overall Completeness is calculated as a percentage of the number of useable samples over the target number of samples required. The required percentage completeness is specified in the DQOs.

Field Consideration	Yes / No	Comments / Non-Conformances
Were all critical locations sampled?	Y	All critical locations were sampled as per the DQOs.
Were all samples collected from critical densities and depths?	Y	All sampled were recovered as per DQOs.
Were the Standard Operating Procedures (SOPs) appropriate and complied with?	Y	The Aargus Fieldwork Protocols were appropriate and complied with.
Were the samplers adequately experienced?	Y	Sampling was conducted by Aargus Environmental Scientist, Michael Silk.
Was field documentation complete and correct?	Y	Field records can be found within their respective appendices of the report.
Were an adequate number of intra-laboratory duplicate samples collected?	Y	100% of intra-laboratory duplicate samples required were collected as the table above.
Were an adequate number of inter-laboratory duplicate samples collected?	Y	100% of inter-laboratory duplicate samples required were collected as per the table above.
Were an adequate number of rinsate samples collected?	Y	100% of rinsate samples required were collected as per the table above.
Were an adequate number of trip blanks collected?	Y	100% of trip blanks required were collected as per the table above.
Were an adequate number of trip spikes collected?	Y	100% of trip spikes required were collected as per the table above.

1.2 Field Data Comparability

Field Consideration	Yes / No	Comments / Non-Conformances
Were the same SOPs used on each occasion?	Y	Aargus Fieldwork Protocols were utilised throughout each sampling event.
Was all sampling undertaken by the same person?	Y	Sampling was undertaken by the same scientist.
Could climatic conditions (such as temperature, rainfall, etc.) influence data comparability?	N	All sampling was undertaken on days without rain.
Were the same types of samples collected (filtered, size, fractions, etc.) for each media?	Y	Samples were collected in the same types of containers provided by the laboratory.
Was each field parameter measured using the same equipment?	Y	Water quality meter was carried out using the same meter.
Was the same method and equipment used for extraction of samples?	Y	Groundwater samples were recovered using the same type of equipment.

1.3 Field Data Representativeness

Laboratory Batch	Laboratory	Sample Medium	Container Breakages	Sample Preservation	Headspace Temperature /
GS13500	Groundswell	GW and Water (rinsate)	Compliant	Compliant	Compliant
398026-W	Eurofins MGT	GW	Compliant	Compliant	Compliant

Field Consideration	Yes / No	Comments / Non-Conformances
Was appropriate media sampled in accordance with the DQOs?	Y	All groundwater samples were sampled in accordance with the DQOs.
Was all media identified in the DQOs sampled?	Y	All groundwater samples specified in the DQO were sampled.
Were all samples appropriately handled?	Y	All samples collected were received by the laboratories intact.
Were all samples preserved appropriately?	Y	All samples collected were received by laboratories in the correct temperature. Where relevant, samples were stored in acid-preserved containers supplied by laboratories.

1.4 Field Data Precision

Field Consideration	Yes / No	Comments / Non-Conformances
Were the SOPs appropriate and complied with?	Y	The recovery of field duplicates was conducted in accordance with Aargus Fieldwork Protocols to allow for the assessment of field precision.

1.5 Field Data Accuracy

Field Consideration	Yes / No	Comments / Non-Conformances
Were the SOPs appropriate and complied with?	Y	The recovery of trip blanks and rinsate blanks was conducted in accordance with Aargus Fieldwork Protocols to allow for the assessment of field accuracy.

2 LABORATORY DATA QUALITY ASSESSMENT

2.1 Laboratory Data Completeness

Primary Samples - Soils			
TOTAL (Target)	NCs	TOTAL (Useable)	Overall Completeness
300	0	300	100%

Field QA/QC Samples - Soils				
Sample Type	TOTAL (Target)	NCs	TOTAL (Useable)	Overall Completeness
Intra-Lab. Dup.	100	0	100	100%
Inter-Lab. Dup.	91	0	91	100%
Rinsates	41	0	41	100%
Trip Blanks	13	0	13	100%
Trip Spikes	12	0	12	100%

Laboratory QA/QC Samples - Soils				
Sample Type	TOTAL (Target)	NCs	TOTAL (Useable)	Overall Completeness
Lab. Duplicates	8	0	8	100%
Lab. Control Samples	12	0	12	100%
Method Blanks	110	0	110	100%
Matrix Spikes	0	0	0	0%
Surrogates	12	0	12	100%

Laboratory Considerations	Yes / No	Comments / Non-Conformances
Were all critical samples analysed according to the DQOs?	Y	All critical samples analysed according to DQOs.
Were all analytes analysed according to the DQOs?	Y	All analytes analysed according to DQOs.
Were the laboratory methods and PQLs appropriate?	Y	US EPA Analytical Methods were used. PQLs were below their respective assessment criteria
Was sample documentation complete?	Y	The sample documentation was correctly completed on the COC's.
Were sample holding times complied with?	Y	All the samples were within holding times for soil samples (398026-W & GS13500).
Were an adequate number of laboratory duplicates analysed?	Y	An adequate number of laboratory duplicates were analysed.
Were an adequate number of laboratory blank samples analysed?	Y	An adequate number of laboratory blank samples were analysed.
Were an adequate number of Laboratory Control Samples analysed?	N	An adequate number of Laboratory Control Samples were analysed by the laboratory.
Were an adequate number of laboratory matrix	N	No matrix duplicate spike were analysed by the laboratory.

Laboratory Considerations	Yes / No	Comments / Non-Conformances
spikes/duplicates analysed?		
Were an adequate number of surrogates analysed?	Y	An adequate number of surrogates were analysed.

2.2 Laboratory Data Comparability

Laboratory Considerations	Yes / No	Comments / Non-Conformances
Were the same analytical methods used for each analyte?	Y	All analytical methods used between laboratories were based on the USEPA/APHA methods.
Were the PQLs used for each analyte less than 20% of their respective assessment criteria?	Y	The PQLs for analytes in groundwater samples were below 20% of their respective assessment criteria.
Were the sample PQLs used for each analyte the same?	N	Sample PQL's were the same within each laboratory but differed between the primary and secondary laboratories. However, this was considered to be a minor non-conformance given that the results of the samples were either less than the laboratory PQL or well below the assessment criteria.
Were the same laboratories used for analyses of each contaminant type?	Y	Groundswell was the primary laboratory and Eurofins MGT was the secondary laboratory.
Were the units reported for each analyte the same?	N	Analytical units of measurement for groundwater were either ug/L or mg/L.

2.3 Laboratory Data Representativeness

Laboratory Considerations	Yes / No	Comments / Non-Conformances
Were all samples analysed according to the DQOs?	Y	The majority of the samples were analysed according to the DQOs.

2.4 Laboratory Data Precision

Laboratory Considerations	Yes / No	Comments / Non-Conformances
Were the RPDs of the field duplicates within control limits?	Y	RPDs of the field duplicates were within control.
Were the RPDs of the laboratory duplicates within control limits?	Y	RPDs of the laboratory duplicates were within control

Note: Please refer to the tables attached at the end of this QA/QC assessment for calculations of the field RPDs.

2.5 Laboratory Data Accuracy

Laboratory Considerations	Yes / No	Comments / Non-Conformances
Were the rinsates free of contaminants?	Y	The concentrations of the analytes were below or equal to the PQLs.
Were the trip blanks free of contaminants?	Y	The test results for the trip blank samples, reported concentrations to be less than the PQL's, therefore cross contamination has not occurred.
Were the laboratory blanks free of contaminants?	Y	Laboratory blanks were free of contaminants.
Were the surrogate spikes within control limits?	Y	Surrogate spikes were within control limits.
Were laboratory control samples within control limits?	N	Laboratory control samples were within control limits.
Were matrix spike recoveries within control limits?	Y	No matrix spikes were analysed.
Were the trip spike recoveries within the control limits?	Y	The results show a recovery of trip spike concentrations, ranging between 88-106%. Based on the above, it is considered that no loss of volatiles from the recovered samples occurred.

ote: Please refer to the tables attached at the end of this QA/QC assessment for tables showing results of field blanks.

TABLE P1: Field Duplicates Summary Tables

Insert Table P1

TABLE P2: Field Blanks (Rinsate & Trip Blank) Summary Table

Field Blanks (Water)			SDG	13500	13500
Filter: SDG in('13500')			Field_ID	R1	TB1
			Sampled_Date-Time	18/11/2013	18/11/2013
			Sample_Type	Rinsate	Trip_B
Method_Type	ChemName	Units	EQL		
500.1_C	TRH	mg/l	0.1	<0.1	<0.1
550.2_C	B(a)P Total Potency Equivalent	mg/l	0.001	<0.001	
	Acenaphthene	µg/L	0.5	<0.5	
	Acenaphthylene	µg/L	0.5	<0.5	
	Anthracene	µg/L	0.5	<0.5	
	Benz(a)anthracene	µg/L	0.5	<0.5	
	Benzo(a) pyrene	µg/L	0.5	<0.5	
	Benzo(b)&(k)fluoranthene	µg/l	500	<500	
	Benzo(b)fluoranthene	µg/L	0.5	<0.5	
	Benzo(g,h,i)perylene	µg/L	0.5	<0.5	
	Benzo(k)fluoranthene	µg/L	0.5	<0.5	
	Chrysene	µg/L	0.5	<0.5	
	Dibenz(a,h)anthracene	µg/L	0.5	<0.5	
	Fluoranthene	µg/L	0.5	<0.5	
	Fluorene	µg/L	0.5	<0.5	
	Indeno(1,2,3-c,d)pyrene	µg/L	0.5	<0.5	
	Naphthalene	µg/L	0.5	<0.5	
	PAHs (Sum of total)	µg/L	0.5	<0.5	
	Phenanthrene	µg/L	0.5	<0.5	
	Pyrene	µg/L	0.5	<0.5	
BTEX in Waters	Benzene	µg/L	1		
	Ethylbenzene	µg/L	1		
	Naphthalene	µg/L	1		
	Toluene	µg/L	1		
	Total BTEX	mg/l	0.003		
	Xylene (m & p)	µg/L	2		
	Xylene (o)	µg/L	1		
	Xylene Total	µg/L	2		
BTEXN_C	Benzene	µg/L	1	<1	<1
	Ethylbenzene	µg/L	1	<1	<1
	Naphthalene	µg/L	1	<1	<1
	Toluene	µg/L	1	<1	<1
	Total BTEX	mg/l	0.003	<0.003	<0.003
	Xylene (m & p)	µg/L	2	<2	<2
	Xylene (o)	µg/L	1	<1	<1
	Xylene Total	µg/L	2	<2	<2
EPA200.8	Arsenic	mg/l	0.005	<0.005	
	Cadmium	mg/l	0.0001	<0.0001	
	Chromium (III+VI)	mg/l	0.001	<0.001	
	Copper	mg/l	0.001	0.001	
	Lead	mg/l	0.001	<0.001	
	Mercury	mg/l	0.0001	<0.0001	
	Nickel	mg/l	0.001	<0.001	
	Zinc	mg/l	0.005	<0.005	

TABLE P3: Trip Spike Summary Table

ANALYTE	TRIP SPIKE
	TS1
	% 29.10.2013
Benzene	98
Toluene	88
Ethyl Benzene	90
C6-C10	106

1 FIELD DATA QUALITY ASSESSMENT - SOILS

1.1 Field Data Completeness

Field Sample Category - Soils	Number (Target)	Non-conformances	Number (Useable)	Overall Completeness %
Primary Samples	43	0	43	100%
Intra-Lab Duplicates	4	0	4	100%
Inter-Lab Duplicates	3	0	3	100%
Rinsate Blanks	2	0	2	100%
Trip Spikes	0	0	0	0%
Trip Blank	0	0	0	0%

Note: (*) – Overall Completeness is calculated as a percentage of the number of useable samples over the target number of samples required. The required percentage completeness is specified in the DQOs.

Field Consideration	Yes / No	Comments / Non-Conformances
Were all critical locations sampled?	Y	All critical locations were sampled as per the DQOs.
Were all samples collected from critical densities and depths?	Y	All sampled were recovered as per DQOs.
Were the Standard Operating Procedures (SOPs) appropriate and complied with?	Y	The Aargus Fieldwork Protocols were appropriate and complied with.
Were the samplers adequately experienced?	Y	Sampling was conducted by Aargus Environmental Scientist, Michael Silk. Please refer to the CVs appended to the report.
Was field documentation complete and correct?	Y	Field records can be found within their respective appendices of the report.
Were an adequate number of intra-laboratory duplicate samples collected?	Y	100% of intra-laboratory duplicate samples required were collected as the table above.
Were an adequate number of inter-laboratory duplicate samples collected?	Y	100% of inter-laboratory duplicate samples required were collected as per the table above.
Were an adequate number of rinsate samples collected?	Y	100% of rinsate samples required were collected as per the table above.
Were an adequate number of trip blanks collected?	N	No trip blanks were collected.
Were an adequate number of trip spikes collected?	N	No trip spikes were collected.

1.2 Field Data Comparability

Field Consideration	Yes / No	Comments / Non-Conformances
Were the same SOPs used on each occasion?	Y	Aargus Fieldwork Protocols were utilised throughout each sampling event.
Was all sampling undertaken by the same person?	Y	Sampling was undertaken by the same scientist.
Could climatic conditions (such as temperature, rainfall, etc.) influence data comparability?	N	All sampling was undertaken on days without rain.
Were the same types of samples collected (filtered, size, fractions, etc.) for each media?	Y	Samples were collected in the same types of containers provided by the laboratory.
Was each field parameter measured using the same equipment?	Y	Headspace analysis was carried out using the same PID meter.
Was the same method and equipment used for extraction of samples?	Y	Soil samples from shallow depths were recovered by the same hand auger and soil samples collected from monitoring well locations were recovered with the aid of flight augers attached to a drill rig. However, this was not considered to affect data comparability given that the same sampling techniques were used.

1.3 Field Data Representativeness

Laboratory Batch	Laboratory	Sample Medium	Container Breakages	Sample Preservation	Headspace Temperature /
GS13482	Groundswell	Soil and Water (rinsate)	Compliant	Compliant	Compliant
396799-S	Eurofins MGT	Soil	Compliant	Compliant	Compliant

Field Consideration	Yes / No	Comments / Non-Conformances
Was appropriate media sampled in accordance with the DQOs?	Y	All soil samples were sampled in accordance with the DQOs.
Was all media identified in the DQOs sampled?	Y	All soil samples specified in the DQO were sampled.
Were all samples the samples appropriately handled?	Y	All samples collected were received by the laboratories intact.
Were all samples preserved appropriately?	Y	All samples collected were received by laboratories in the correct temperature. Where relevant, samples were stored in acid-preserved containers supplied by laboratories.

1.4 Field Data Precision

Field Consideration	Yes / No	Comments / Non-Conformances
Were the SOPs appropriate and complied with?	Y	The recovery of field duplicates was conducted in accordance with Aargus Fieldwork Protocols to allow for the assessment of field precision.

1.5 Field Data Accuracy

Field Consideration	Yes / No	Comments / Non-Conformances
Were the SOPs appropriate and complied with?	N	No trip blanks were recovered. However, rinsate blanks were conducted in accordance with Aargus Fieldwork Protocols to allow for the assessment of field accuracy.

2 LABORATORY DATA QUALITY ASSESSMENT

2.1 Laboratory Data Completeness

Primary Samples – Soils			
TOTAL (Target)	NCs	TOTAL (Useable)	Overall Completeness
2090	0	2090	100%

Field QA/QC Samples – Soils				
Sample Type	TOTAL (Target)	NCs	TOTAL (Useable)	Overall Completeness
Intra-Lab. Dup.	358	0	358	100%
Inter-Lab. Dup.	258	0	258	100%
Rinsates	66	0	66	100%
Trip Blanks	0	0	0	100%
Trip Spikes	0	0	0	100%

Laboratory QA/QC Samples – Soils				
Sample Type	TOTAL (Target)	NCs	TOTAL (Useable)	Overall Completeness
Lab. Duplicates	167	0	167	100%
Lab. Control Samples	107	0	107	100%
Method Blanks	179	0	179	100%
Matrix Spikes	20	0	20	100%
Surrogates	128	0	128	100%

Laboratory Considerations	Yes / No	Comments / Non-Conformances
Were all critical samples analysed according to the DQOs?	Y	All critical samples analysed according to DQOs.
Were all analytes analysed according to the DQOs?	Y	All analytes analysed according to DQOs.
Were the laboratory methods and PQLs appropriate?	Y	US EPA Analytical Methods were used. PQLs were below their respective assessment criteria
Was sample documentation complete?	Y	The sample documentation was correctly completed on the COC's.
Were sample holding times complied with?	Y	All the samples were within holding time for soil samples (396799-S & GS13482).
Were an adequate number of laboratory duplicates analysed?	Y	An adequate number of laboratory duplicates were analysed.
Were an adequate number of laboratory blank samples analysed?	Y	An adequate number of laboratory blank samples were analysed.
Were an adequate number of Laboratory Control Samples analysed?	Y	An adequate number of laboratory control samples were analysed.
Were an adequate number of laboratory matrix	Y	An adequate number of laboratory matrix spikes / duplicates were analysed.

Laboratory Considerations	Yes / No	Comments / Non-Conformances
spikes/duplicates analysed?		
Were an adequate number of surrogates analysed?	Y	An adequate number of surrogates were analysed.

2.2 Laboratory Data Comparability

Laboratory Considerations	Yes / No	Comments / Non-Conformances
Were the same analytical methods used for each analyte?	Y	All analytical methods used between laboratories were based on the USEPA/APHA methods.
Were the PQLs used for each analyte less than 20% of their respective assessment criteria?	Y	The PQLs for analytes in soil samples were below 20% of their respective assessment criteria.
Were the sample PQLs used for each analyte the same?	N	Sample PQL's were the same within each laboratory but differed between the primary and secondary laboratories. However, this was considered to be a minor non-conformance given that the results of the samples were either less than the laboratory PQL or well below the assessment criteria.
Were the same laboratories used for analyses of each contaminant type?	Y	Groundswell was the primary laboratory. Eurofins MGT was the secondary laboratory.
Were the units reported for each analyte the same?	Y	Analytical units of measurement for soil were mg/kg.

2.3 Laboratory Data Representativeness

Laboratory Considerations	Yes / No	Comments / Non-Conformances
Were all samples analysed according to the DQOs?	Y	The majority of the samples were analysed according to the DQOs.

2.4 Laboratory Data Precision

Laboratory Considerations	Yes / No	Comments / Non-Conformances
Were the RPDs of the field duplicates within control limits?	N	RPDs of >50% were identified in a number of samples analysed for TRH, PAH and metals, and were likely due to heterogeneity between samples collected. Given that the majority of RPDs for the remaining analytes were <50%, the data set was considered to be adequately precise. The concentrations of all samples analysed were below the assessment criteria and not considered to affect the outcome of the assessment.
Were the RPDs of the laboratory duplicates within control limits?	Y	The RPDs of all laboratory duplicates were within control limits.

Note: Please refer to the tables attached at the end of this QA/QC assessment for calculations of the field RPDs.

2.5 Laboratory Data Accuracy

Laboratory Considerations	Yes / No	Comments / Non-Conformances
Were the rinsates free of contaminants?	N	The concentrations of the analytes were below the PQLs with the exception of some elevated concentrations of zinc, nickel & copper. This was likely to be associated with the final rinsate water used. However, given that the majority of the analyte results were below their respective PQLs, the data set was considered to be adequately accurate.
Were the trip blanks free of contaminants?	N	No trip blanks were analysed.
Were the laboratory blanks free of contaminants?	Y	Laboratory blanks were free of contaminants.
Were the surrogate spikes within control limits?	Y	Surrogate spikes were within control limits.
Were laboratory control samples within control limits?	Y	Laboratory control samples were within control limits.
Were matrix spike recoveries within control limits?	N	Matrix spikes were within control limits in the majority of samples, with the exception of the following: Metals in 12 samples (GS13482) These were due to matrix interference.
Were the trip spike recoveries within the control limits?	Y	No trip spikes were analysed.

Note: Please refer to the tables attached at the end of this QA/QC assessment for tables showing results of field blanks.

TABLE P4: Field Duplicates Summary Tables

Insert table P4

TABLE P5: Rinsate Summary Tables

Field Blanks (Water)			SDG	13482	13482
Filter: SDG in('13482')			Field_ID	R1	R2
			Sampled_Date-Time	17/10/2013	17/10/2013
			Sample_Type	Rinsate	Rinsate
Method_Type	ChemName	Units	EQL		
500.1_C	TRH	mg/l	0.1	<0.1	<0.1
550.2_C	Acenaphthene	µg/L	0.5	<0.5	<0.5
	Acenaphthylene	µg/L	0.5	<0.5	<0.5
	Anthracene	µg/L	0.5	<0.5	<0.5
	Benz(a)anthracene	µg/L	0.5	<0.5	<0.5
	Benzo(a) pyrene	µg/L	0.5	<0.5	<0.5
	Benzo(b)&(k)fluoranthene	µg/l	500	<500	<500
	Benzo(g,h,i)perylene	µg/L	0.5	<0.5	<0.5
	Chrysene	µg/L	0.5	<0.5	<0.5
	Dibenz(a,h)anthracene	µg/L	0.5	<0.5	<0.5
	Fluoranthene	µg/L	0.5	<0.5	<0.5
	Fluorene	µg/L	0.5	<0.5	<0.5
	Indeno(1,2,3-c,d)pyrene	µg/L	0.5	<0.5	<0.5
	Naphthalene	µg/L	0.5	<0.5	<0.5
	PAHs (Sum of total)	µg/L	0.5	<0.5	<0.5
	Phenanthrene	µg/L	0.5	<0.5	<0.5
	Pyrene	µg/L	0.5	<0.5	<0.5
BTEXN_C	Benzene	µg/L	1	<1	<1
	Ethylbenzene	µg/L	1	<1	<1
	Naphthalene	µg/L	1	<1	<1
	Toluene	µg/L	1	<1	<1
	Total BTEX	mg/l	0.003	<0.003	<0.003
	Xylene (m & p)	µg/L	2	<2	<2
	Xylene (o)	µg/L	1	<1	<1
	Xylene Total	µg/L	2	<2	<2
EPA200.8	Arsenic	mg/l	0.005	<0.005	<0.005
	Cadmium	mg/l	0.0001	<0.0001	<0.0001
	Chromium (III+VI)	mg/l	0.001	<0.001	<0.001
	Copper	mg/l	0.001	0.007167	0.005844
	Lead	mg/l	0.001	<0.001	<0.001
	Mercury	mg/l	0.0001	<0.0001	<0.0001
	Nickel	mg/l	0.001	0.001033	<0.001
	Zinc	mg/l	0.005	0.008281	0.007698

TABLE P1: Field Duplicates Summary Tables

Field Duplicates (Water) Filter: SDG in('13500')		SDG	13500	13500	13500	13500	Interlab_D	RPD
Method_Type	ChemName	Units	Field_ID	Sampled_Date-Time	GW3	GD1	GSS1	RPD
500.1 C	TRH	mg/l	EQL		18/11/2013	18/11/2013	18/11/2013	
			0.1		<0.1			
550.2 C	B(a)P Total Potency Eq	mg/l	0.001		<0.001			
	Acenaphthene	µg/L	0.5 (Primary): 1 (Interlab)		<0.5		<1.0	0
	Acenaphthylene	µg/L	0.5 (Primary): 1 (Interlab)		<0.5		<1.0	0
	Anthracene	µg/L	0.5 (Primary): 1 (Interlab)		<0.5		<1.0	0
	Benz(a)anthracene	µg/L	0.5 (Primary): 1 (Interlab)		<0.5		<1.0	0
	Benzo(a) pyrene	µg/L	0.5 (Primary): 1 (Interlab)		<0.5		<1.0	0
	Benzo(b)&(k)fluoranthene	µg/L	500		<500.0		<1.0	0
	Benzo(b)fluoranthene	µg/L	0.5		<0.5			
	Benzo(g,h,i)perylene	µg/L	0.5 (Primary): 1 (Interlab)		<0.5		<1.0	0
	Benzo(k)fluoranthene	µg/L	0.5 (Primary): 1 (Interlab)		<0.5		<1.0	0
	Chrysene	µg/L	0.5 (Primary): 1 (Interlab)		<0.5		<1.0	0
	Dibenz(a,h)anthracene	µg/L	0.5 (Primary): 1 (Interlab)		<0.5		<1.0	0
	Fluoranthene	µg/L	0.5 (Primary): 1 (Interlab)		<0.5		<1.0	0
	Fluorene	µg/L	0.5 (Primary): 1 (Interlab)		<0.5		<1.0	0
	Indeno(1,2,3-c,d)pyrene	µg/L	0.5 (Primary): 1 (Interlab)		<0.5		<1.0	0
	Naphthalene	µg/L	0.5 (Primary): 20 (Interlab)		<0.5		<1.0 - 0.0	0
	PAHs (Sum of total)	µg/L	0.5 (Primary): 1 (Interlab)		<0.5		<1.0	0
	Phenanthrene	µg/L	0.5 (Primary): 1 (Interlab)		<0.5		<1.0	0
	Pyrene	µg/L	0.5 (Primary): 1 (Interlab)		<0.5		<1.0	0
BTEXN C	Benzene	µg/L	1		<1.0		0.0	0
	Ethylbenzene	µg/L	1		<1.0		0.0	0
	Naphthalene	µg/L	1 (Primary): 20 (Interlab)		<1.0		<1.0 - 0.0	0
	Toluene	µg/L	1		<1.0		0.0	0
	Total BTEX	mg/l	0.003		<0.003		<0.003	0
	Xylene (m & p)	µg/L	2		<2.0		0.0	0
	Xylene (o)	µg/L	1		<1.0		0.0	0
	Xylene Total	µg/L	2 (Primary): 3 (Interlab)		<2.0		<3.0	0
EPA200.8	Arsenic	mg/l	0.005		<0.005			
	Cadmium	mg/l	0.0001		<0.0001		<0.0001	
	Chromium (III+VI)	mg/l	0.001		<0.001		<0.001	
	Copper	mg/l	0.001		<0.001		<0.001	
	Lead	mg/l	0.001		<0.001		<0.001	
	Mercury	mg/l	0.0001		<0.0001		<0.0001	
	Nickel	mg/l	0.001		0.004		0.004	
	Zinc	mg/l	0.005		0.009		0.006	

TABLE P4: Field Duplicates Summary Tables

[illegible]

APPENDIX Q

SUMMARY OF RESULTS



SCHEDULE OF LABORATORY TESTING - SOIL

Analyte / Analyte Group		TYPE	SAMPLING DATE	MET-8	pH CEC & % Clay	Chromium III	TPH & BTEX	PAH	OCP	PCB	PHENOL	CYANIDE	ASBESTOS PRESENCE	ASBESTOS %	VOC
Sample	Depth (m)														
August 16-17-10-2013															
BH1	0-0.5	F	16-17-10-2013	✓			✓	✓					✓	✓	
BH1	0.5-1.0	F	16-17-10-2013	✓			✓	✓							
BH1	1-1.5	N	16-17-10-2013	✓											
BH2	0-0.5	F	16-17-10-2013	✓			✓	✓					✓	✓	✓
BH2	0.5-1.0	F	16-17-10-2013	✓											
BH2	1-1.5	N	16-17-10-2013	✓											
BH3	0-0.5	F	16-17-10-2013	✓			✓	✓	✓	✓			✓	✓	
BH3	0.5-1.0	F	16-17-10-2013	✓			✓	✓							
BH3	1-1.5	N	16-17-10-2013	✓										✓	
BH4	0-0.5	F	16-17-10-2013	✓						✓			✓	✓	
BH4	0.5-1.0	N	16-17-10-2013	✓											
BH5	0-2.0-4	F	16-17-10-2013	✓						✓				✓	
BH5	0.8-1.0	N	16-17-10-2013	✓											
BH6	0-2.0-4	F	16-17-10-2013	✓						✓				✓	
BH6	0.9-1.0	N	16-17-10-2013	✓											
BH7	0-4-0.6	F	16-17-10-2013	✓				✓	✓	✓	✓	✓	✓	✓	✓
BH7	1-1-1.3	N	16-17-10-2013	✓											
BH8	0-1-0.3	F	16-17-10-2013	✓									✓	✓	
BH9	0-4-0.6	F	16-17-10-2013	✓			✓	✓				✓			
BH9	0.8-1.0	N	16-17-10-2013	✓			✓								
BH10	0-4-0.5	F	16-17-10-2013	✓				✓						✓	
BH10	0.8-1.0	N	16-17-10-2013	✓											
BH11	0-2-0-4	F	16-17-10-2013	✓				✓	✓	✓	✓	✓	✓	✓	
BH11	0-7-0-9	N	16-17-10-2013	✓											
BH12	0-3-0-5	F	16-17-10-2013	✓				✓					✓	✓	
BH12	0-7-0-9	N	16-17-10-2013	✓											
BH13	0-2-0-4	F	16-17-10-2013	✓			✓	✓					✓	✓	
BH13	0.8-1.0	N	16-17-10-2013	✓			✓								
BH14	0-2-0-3	F	16-17-10-2013	✓									✓	✓	
BH14	0-6-0-8	N	16-17-10-2013	✓											
BH15	0-3-0-5	F	16-17-10-2013	✓				✓	✓	✓	✓	✓	✓	✓	
BH15	0.9-1.0	N	16-17-10-2013	✓											
BH16	0-3-0-5	F	16-17-10-2013	✓			✓	✓					✓	✓	
BH16	0.8-1.0	N	16-17-10-2013	✓			✓								
BH17	0-3-0-5	F	16-17-10-2013	✓				✓		✓	✓	✓	✓	✓	✓
BH17	0-7-0-8	N	16-17-10-2013	✓											
BH18	0-4-0-5	F	16-17-10-2013	✓				✓					✓	✓	
BH18	0-7-0-8	N	16-17-10-2013	✓											
BH19	0-2-0-4	F	16-17-10-2013	✓				✓	✓	✓	✓	✓	✓	✓	✓
BH20	0-2-0-4	F	16-17-10-2013	✓				✓					✓	✓	
BH20	1-0-1-1	F	16-17-10-2013	✓											
BH20	2-4-2-5	N	16-17-10-2013	✓											
BH21	0-3-0-5	F	16-17-10-2013	✓				✓	✓	✓	✓		✓	✓	
BH22	0-2-0-3	F	16-17-10-2013	✓				✓	✓	✓	✓				
D1	-		16-17-10-2013	✓			✓	✓							
D2	-		16-17-10-2013	✓			✓	✓	✓	✓	✓				
D3	-		16-17-10-2013	✓			✓	✓							
D4	-		16-17-10-2013	✓			✓	✓	✓	✓	✓	✓	✓	✓	
R1	-		16-17-10-2013	✓			✓	✓							
R2	-		16-17-10-2013	✓											
SS1	-		16-17-10-2013	✓			✓	✓	✓	✓	✓	✓			
SS2	-		16-17-10-2013	✓			✓	✓							
SS3	-		16-17-10-2013	✓			✓	✓	✓	✓	✓	✓			

Notes MET-9: Arsenic, Cadmium, Chromium, Copper, Lead, Mercury, Nickel, Zinc

PAH: Polycyclic Aromatic Hydrocarbons
TPH: Total Petroleum Hydrocarbons
BTEX: Benzene, Toluene, Ethyl Benzene, Xylene
F,T,N: Fil, Topsoil, Natural
D: Duplicate (Blind)
SS: Split Sample

SCHEDULE OF LABORATORY TESTING - GROUNDWATER

Analyte / Analyte Group		TYPE	SAMPLING DATE	MET-8	TPH & BTEX	PAH	VOC
Sample	Depth (m)						
Groundwater							
GW1	-	GW	29.10.2013	✓	✓	✓	✓
GW2	-	GW	29.10.2013	✓	✓	✓	✓
GW3	-	GW	29.10.2013	✓	✓	✓	✓
GD1	-	GW	29.10.2013	✓	✓	✓	✓
R1	-	WG/WP	29.10.2013	✓	✓	✓	
GSS1	-	GW	29.10.2013	✓	✓	✓	✓

Notes

MET-8: arsenic, cadmium, chromium, copper, lead, mercury, nickel, zinc
 PAH: Polycyclic Aromatic Hydrocarbons
 TPH: Total Petroleum Hydrocarbons
 BTEX: Benzene, Toluene, Ethyl Benzene, Xylene
 GW: Groundwater

TABLE A1
HEAVY METALS TEST RESULTS FOR HILs & ESLs

Analyte		HEAVY METALS (mg/kg)							
		ARSENIC	CADMIUM	CHROMIUM	COPPER	MERCURY	NICKEL	LEAD ^g	ZINC
Sample Location	Depth (m)								
BH1	0-0.5	4	0.2	12	9	<0.1	2	27	188
BH1	0.5-1.0	4	0.2	13	131	<0.1	8	21	56
BH1	1-1.5	6	<0.1	14	10	<0.1	1	13	22
BH2	0-0.5	27	0.4	17	26	<0.1	4	2437	804
BH2	0.5-1.0	11	<0.1	14	5	<0.1	2	345	99
BH3	0-0.5	1	<0.1	4	1	<0.1	1	14	5
BH3	0.5-1.0	5	<0.1	14	9	<0.1	1	18	33
BH3	1.0-1.5	4	<0.1	14	8	<0.1	1	17	16
BH4	0.3-0.5	5	0.8	9	35	0.1	3	128	378
BH4	0.9-1.0	5	0.3	11	22	0.1	4	82	172
BH5	0.2-0.4	11	3.4	28	275	0.9	19	1176	1200
BH5	0.8-1.0	4	<0.1	13	10	<0.1	2	24	61
BH6	0.2-0.4	6	0.8	16	134	0.5	11	947	994
BH6	0.9-1.0	4	<0.1	13	14	<0.1	2	30	92
BH7	0.4-0.6	10	0.5	14	68	0.3	10	518	760
BH7	1.1-1.3	2	0.2	15	19	<0.1	2	81	272
BH8	0.1-0.3	4	1.1	43	113	0.2	8	527	760
BH9	0.4-0.6	10	0.5	14	34	<0.1	16	156	1310
BH9	0.8-1.0	7	<0.1	12	7	<0.1	2	23	83
BH10	0.4-0.5	10	0.3	9	19	<0.1	8	73	355
BH10	0.8-1.0	4	<0.1	13	8	<0.1	2	27	72
BH11	0.2-0.4	9	1.0	18	241	<0.1	9	376	1770
BH11	0.7-0.9	12	0.2	17	16	<0.1	4	39	174
BH12	0.3-0.5	21	1.3	33	260	0.3	26	758	1490
BH12	0.7-0.9	12	0.3	18	18	<0.1	4	63	318
BH13	0.2-0.4	5	0.2	13	23	0.1	4	131	150
BH13	0.8-1.0	8	<0.1	17	8	<0.1	2	28	32
BH14	0.2-0.3	5	0.8	15	171	0.2	6	229	439
BH14	0.6-0.8	4	<0.1	14	8	<0.1	1	24	31
BH15	0.3-0.5	16	<0.1	23	8	<0.1	6	37	17
BH15	0.9-1.0	10	<0.1	16	2	<0.1	1	10	6
BH16	0.3-0.5	7	0.1	21	15	<0.1	6	67	60
BH16	0.8-1.0	7	<0.1	21	2	<0.1	1	20	11
BH17	0.3-0.5	4	<0.1	15	9	<0.1	2	41	26
BH17	0.7-0.8	3	<0.1	15	6	<0.1	2	28	16
BH18	0.4-0.5	6	0.6	17	44	0.2	5	574	378
BH18	0.7-0.8	11	0.6	20	69	0.2	8	584	548
BH19	0.2-0.4	15	4.1	28	553	0.1	28	1900	1912
BH20	0.2-0.4	11	1.0	18	53	0.2	5	1700	675
BH20	1.0-1.1	9	0.4	20	66	0.5	5	468	369
BH20	2.4-2.5	5	<0.1	24	3	<0.1	2	20	16
BH21	0.3-0.5	16	1.7	25	86	0.3	9	962	960
BH22	0.2-0.3	12	0.3	19	26	0.1	4	279	210
Practical Quantitation Limits (PQL)		1	0.1	1	1	0.1	1	1	1.0
NATIONAL ENVIRONMENT PROTECTION MEASURE (2013)									
Health Investigation Levels (HIL) - Table 1A (1)									
HIL A ^a		100	20	100	6000	40 ^g / 10 ^f	400	300	7400
HIL B ^b		500	150	500	30,000	120 ^g / 30 ^f	1200	1200	60,000
HIL C ^c		300	90	300	17,000	80 ^g / 13 ^f	1200	600	30,000
HIL D ^d		3000	900	3600	240,000	730 ^g / 180 ^f	6000	1500	400,000
Ecological Investigation Levels (EIL) - Table 1B (5)									
Areas of ecological significance		40 ^h							
Urban residential and public open space ⁱ		100			70		31	1100	100
Commercial and industrial		160 ^h							

- Notes
- a: Residential with garden/accessible soil (home grown produce <10% fruit and vegetable intake (no poultry), also includes childcare centres, preschools and primary schools.
 - b: Residential with minimal opportunities for soil access; includes dwellings with fully and permanently paved yard space such as high rise buildings and apartments.
 - c: Public open space such as parks, playgrounds, playing fields (e.g. ovals), secondary schools and footpaths. This does not include undeveloped public open space where the potential for exposure is lower and where a site-specific assessment may be more appropriate
 - d: Commercial/industrial, includes premises such as shops, offices, factories and industrial sites
 - e: Elemental mercury: HIL does not address elemental mercury. A site-specific assessment should be considered if elemental mercury is present, or suspected to be present,
 - f: Methyl mercury: assessment of methyl mercury should only occur where there is evidence of its potential source. It may be associated with inorganic mercury and anaerobic microorganism activity in aquatic environments. In addition the reliability and quality of sampling/analysis should be considered.
 - g: Lead: HIL is based on blood lead models (IEUBK for HILs A, B and C and adult lead model for HIL D where 50% oral bioavailability has been considered. Site-specific bioavailability may be important and should be considered where appropriate.
 - h: Aged values are applicable to arsenic contamination present in soil for at least two years. For fresh contamination refer to Schedule B5c.

TABLE A2
CATION EXCHANGE CAPACITY (CEC), pH & % CLAY TEST RESULTS
FOR THE SOIL PROPERTIES FOR EILs

Analyte		CEC (cmol/kg)	pH (pH units)	% CLAY (%)
Sample Location	Depth (m)			
BH9	0.4-0.6	3.6	6.3	5.2
BH9	0.8-1.0	3.2	6.7	27.8
BH13	0.2-0.4	4.8	6.7	36.2
BH13	0.8-1.0	5.4	4.3	34.2
BH16	0.3-0.5	6.8	8.2	33.3
BH16	0.8-1.0	5.8	7.9	48.3

TABLE A3
SITE DERIVED EILs

Analyte Sample Location Depth (m)		HEAVY METALS (mg/kg)				
		COPPER	ZINC	NICKEL	CHROMIUM III	LEAD
Added Contaminant Limit (ACL) ^a						
BH9	0.4-0.6	95	230	30	320	1100
BH9	0.8-1.0	95	230	30	400	1100
BH13	0.2-0.4	95	230	30	400	1100
BH13	0.8-1.0	60	100	30	400	1100
BH16	0.3-0.5	95	230	30	400	1100
BH16	0.8-1.0	95	230	30	400	1100
Ambient Background Concentration (ABC)						
BH9	0.4-0.6	34	1310	16	<1	156
BH9	0.8-1.0	7	83	2	<1	23
BH13	0.2-0.4	23	150	4	<1	131
BH13	0.8-1.0	8	32	2	<1	28
BH16	0.3-0.5	15	60	6	<1	67
BH16	0.8-1.0	2	11	1	<1	20
Calculated EIL (ABC + ACL)						
BH9	0.4-0.6	129	1540	46	320	1256
BH9	0.8-1.0	102	313	32	400	1123
BH13	0.2-0.4	118	380	34	400	1223
BH13	0.8-1.0	68	132	32	400	1128
BH16	0.3-0.5	110	290	36	400	1167
BH16	0.8-1.0	97	241	31	400	1120
FINAL SITE EIL AFTER ROUNDING ^b						
BH9	0.4-0.6	130	1500	46	320	1300
BH9	0.8-1.0	102	300	32	400	1100
BH13	0.2-0.4	120	400	34	400	1200
BH13	0.8-1.0	70	100	32	400	1100
BH16	0.3-0.5	110	300	36	400	1200
BH16	0.8-1.0	100	200	31	400	1100

Notes a: The ACL for Cu may be determined by pH or CEC and the lower of the determined values should be selected for EIL calculation.

b: The following rounding rules are applicable to the EILs:

<1	to nearest 0.1
1 - <10	to nearest interger
10 - <100	to nearest 5
100 - <1000	to nearest 10
>1000	to nearest 100

TABLE A4
ADDED CONTAMINANT LIMITS (ACLs) TEST RESULTS FOR EILs

		Analyte	HEAVY METALS (mg/kg)				
			COPPER	ZINC	NICKEL	CHROMIUM III	LEAD
Sample Location	Depth (m)						
BH9	0.4-0.6		34	1310	16	<1	156
BH9	0.8-1.0		7	83	2	<1	23
BH13	0.2-0.4		23	150	4	<1	131
BH13	0.8-1.0		8	32	2	<1	28
BH16	0.3-0.5		15	60	6	<1	67
BH16	0.8-1.0		2	11	1	<1	20
Practical Quantitation Limits (PQL)			5	5	5	1	5
Site Derived Ecological Investigation Levels (EIL)							
BH9	0.8-1.0		102	300	32	400	1100
BH13	0.8-1.0		70	100	32	400	1100
BH16	0.8-1.0		100	200	31	400	1100

Notes a: none

TABLE B1
TOTAL RECOVERABLE HYDROCARBONS (TRH), BTEX AND NAPHTHALENE TEST RESULTS
FOR HSLs IN CLAY

Analyte		TRH (mg/kg)		BTEX (mg/kg)				PAH (mg/kg)
		F1 ^a	F2 ^b	BENZENE	TOLUENE	ETHYL BENZENE	TOTAL XYLENES	NAPHTHALENE
Sample Location	Depth (m)							
BH1	0-0.5	<25	<50	<0.2	<0.5	<1	<2	<1
BH1	0.5-1.0	<25	<50	<0.2	<0.5	<1	<2	<1
BH2	0-0.5	<25	<50	<0.2	<0.5	<1	<2	<1
BH3	0-0.5	<25	<50	<0.2	<0.5	<1	<2	<1
BH3	0.5-1.0	<25	<50	<0.2	<0.5	<1	<2	<1
BH4	0.3-0.5	<25	<50	<0.2	<0.5	<1	<2	<1
BH5	0.2-0.4	<25	<50	<0.2	<0.5	<1	<2	<1
BH6	0.2-0.4	<25	<50	<0.2	<0.5	<1	<2	<1
BH7	0.4-0.6	<25	<50	<0.2	<0.5	<1	<2	<1
BH8	0.1-0.3	<25	<50	<0.2	<0.5	<1	<2	<1
BH9	0.4-0.6	<25	<50	<0.2	<0.5	<1	<2	<1
BH10	0.4-0.5	<25	<50	<0.2	<0.5	<1	<2	<1
BH11	0.2-0.4	<25	<50	<0.2	<0.5	<1	<2	<1
BH12	0.3-0.5	<25	<50	<0.2	<0.5	<1	<2	<1
BH13	0.2-0.4	<25	<50	<0.2	<0.5	<1	<2	<1
BH14	0.2-0.3	<25	<50	<0.2	<0.5	<1	<2	<1
BH15	0.3-0.5	<25	<50	<0.2	<0.5	<1	<2	<1
BH16	0.3-0.5	<25	<50	<0.2	<0.5	<1	<2	<1
BH17	0.3-0.5	<25	<50	<0.2	<0.5	<1	<2	<1
BH18	0.4-0.5	<25	<50	<0.2	<0.5	<1	<2	<1
BH19	0.2-0.4	<25	<50	<0.2	<0.5	<1	<2	<1
BH20	0.2-0.4	<25	<50	<0.2	<0.5	<1	<2	<1
BH20	1.0-1.1	<25	<50	<0.2	<0.5	<1	<2	<1
BH21	0.3-0.5	<25	<50	<0.2	<0.5	<1	<2	<1
BH22	0.2-0.3	<25	<50	<0.2	<0.5	<1	<2	<1
Practical Quantitation Limits (PQL)		20	50	0.2	0.5	1	2	1
NATIONAL ENVIRONMENT PROTECTION MEASURE (2013)								
Health Screening Levels (HSL) - Table 1A (3)								
<i>HSL A & HSL B: Low-high density residential</i>								
Source depth - 0m to <1m		50	280	0.7	480	NL	110	5
Source depth - 1m to <2m		90	NL	1	NL	NL	310	NL
Source depth - 2m to <4m		150	NL	2	NL	NL	NL	NL
Source depth - 4m +		290	NL	3	NL	NL	NL	NL
<i>HSL C: recreational / open space</i>								
Source depth - 0m to <1m		NL	NL	NL	NL	NL	NL	NL
Source depth - 1m to <2m		NL	NL	NL	NL	NL	NL	NL
Source depth - 2m to <4m		NL	NL	NL	NL	NL	NL	NL
Source depth - 4m +		NL	NL	NL	NL	NL	NL	NL
<i>HSL D: Commercial / Industrial</i>								
Source depth - 0m to <1m		310	NL	4	NL	NL	NL	NL
Source depth - 1m to <2m		480	NL	6	NL	NL	NL	NL
Source depth - 2m to <4m		NL	NL	9	NL	NL	NL	NL
Source depth - 4m +		NL	NL	20	NL	NL	NL	NL

Notes

a: To obtain F1 subtract the sum of BTEX concentrations from the C₆-C₁₀ fraction.

b: To obtain F2 subtract naphthalene from the >C₁₀-C₁₆ fraction.

NL: Not Limiting

TABLE B2
TOTAL RECOVERABLE HYDROCARBONS (TRH), BTEX AND BENZO(a)PYRENE TEST RESULTS
ESLs FOR FINE GRAINED SOIL TEXTURE

Analyte		TRH (mg/kg)				BTEX (mg/kg)				PAH (mg/kg)
		F1 (C ₆ -C ₁₀) ^a	F2 (>C ₁₀ -C ₁₆) ^b	F3 (C ₁₆ -C ₃₄)	F4 (C ₃₄ -C ₄₀)	BENZENE	TOLUENE	ETHYL BENZENE	TOTAL XYLENES	BENZO(a)PYRENE
Sample Location	Depth (m)									
BH1	0-0.5	<25	<50	<100	<50	<0.2	<0.5	<1	<2	<0.05
BH1	0.5-1.0	<25	<50	<100	<50	<0.2	<0.5	<1	<2	<0.05
BH2	0-0.5	<25	<50	<100	<50	<0.2	<0.5	<1	<2	0.7
BH3	0-0.5	<25	<50	<100	<50	<0.2	<0.5	<1	<2	<0.05
BH3	0.5-1.0	<25	<50	<100	<50	<0.2	<0.5	<1	<2	<0.05
BH4	0.3-0.5	<25	<50	270	170	<0.2	<0.5	<1	<2	4.9
BH5	0.2-0.4	<25	<50	270	200	<0.2	<0.5	<1	<2	3.1
BH6	0.2-0.4	<25	<50	260	170	<0.2	<0.5	<1	<2	3.5
BH7	0.4-0.6	<25	<50	<100	<50	<0.2	<0.5	<1	<2	1.75
BH8	0.1-0.3	<25	<50	210	210	<0.2	<0.5	<1	<2	-
BH9	0.4-0.6	<25	<50	520	380	<0.2	<0.5	<1	<2	1.7
BH10	0.4-0.5	<25	<50	<100	160	<0.2	<0.5	<1	<2	0.4
BH11	0.2-0.4	<25	<50	500	320	<0.2	<0.5	<1	<2	0.6
BH12	0.3-0.5	<25	<50	350	280	<0.2	<0.5	<1	<2	0.6
BH13	0.2-0.4	<25	<50	<100	<50	<0.2	<0.5	<1	<2	0.7
BH14	0.2-0.3	<25	<50	190	210	<0.2	<0.5	<1	<2	5.5
BH15	0.3-0.5	<25	<50	<100	<50	<0.2	<0.5	<1	<2	<0.05
BH16	0.3-0.5	<25	<50	<100	<50	<0.2	<0.5	<1	<2	<0.05
BH17	0.3-0.5	<25	<50	<100	<50	<0.2	<0.5	<1	<2	<0.05
BH18	0.4-0.5	<25	<50	<100	<50	<0.2	<0.5	<1	<2	0.7
BH19	0.2-0.4	<25	<50	100	120	<0.2	<0.5	<1	<2	0.4
BH20	0.2-0.4	<25	<50	970	380	<0.2	<0.5	<1	<2	2.3
BH20	1.0-1.1	<25	<50	460	300	<0.2	<0.5	<1	<2	2.15
BH21	0.3-0.5	<25	<50	1120	440	<0.2	<0.5	<1	<2	6.1
BH22	0.2-0.3	<25	<50	380	270	<0.2	<0.5	<1	<2	1.5
Practical Quantitation Limits (PQL)		25	50	100	50	0.2	0.5	1	2	0.05
NATIONAL ENVIRONMENT PROTECTION MEASURE (2013)										
Ecological Screening Levels (ESL) - Table 1B (6)										
Areas of ecological significance		125*	25*	-	-	10	65	40	1.6	0.7
Urban residential and public open space		180*	120*	1300	5600	65	105	125	45	0.7
Commercial and industrial		215*	170*	2500	6600	95	135	185	95	0.7

Notes

a: To obtain F1 subtract the sum of BTEX concentrations from the C₆-C₁₀ fraction.

b: To obtain F2 subtract naphthalene from the >C₁₀-C₁₆ fraction.

*: ESLs are of low reliability except where indicated by * which indicates that the ESL is of moderate reliability.

"-": "-" indicates that insufficient data was available to derive a value.

TABLE B3
TOTAL RECOVERABLE HYDROCARBONS (TRH) TEST RESULTS
MANAGEMENT LIMITS FOR FINE GRAINED SOIL TEXTURE

Analyte		TRH (mg/kg)			
		F1 (C ₆ -C ₁₀) ^a	F2 (>C ₁₀ -C ₁₆) ^a	F3 (C ₁₆ -C ₃₄)	F4 (C ₃₄ -C ₄₀)
Sample Location	Depth (m)				
BH1	0-0.5	<25	<50	<100	<50
BH1	0.5-1.0	<25	<50	<100	<50
BH2	0-0.5	<25	<50	<100	<50
BH3	0-0.5	<25	<50	<100	<50
BH3	0.5-1.0	<25	<50	<100	<50
BH4	0.3-0.5	<25	<50	270	170
BH5	0.2-0.4	<25	<50	270	200
BH6	0.2-0.4	<25	<50	260	170
BH7	0.4-0.6	<25	<50	<100	<50
BH8	0.1-0.3	<25	<50	210	210
BH9	0.4-0.6	<25	<50	520	380
BH10	0.4-0.5	<25	<50	<100	160
BH11	0.2-0.4	<25	<50	500	320
BH12	0.3-0.5	<25	<50	350	280
BH13	0.2-0.4	<25	<50	<100	<50
BH14	0.2-0.3	<25	<50	190	210
BH15	0.3-0.5	<25	<50	<100	<50
BH16	0.3-0.5	<25	<50	<100	<50
BH17	0.3-0.5	<25	<50	<100	<50
BH18	0.4-0.5	<25	<50	<100	<50
BH19	0.2-0.4	<25	<50	100	120
BH20	0.2-0.4	<25	<50	970	380
BH20	1.0-1.1	<25	<50	460	300
BH21	0.3-0.5	<25	<50	1120	440
BH22	0.2-0.3	<25	<50	380	270
Practical Quantitation Limits (PQL)		25	50	100	50
NATIONAL ENVIRONMENT PROTECTION MEASURE (2013)					
Management Limits - Table 1B (7)					
Residential parkland and public open space		800	1000	3500	10,000
Commercial and industrial		800	1000	5000	10,000

Notes

a: Separate management limits for BTEX and naphthalene are not available hence these should not be subtracted from the relevant fractions to obtain F1 and F2.

b: Management limits are applied after consideration of relevant ESLs and HSLs.

TABLE C
POLYCYCLIC AROMATIC HYDROCARBONS (PAH), ORGANOCHLORINE PESTICIDES (OCP), POLYCHLORINATED BIPHENYLS (PCB), PHENOLS AND CYANIDES TEST RESULTS
FOR HILs, EILs & ESLs

		Analyte	PAH (mg/kg)				Organochlorine Pesticides (mg/kg)								Phenols (mg/kg)				
			Carcinogenic PAHs (as BaP TEQ) ^a	TOTAL PAHs ^f	BENZO(a)PYRENE	NAPHTHALENE	DDT + DDE + DDD	ALDRIN & DIELDRIN	CHLORDANE	ENDOSULFAN	ENDRIN	HEPTACHLOR	HCB	METHOXYCHLOR	PCB ⁱ	PHENOL	PENTACHLOROPHENOL	CRESOLS	CYANIDE (free)
Sample Location	Depth (m)																		
BH1	0-0.5	<1	<1	<0.05	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH1	0.5-1.0	<1	<1	<0.05	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH1	1-1.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH2	0-0.5	1.8	<1	0.7	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH2	0.5-1.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH3	0-0.5	<1	<1	<0.05	<0.1	<0.3	<0.2	<0.2	<0.2	<0.1	<0.1	<0.1	<0.1	<0.7	-	-	-	-	-
BH3	0.5-1.0	<1	<1	<0.05	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH3	1.0-1.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH4	0.3-0.5	7.7	<1	4.9	<0.2	<0.3	<0.2	<0.2	<0.2	<0.1	<0.1	<0.1	<0.1	<0.7	-	-	-	-	-
BH4	0.9-1.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH5	0.2-0.4	5.2	<1	3.1	<0.1	<0.3	<0.2	<0.2	<0.2	<0.1	<0.1	<0.1	<0.1	<0.7	-	-	-	-	-
BH5	0.8-1.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH6	0.2-0.4	5.8	<1	3.5	<0.1	<0.3	<0.2	<0.2	<0.2	<0.1	<0.1	<0.1	<0.1	<0.7	-	-	-	-	-
BH6	0.9-1.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH7	0.4-0.6	3.3	<1	1.75	<0.1	<0.3	<0.2	<0.2	<0.2	<0.1	<0.1	<0.1	<0.1	<0.7	<1	<10	<1	<1	<1
BH7	1.1-1.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH8	0.1-0.3	-	-	-	-	<0.3	<0.2	<0.2	<0.2	<0.1	<0.1	<0.1	<0.1	<0.7	-	-	-	-	-
BH9	0.4-0.6	3.3	<1	1.7	<0.1	<0.3	<0.2	<0.2	<0.2	<0.1	<0.1	<0.1	<0.1	<0.7	<1	<10	<1	<1	<1
BH9	0.8-1.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH10	0.4-0.5	1	<1	0.4	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH10	0.8-1.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH11	0.2-0.4	1.6	<1	0.6	<0.1	<0.3	<0.2	<0.2	<0.2	<0.1	<0.1	<0.1	<0.1	<0.7	<1	<10	<1	<1	<1
BH11	0.7-0.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH12	0.3-0.5	<1	<1	0.6	<0.1	<0.3	<0.2	<0.2	<0.2	<0.1	<0.1	<0.1	<0.1	<0.7	-	-	-	-	-
BH12	0.7-0.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH13	0.2-0.4	1.6	<1	0.7	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH13	0.8-1.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH14	0.2-0.3	9.1	<1	5.5	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH14	0.6-0.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH15	0.3-0.5	<1	<1	<0.05	<0.1	<0.3	<0.2	<0.2	<0.2	<0.1	<0.1	<0.1	<0.1	<0.7	<1	<10	<1	<1	<1
BH15	0.9-1.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH16	0.3-0.5	<1	<1	<0.05	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH16	0.8-1.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH17	0.3-0.5	<1	<1	<0.05	<0.1	<0.3	<0.2	<0.2	<0.2	<0.1	<0.1	<0.1	<0.1	<0.7	<1	<10	<1	<1	<1
BH17	0.7-0.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH18	0.4-0.5	1	<1	0.7	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH18	0.7-0.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH19	0.2-0.4	<1	<1	0.4	<0.1	<0.3	<0.2	<0.2	<0.2	<0.1	<0.1	<0.1	<0.1	<0.7	<1	<10	<1	<1	<1
BH20	0.2-0.4	4.2	<1	2.3	<0.1	<0.3	<0.2	<0.2	<0.2	<0.1	<0.1	<0.1	<0.1	<0.7	-	-	-	-	-
BH20	1.0-1.1	3.9	<1	2.15	<0.1	<0.3	<0.2	<0.2	<0.2	<0.1	<0.1	<0.1	<0.1	<0.7	-	-	-	-	-
BH20	2.4-2.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH21	0.3-0.5	10	<1	6.1	0.2	<0.3	<0.2	<0.2	<0.2	<0.1	<0.1	<0.1	<0.1	<0.7	-	-	-	-	-
BH22	0.2-0.3	2.8	<1	1.5	<0.1	<0.3	<0.2	<0.2	<0.2	<0.1	<0.1	<0.1	<0.1	<0.7	-	-	-	-	-
Practical Quantitation Limits (PQL)		1	1	0.05	0.1	0.3	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.7	1	10	1	1	1
NATIONAL ENVIRONMENT PROTECTION MEASURE (2013)																			
Health Investigation Levels (HIL) - Table 1A (1)																			
HIL A ^a		3	300			240	6	50	270	10	6	10	300	1	3000	100	400	250	
HIL B ^b		4	400			600	10	90	400	20	10	15	500	1	45,000	130	4700	300	
HIL C ^c		3	300			400	10	70	340	20	10	10	400	1	40,000	120	4000	240	
HIL D ^d		40	4000			3600	45	530	2000	100	50	80	2500	7	240,000	660	25,000	1,500	
Ecological Investigation Levels (EIL) - Table 1B (5)																			
Areas of ecological significance					10 ^g														
Urban residential and public open space ^h					170 ^g														
Commercial and industrial					370 ^g														
Ecological Screening Levels (ESL) - Table 1B (6)																			
Areas of ecological significance					0.7 ⁱ														
Urban residential and public open space					0.7 ⁱ														
Commercial and industrial					0.7 ⁱ														

- Notes:
- a: Residential with garden/accessible soil (home grown produce <10% fruit and vegetable intake (no poultry), also includes childcare centres, preschools and primary schools.
 - b: Residential with minimal opportunities for soil access; includes dwellings with fully and permanently paved yard space such as high rise buildings and apartments.
 - c: Public open space such as parks, playgrounds, playing fields (e.g. ovals), secondary schools and footpaths. This does not include undeveloped public open space where the potential for exposure is lower and where a site-specific assessment may be more appropriate.
 - d: Commercial/industrial, includes premises such as shops, offices, factories and industrial sites
 - e: Carcinogenic PAHs: HIL is based on the 8 carcinogenic PAHs and their TEFs (potency relative to Ba(a)P) adopted by CCME 2008 (refer Schedule B7). The Ba(a)P TEQ is calculated by multiplying the concentration of each carcinogenic PAH in the sample by its Ba(a)P TEF, given below, and summing these products.
- | PAH species | TEF | PAH species | TEF |
|----------------------|-----|-------------------------|------|
| Benzo(a)anthracene | 0.1 | Benzo(g,h,i)perylene | 0.01 |
| Benzo(a)pyrene | 1 | Chrysene | 0.01 |
| Benzo(b)fluoranthene | 0.1 | Dibenzo(a,h)anthracene | 1 |
| Benzo(k)fluoranthene | 0.1 | Indeno(1,2,3-c,d)pyrene | 0.1 |
- Where the Ba(a)P occurs in bitumen fragments it is relatively immobile and does not represent a significant health risk.
- f: Total PAHs: HIL is based on the sum of the 16 PAHs most commonly reported for contaminated sites (WHO 1998). The application of the total PAH HIL should consider the presence of carcinogenic PAHs and naphthalene (the most volatile PAH). Carcinogenic PAHs reported in the total PAHs should meet the Ba(a)P TEQ HIL. Naphthalene reported in the total PAHs should meet the relevant HSL.
 - g: Insufficient data was available to calculate aged values for DDT and naphthalene, consequently the values for fresh contamination should be used.
 - h: Urban residential / public open space is broadly equivalent to the HIL-A, HIL-B and HIL-C land use scenarios in Table 1A(1) Footnote 1 and as described in Schedule B7.
 - i: For coarse and fine grained texture soils.
 - j: PCBs: HIL relates to non-dioxin-like PCBs only. Where a PCB source is known, or suspected, to be present at a site, a site-specific assessment of exposure to all PCBs (including dioxin-like PCBs) should be undertaken.
 - k: For DDT only.

[illegible]

TABLE E
ASBESTOS TEST RESULTS

Analyte		Field Observations*	Laboratory Results Asbestos Type Present / Absent	Laboratory Results Asbestos %w/w
Sample Location	Depth (m)			
BH1	0-0.5	No visible fibro cement pieces observed	Chrysotile asbestos detected	NT
BH2	0-0.5	No visible fibro cement pieces observed	No asbestos detected	NT
BH3	0-0.5	No visible fibro cement pieces observed	No asbestos detected	NT
BH4	0.3-0.5	No visible fibro cement pieces observed	No asbestos detected	NT
BH5	0.2-0.4	No visible fibro cement pieces observed	No asbestos detected	NT
BH6	0.2-0.4	No visible fibro cement pieces observed	No asbestos detected	NT
BH7	0.4-0.6	No visible fibro cement pieces observed	Chrysotile & Crocidolite asbestos detected	NT
BH8	0.1-0.3	No visible fibro cement pieces observed	No asbestos detected	NT
BH9	0.4-0.6	No visible fibro cement pieces observed	No asbestos detected	NT
BH10	0.4-0.5	No visible fibro cement pieces observed	No asbestos detected	NT
BH11	0.2-0.4	No visible fibro cement pieces observed	No asbestos detected	NT
BH12	0.3-0.5	No visible fibro cement pieces observed	No asbestos detected	NT
BH13	0.2-0.4	No visible fibro cement pieces observed	No asbestos detected	NT
BH14	0.2-0.3	No visible fibro cement pieces observed	No asbestos detected	NT
BH15	0.3-0.5	No visible fibro cement pieces observed	No asbestos detected	NT
BH16	0.3-0.5	No visible fibro cement pieces observed	No asbestos detected	NT
BH17	0.3-0.5	No visible fibro cement pieces observed	No asbestos detected	NT
BH18	0.4-0.5	No visible fibro cement pieces observed	No asbestos detected	NT
BH19	0.2-0.4	No visible fibro cement pieces observed	No asbestos detected	NT
BH20	0.2-0.4	No visible fibro cement pieces observed	No asbestos detected	NT
BH21	0.3-0.5	No visible fibro cement pieces observed	No asbestos detected	NT
BH22	0.2-0.3	No visible fibro cement pieces observed	Chrysotile asbestos detected	NT
WA Guidelines for the Assessment, Remediation and Management of Asbestos - Contaminated Sites in Western Australia - May 2009				
National Environment Protection (Assessment of Site Contamination) Measure 2013 Schedule B1				
%w/w asbestos for FA and AF				0.001%
%w/w asbestos for ACM - Residential use, childcare centres, preschools etc.				0.01%
%w/w asbestos for ACM - Residential, minimal soil access (fully sealed surfaces)				0.04%
%w/w asbestos for ACM - Parks, public open spaces, playing fields etc.				0.02%
%w/w asbestos for ACM - Commercial / Industrial				0.05%

Note:

ACM = Asbestos Containing Materials >7mm x 7mm (visible by eye)

FA = Friable and Fibrous Asbestos Materials >7mm x 7mm (visible by eye)

AF = Asbestos Fines <7mm x 7mm ACM including free fibres (visible by microscope only)

* Field Observations: All fibro-cement fragments observed are assumed to contain Asbestos until otherwise tested and recorded as such.

NT = Not Tested

TABLE F
HEAVY METALS TEST RESULTS (GROUNDWATER SAMPLES)

Analyte	HEAVY METALS (µg/L)							
	ARSENIC (As) - Total	CADMIUM (Cd)	CHROMIUM (Cr) - Total	COPPER (Cu)	LEAD (Pb)	MERCURY (Hg) - Total	NICKEL (Ni)	ZINC (Zn)
Sample Location								
GW1	<5	<1	<1	2	<1	<0.1	2	7
GW2	<5	<1	<1	<1	<1	<0.1	5	10
GW3	<5	<1	<1	<1	<1	<0.1	4	6
Practical Quantitation Limits (PQL)	5	0.1	1	1	1	0.1	1	5
ANZECC & ARMCANZ ^a Guidelines for Fresh and Marine Water Quality (2000)								
Aquatic Ecosystems (Trigger Values)								
Fresh Water	24 ^b 13 ^c	0.2	NV ^d 1 ^e	1.4	3.4	0.06	11	8
Water for recreational purposes	50	5	50	1000	50	1	100	5000

Notes

a: Investigation levels apply to typical slightly-moderated disturbed systems.

b: as As (III)

c: as As (V)

d: as Cr (III)

e: as Cr (VI)

NV: No value derived

TABLE G
TOTAL RECOVERABLE HYDROCARBONS (TRH), BTEX AND NAPHTHALENE TEST RESULTS
FOR GROUNDWATER HSLs IN CLAY

Analyte		TRH (mg/L)		BTEX (mg/L)				PAH (mg/L)
		F1 ^a	F2 ^b	BENZENE	TOLUENE	ETHYL BENZENE	TOTAL XYLENES	NAPHTHALENE
Sample Location	Depth (m)							
GW1	-	<0.01	<0.1	<0.001	<0.001	<0.001	<0.002	<0.001
GW2	-	<0.01	<0.1	<0.001	<0.001	<0.001	<0.002	<0.001
GW3	-	<0.01	<0.1	<0.001	<0.001	<0.001	<0.002	<0.001
Practical Quantitation Limits (PQL)		0.01	0.1	0.001	0.001	0.001	0.002	0.001
NATIONAL ENVIRONMENT PROTECTION MEASURE (2013)								
Health Screening Levels (HSL) - Table 1A (4)								
<i>HSL A & HSL B: Low-high density residential</i>								
Source depth - 2m to <4m		NL	NL	5	NL	NL	NL	NL
Source depth - 4m to <8m		NL	NL	5	NL	NL	NL	NL
Source depth - 8m +		NL	NL	5	NL	NL	NL	NL
<i>HSL C: recreational / open space</i>								
Source depth - 2m to <4m		NL	NL	NL	NL	NL	NL	NL
Source depth - 4m to <8m		NL	NL	NL	NL	NL	NL	NL
Source depth - 8m +		NL	NL	NL	NL	NL	NL	NL
<i>HSL D: Commercial / Industrial</i>								
Source depth - 2m to <4m		NL	NL	30	NL	NL	NL	NL
Source depth - 4m to <8m		NL	NL	30	NL	NL	NL	NL
Source depth - 8m +		NL	NL	35	NL	NL	NL	NL

Notes

a: To obtain F1 subtract the sum of BTEX concentrations from the C₆-C₁₀ fraction.

b: To obtain F2 subtract naphthalene from the >C₁₀-C₁₆ fraction.

NL: Not Limiting

TABLE H
PAH
TEST RESULTS (GROUNDWATER SAMPLES)

Analyte	PAH (µg/L)	
	NAPHTHALENE	BENZO(a)PYRENE
Sample Location		
GW1	<0.2	<0.2
GW2	<0.2	<0.2
GW3	<0.2	<0.2
Practical Quantitation Limits (PQL)	0.2	0.2
ANZECC & ARMCANZ a Guidelines for Fresh and Marine Water Quality (2000)		
Aquatic Ecosystems (Trigger Values)		
Fresh	16	NV
Water for recreational purposes		0.01

Notes a: Investigation levels apply to typical slightly-moderated disturbed systems.
 b: PCB - Arochlor 1242
 c: PCB - Arochlor 1254
 NV: No Value derived

TABLE 11
CHLORINATED ALKANES TEST RESULTS

Analyte	CHLORINATED ALKANES (µg/L)						
	Dichloromethane	Trichloromethane (chloroform)	Trihalomethanes (total)	Tetrachloromethane (carbon tetrachloride)	1,2-Dichloroethane	1,1,2-Trichloroethane	Hexachloroethane
Sample Location							
GW1 -	<10	<1	-	<1	<1	<1	-
GW2 -	<10	<1	-	<1	<1	<1	-
GW3 -	<10	<1	-	<1	<1	<1	-
Practical Quantitation Limits (PQL)	10	1	-	1	1	1	-
ANZECC & ARMCANZ a Guidelines for Fresh and Marine Water Quality (2000)							
Aquatic Ecosystems (Trigger Values)							
Fresh Water	NV	NV	NV	NV	NV	6500	290
Marine Water	NV	NV	NV	NV	NV	1900	NV
Drinking Water	4	3	250	3	3	NV	NV

Notes a: Investigation levels apply to typical slightly-moderated disturbed systems.
 NV: No value derived

TABLE 12
CHLORINATED ALKENES TEST RESULTS

Analyte	CHLORINATED ALKENES (µg/L)			
	Chloroethene (vinyl chloride)	1,1-Dichloroethene	1,2-Dichloroethene	Tetrachloroethene (PCE) (Perchloroethene)
Sample Location				
GW1 -	<10	<1	-	<1
GW2 -	<10	<1	-	<1
GW3 -	<10	<1	-	<1
Practical Quantitation Limits (PQL)	10	1	-	1
ANZECC & ARMCANZ a Guidelines for Fresh and Marine Water Quality (2000)				
Aquatic Ecosystems (Trigger Values)				
Fresh Water	NV	NV	NV	NV
Marine Water	NV	NV	NV	NV
Drinking Water	0.3	30	60	50

Notes a: Investigation levels apply to typical slightly-moderated
 NV: No value derived

TABLE I3
CHLORINATED BENZENES TEST RESULTS

Analyte	CHLORINATED BENZENES (µg/L)						
	Chlorobenzene	1,2-Dichlorobenzene	1,3-Dichlorobenzene	1,4-Dichlorobenzene	1,2,3-Trichlorobenzene	1,2,4-Trichlorobenzene	1,3,5-Trichlorobenzene
Sample Location							
GW1 -	<1	<1	<1	<1	<1	<1	-
GW2 -	<1	<1	<1	<1	<1	<1	-
GW3 -	<1	<1	<1	<1	<1	<1	-
Practical Quantitation Limits (PQL)	1	1	1	1	1	1	-
ANZECC & ARMCANZ a Guidelines for Fresh and Marine Water Quality (2000)							
Aquatic Ecosystems (Trigger Values)							
Fresh Water	NV	160	260	60	3	85	NV
Marine Water	NV	NV	NV	NV	NV	20	NV
Drinking Water	300	1500	NV	40	30	30	30

Notes a: Investigation levels apply to typical slightly-moderated disturbed systems.
 NV: No value derived

APPENDIX R

SECTION 149 CERTIFICATES



PLANNING CERTIFICATE UNDER SECTION 149 OF THE ENVIRONMENTAL PLANNING & ASSESSMENT ACT, 1979.

Cert. No.: PC201302194
Page No: 1 of 17
Date: 20/11/2013

APPLICANT
S XARRAS
Po Box 3247
Marrickville Metro, 2204

PROPERTY
18-26 Faversham Street
MARRICKVILLE NSW 2204
Lot 154 DP 761

PROPERTY NO.
8924

REFERENCE

In accordance with the requirements of section 149 of the Environmental Planning and Assessment Act 1979, the following prescribed matters relate to the land at the date of this certificate.

ITEM 1

Names of relevant planning instruments and DCPs

(1)	The name of each environmental planning instrument that applies to the carrying out of development on the land.
-----	---

1. The following environmental planning instruments apply to the land:

- Marrickville Local Environmental Plan 2011- Amendment 1
- S.E.P.P. No. 6 Number of Storeys in a Building
- S.E.P.P. No. 19 Bushland in Urban Areas
- S.E.P.P. No. 21 Caravan Parks
- S.E.P.P. No. 22 Shops and Commercial Premises
- S.E.P.P. No. 30 Intensive Agricultures
- S.E.P.P. No. 32 Urban Consolidation (Redevelopment of Urban Land)
- S.E.P.P. No. 33 Hazardous and Offensive Development
- S.E.P.P. No. 50 Canal Estates
- S.E.P.P. No. 53 Transitional Provisions
- S.E.P.P. No. 55 Remediation of Land
- S.E.P.P. No. 62 Sustainable Aquaculture
- S.E.P.P. No. 64 Advertising and Signage
- S.E.P.P. No. 65 Design Quality of Residential Flat Development

ENGLISH

IMPORTANT

This letter contains important information. If you do not understand it, please ask a relative or friend to translate it or come to Council and discuss the letter with Council's staff using the Telephone Interpreter Service.

GREEK

ΣΗΜΑΝΤΙΚΟ

Αυτή η επιστολή περιέχει σημαντικές πληροφορίες. Αν δεν τις καταλαβαίνετε, παρακαλείστε να ζητήσετε από ένα συγγενή ή φίλο να σας τις μεταφράσει ή να έλθετε στα γραφεία της Δημαρχίας και να συζητήσετε την επιστολή με προσωπικό της Δημαρχίας χρησιμοποιώντας την Τηλεφωνική Υπηρεσία Διερμηνέων.

PORTUGUESE

IMPORTANTE

Este carta contém informação importante. Se não o compreender peça a uma pessoa de família ou a um/a amigo/a para o traduzir ou venha até à Câmara Municipal (Council) para discutir o assunto através do Serviço de Intérpretes pelo Telefone (Telephone Interpreter Service).

ARABIC

هَامَّ
تحتوي هذه الرسالة معلومات هامة. فإذا لم تستوعبها يرجى أن تطلبوا من أحد أقربائكم أو أصدقائكم شرحها لكم، أو تفضلوا إلى البلدية واجلبوا الرسالة معكم لكي تناقشوها مع أحد موظفي البلدية من خلال الإستعانة بخدمة الترجمة الهاتفية.

VIETNAMESE

THÔNG TIN QUAN TRỌNG

Nội dung thư này gồm có các thông tin quan trọng. Nếu đọc không hiểu, xin quý vị nhờ thân nhân hay bạn bè dịch giúp hoặc đem đến Hội đồng Thành phố để thảo luận với nhân viên qua trung gian Dịch vụ Thông dịch qua Điện thoại.

MANDARIN

重要资料

本信写有重要资料。如果不明白，请亲友为您翻译，或到市政府来，通过电话传译服务，与市政府工作人员讨论此信。

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- S.E.P.P. (Housing for Seniors or People with a Disability) 2004
- S.E.P.P. (Building Sustainability Index: BASIX) 2004
- S.E.P.P. (Major Development) 2005
- S.E.P.P. (Mining, Petroleum Production and Extractive Industries) 2007
- S.E.P.P. (Temporary Structures) 2007
- S.E.P.P. (Infrastructure) 2007
- S.E.P.P. (Exempt and Complying Development Codes) 2008
- S.E.P.P. (Affordable Rental Housing) 2009

Any enquiries regarding these State Planning Policies should be directed to the Department of Planning on: 1300 305 695 or 02 9228 6333. Information can also be obtained from the Department's website at <http://www.planning.nsw.gov.au>

- (1) The name of each proposed environmental planning instrument that will apply to the carrying out of development on the land and that is or has been the subject of community consultation or on public exhibition under the Act (unless the Director-General has notified the council that the making of the proposed instrument has been deferred indefinitely or has not been approved).

2. The following proposed environmental planning instruments apply to the land:

- None

- (2) The name of each development control plan that applies to the carrying out of development on the land.

3. The following development control plans (D.C.P's) apply to the land:

- Marrickville Development Control Plan 2011

ITEM 2

Zoning and land use under relevant LEPs

For each environmental planning instrument or proposed instrument referred to in clause 1 (other than a SEPP or proposed SEPP) that includes the land in any zone (however described):

- (a) the identity of the zone, whether by reference to a name (such as "Residential Zone" or Heritage Area") or by reference to a number (such as "Zone No 2 (a)"),
- (b) the purposes for which the instrument provides that development may be carried out within the zone without the need for development consent,

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- (c) the purposes for which the instrument provides that development may not be carried out within the zone except with development consent,
- (d) the purposes for which the instrument provides that development is prohibited within the zone,
- (e) whether any development standards applying to the land fix minimum land dimensions for the erection of a dwelling-house on the land and, if so, the minimum land dimensions so fixed,
- (f) whether the land includes or comprises critical habitat,
- (g) whether the land is in a conservation area (however described),
- (h) whether an item of environmental heritage (however described) is situated on the land.

Item 2 (a), (b), (c) & (d) – Zoning and Land use table

IN1 - General Industrial

1 Objectives of zone

- To provide a wide range of industrial and warehouse land uses.
- To encourage employment opportunities.
- To minimise any adverse effect of industry on other land uses.
- To support and protect industrial land for industrial uses.
- To protect industrial land in proximity to Sydney Airport and Port Botany.
- To enable a purpose built dwelling house to be used in certain circumstances as a dwelling house.

2 Permitted without consent

Home occupations

3 Permitted with consent

Agricultural produce industries; Depots; Dwelling houses; Freight transport facilities; General industries; Industrial training facilities; Intensive plant agriculture; Kiosks; Light industries; Markets; Neighbourhood shops; Roads; Take away food and drink premises; Timber yards; Warehouse or distribution centres; Any other development not specified in item 2 or 4

4 Prohibited

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Agriculture; Air transport facilities; Airstrips; Amusement centres; Animal boarding or training establishments; Boat launching ramps; Boat sheds; Camping grounds; Caravan parks; Cemeteries; Charter and tourism boating facilities; Child care centres; Commercial premises; Community facilities; Correctional centres; Eco-tourist facilities; Educational establishments; Environmental facilities; Exhibition homes; Exhibition villages; Extractive industries; Farm buildings; Forestry; Function centres; Health services facilities; Heavy industrial storage establishments; Heavy industries; Helipads; Highway service centres; Home occupations (sex services); Information and education facilities; Jetties; Marinas; Mooring pens; Moorings; Offensive industries; Open cut mining; Passenger transport facilities; Places of public worship; Port facilities; Public administration buildings; Recreation facilities (major); Recreation facilities (outdoor); Registered clubs; Research stations; Residential accommodation; Respite day care centres; Restricted premises; Rural industries; Tourist and visitor accommodation; Transport depots; Veterinary hospitals; Water recreation structures; Water supply systems; Wholesale supplies

Item 2 (e) – Minimum land dimensions

There are NO minimum land dimensions for the erection of a dwelling house on the land. All applications for the erection of a dwelling house will be assessed in accordance with the Environmental Planning and Assessment Act, 1979.

Item 2 (f) – Critical habitat

The land DOES NOT include or comprise critical habitat.

Item 2 (g) – Conservation Area

The land IS NOT within a heritage conservation area referred to in Schedule 5 of Marrickville Local Environmental Plan 2011

Item 2 (h) – Heritage Item

An item of environmental heritage IS NOT situated on the land under Marrickville Local Environmental Plan 2011

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ITEM 2A

Zoning and land use under State Environmental Planning Policy (Sydney Region Growth Centres) 2006

To the extent that the land is within any zone (however described) under:

- (a) Part 3 of the *State Environmental Planning Policy (Sydney Region Growth Centres) 2006* (the 2006 SEPP), or
 - (b) a Precinct Plan (within the meaning of the 2006 SEPP), or
 - (c) a proposed Precinct Plan that is or has been the subject of community consultation or on public exhibition under the Act,
- the particulars referred to in clause 2 (a)–(h) in relation to that land (with a reference to “the instrument” in any of those paragraphs being read as a reference to Part 3 of the 2006 SEPP, or the Precinct Plan or proposed Precinct Plan, as the case requires).

The land IS NOT land to which State Environmental Planning Policy (Sydney Region Growth Centres) 2006 applies.

ITEM 3

Complying development

(1) Whether or not the land is land on which complying development may be carried out under each of the codes for complying development because of the provisions of clauses 1.17A (c) and (d) and 1.19 of *State Environmental Planning Policy (Exempt and Complying Development Codes) 2008*.

(2) If complying development may not be carried out on that land because of the provisions of clauses 1.17A (c) and (d) and 1.19 of that Policy, the reasons why it may not be carried out under that clause.

General Housing Code

No. Complying Development under State Environmental Planning Policy (Exempt and Complying Development Codes) 2008 may not be carried out on this land.

The land is excluded land identified as being within ANEF 25 or higher, unless the development is for the erection of ancillary development

The land is excluded land identified on an Acid Sulfate Soils map as being Class 2

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Housing Alterations Code

Yes. Complying Development under State Environmental Planning Policy (Exempt and Complying Development Codes) 2008 may be carried out on this land subject to an assessment of compliance with the requirements of the SEPP.

General Development Code

Yes. Complying Development under State Environmental Planning Policy (Exempt and Complying Development Codes) 2008 may be carried out on this land subject to an assessment of compliance with the requirements of the SEPP.

General Commercial and Industrial Code

Yes. Complying Development under State Environmental Planning Policy (Exempt and Complying Development Codes) 2008 may be carried out on this land subject to an assessment of compliance with the requirements of the SEPP.

Subdivisions Code

Yes. Complying Development under State Environmental Planning Policy (Exempt and Complying Development Codes) 2008 may be carried out on this land subject to an assessment of compliance with the requirements of the SEPP.

Demolitions Code

Yes. Complying Development under State Environmental Planning Policy (Exempt and Complying Development Codes) 2008 may be carried out on this land subject to an assessment of compliance with the requirements of the SEPP.

ITEM 4

Coastal protection

Whether or not the land is affected by the operation of section 38 or 39 of the <i>Coastal Protection Act 1979</i> , but only to the extent that the council has been so notified by the Department of Services, Technology and Administration.

No.

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ITEM 4A

Certain information relating to beaches and coasts

- (1) In relation to a coastal council – whether an order has been made under Part 4D of the Coastal Protection Act 1979 in relation to temporary coastal protection works (within the meaning of that Act) on the land (or on public land adjacent to that land), except where the council is satisfied that such an order has been fully complied with.

NO order has been made under Part 4D of the Coastal Protection Act 1979.

- (2) In relation to a coastal council:
(a) whether the council has been notified under section 55X of the Coastal Protection Act 1979 that temporary coastal protection works (within the meaning of that Act) have been placed on the land (or on public land adjacent to that land), and

Council HAS NOT been notified under Section 55X of the Coastal Protection Act 1979.

- (b) if works have been so placed – whether the council is satisfied that the works have been removed and the land restored in accordance with that Act.

Not Applicable

- (3) (Repealed)

ITEM 4B

Annual charges under Local Government Act 1993 for coastal protection services that relate to the existing coastal protection works

In relation to a coastal council – whether the owner (or any previous owner) of the land has consented in writing to the land being subject to annual charges under section 496B of the Local Government Act 1993 for coastal protection services that relate to existing coastal protection works (within the meaning of section 553B of that Act).

The land IS NOT subject to any annual charges under Section 496B of the Local Government Act 1993.

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ITEM 5

Mine subsidence

Whether or not the land is proclaimed to be a mine subsidence district within the meaning of section 15 of the Mine Subsidence Compensation Act 1961.

No.

ITEM 6

Road widening and road realignment

Whether or not the land is affected by any road widening or road realignment under:
(a) Division 2 of Part 3 of the Roads Act 1993, or
(b) any environmental planning instrument, or
(c) any resolution of the council.

The land IS NOT affected by a road widening or road realignment under:

- (i) Part 3 Division 2 of the Roads Act 1993
- (ii) any environmental planning instrument; or
- (iii) any resolution of the Council

ITEM 7

Council and other public authority policies on hazard risk restrictions

Whether or not the land is affected by a policy:
(a) adopted by the council, or
(b) adopted by any other public authority and notified to the council for the express purpose of its adoption by that authority being referred to in planning certificates issued by the council,

that restricts the development of the land because of the likelihood of land slip, bushfire, tidal inundation, subsidence, acid sulphate soils or any other risk (other than flooding).

- Council HAS adopted by resolution and in accordance with S.72 of the Environmental Planning & Assessment Act, 1979 a development control plan incorporating Council's policy on contaminated land. The Plan has been prepared substantially in accordance with State Environmental Planning Policy No. 55, and the Contaminated Land Planning Guidelines. This policy may affect development of land:

- (a) which is affected by contamination;
- (b) which has been used for certain purposes;
- (c) in respect of which there is not sufficient information about contamination;

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- (d) which is proposed to be used for certain purposes;
- (e) in other circumstances contained in the development control plan and policy;

and in some cases may restrict the development of land.

- The land IS identified as being subject to acid sulfate soil risk under clause 6.2 of Marrickville Local Environmental Plan 2011. Development on land that is subject to acid sulphate soil risk requires development consent and the preparation of an acid sulphate soils management plan subject to a preliminary assessment of the proposed works prepared in accordance with the Acid Sulfate Soils Manual. Development consent is not required where the works involve the disturbance of less than 1 tonne of soil or are not likely to lower the watertable.
- Council HAS NOT by resolution (aside from the matters raised in the above item(s)) adopted a policy to restrict the development of the land because of the likelihood of land slip, bushfire, tidal inundation, subsidence, acid sulfate soils or any other risk (other than flooding).
- Council HAS received no notification of the type described in item 7(b) from a public authority of a policy adopted by that authority that restricts the development of the land because of land slip, bushfire, tidal inundation, subsidence, acid sulfate soils or any other risk (other than flooding).

ITEM 7A

Flood related development controls information

(1) Whether or not development on that land or part of the land for the purposes of dwelling houses, dual occupancies, multi dwelling housing or residential flat buildings (not including development for the purposes of group homes or seniors housing) is subject to flood related development controls.

Yes.

(2) Whether or not development on that land or part of the land for any other purpose is subject to flood related development controls.

Yes.

(3) Words and expressions in this clause have the same meaning as in the instrument set out in the Schedule to the *Standard Instrument (Local Environmental Plan) Order 2006*.

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ITEM 8

Land reserved for acquisition

Whether or not any environmental planning instrument or proposed environmental planning instrument referred to in clause 1 makes provision in relation to the acquisition of the land by a public authority, as referred to in section 27 of the Act.

The land IS NOT reserved, in part or whole, for acquisition by a public authority, as referred to in section 27 of the Act, under:

- (i) any environmental planning instrument
- (ii) deemed environmental planning instrument; or
- (iii) draft environmental planning instrument

ITEM 9

Contributions plans

The name of each contributions plan applying to the land.

Marrickville Section 94 Contributions Plan 2004.

ITEM 9A

Biodiversity certified land

If the land is biodiversity certified land (within the meaning of *Part 7AA of the Threatened Species Conservation Act 1995*) a statement to that effect.

The land IS NOT biodiversity certified land (within the meaning of Part 7AA of the Threatened Species Conservation Act 1995).

ITEM 10

Biobanking agreements

If the land is land to which a biobanking agreement under *Part 7A of the Threatened Species Conservation Act 1995* relates, a statement to that effect (but only if the council has been notified of the existence of the agreement by the Director-General of the Department of Environment, Climate Change and Water).

The land IS NOT land to which a biobanking agreement under Part 7A of the Threatened Species Conservation Act 1995 relates.

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ITEM 11

Bush fire prone land

If any of the land is bush fire prone land (as defined in the Act), a statement that all or, as the case may be, some of the land is bush fire prone land.

If none of the land is bush fire prone land, a statement to that effect.

The land IS NOT bush fire prone land.

ITEM 12

Property vegetation plans

If the land is land to which a property vegetation plan under the *Native Vegetation Act 2003* applies, a statement to that effect (but only if the council has been notified of the existence of the plan by the person or body that approved the plan under that Act).

No.

ITEM 13

Orders under *Trees (Disputes Between Neighbours) Act 2006*

Whether an order has been made under the *Trees (Disputes Between Neighbours) Act 2006* to carry out work in relation to a tree on the land (but only if the council has been notified of the order).

No.

ITEM 14

Directions under Part 3A

If there is a direction by the Minister in force under section 75P (2) (c1) of the Act that a provision of an environmental planning instrument prohibiting or restricting the carrying out of a project or a stage of a project on the land under Part 4 of the Act does not have effect, a statement to that effect identifying the provision that does not have effect.

No.

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ITEM 15

Site compatibility certificates and conditions for seniors housing

If the land is land to which *State Environmental Planning Policy (Housing for Seniors or People with a Disability) 2004* applies:

- (a) a statement of whether there is a current site compatibility certificate (seniors housing), of which the council is aware, in respect of proposed development on the land and, if there is a certificate, the statement is to include:
 - (i) the period for which the certificate is current, and
 - (ii) that a copy may be obtained from the head office of the Department of Planning, and
- (b) a statement setting out any terms of a kind referred to in clause 18 (2) of that Policy that have been imposed as a condition of consent to a development application granted after 11 October 2007 in respect of the land.

Item 15(a)

There IS NOT a current site compatibility certificate (seniors housing) relating to the land

Item 15(b)

There ARE NO applicable terms of a kind referred to in clause 18(2) of that Policy that have been imposed as a condition of consent to a development application granted after 11 October 2007 in respect of the land

ITEM 16

Site compatibility certificate for Infrastructure

A statement of whether there is a valid site compatibility certificate (infrastructure), of which the council is aware, in respect of proposed development on the land and, if there is a certificate, the statement is to include:

- (a) the period for which the certificate is valid, and
- (b) that a copy may be obtained from the head office of the Department of Planning.

There IS NOT a current site compatibility certificate (infrastructure) relating to the land

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ITEM 17

Site compatibility certificate and conditions affecting affordable rental housing

- (1) A statement of whether there is a current site compatibility certificate (affordable rental housing), of which the council is aware, in respect of proposed development on the land and, if there is a certificate, the statement is to include:

 - (a) the period for which the certificate is current, and
 - (b) that a copy may be obtained from the head office of the Department of Planning.

(2) A statement setting out any terms of a kind referred to in clause 17 (1) or 38 (1) of *State Environmental Planning Policy (Affordable Rental Housing) 2009* that have been imposed as a condition of consent to a development application in respect of the land.

Item 17(1)

There IS NOT a current site compatibility certificate (affordable rental housing) relating to the land

Item 17(2)

There ARE NO applicable terms of a kind referred to in clause 17(1) or 38(1) of State Environmental Planning Policy (Affordable Rental Housing) 2009 that have been imposed as a condition of consent to a development application in respect of the land

ITEM 18

Paper subdivision information

- (1) The name of any development plan adopted by a relevant authority that applies to the land or that is proposed to be subject to a consent ballot.

Nil.

- (2) The date of any subdivision order that applies to the land.

Not applicable.

- (3) Words and expressions used in this clause have the same meaning as they have in Part 16C of this Regulation.

Not Applicable.

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ITEM 19

Site verification certificates

(1) A statement of whether there is a current site verification certificate, of which council is aware, in respect of the land and, if there is a certificate, the statement is to include:

a) the matter certified by the certificate, and

Note: A site verification certificate sets out the Director-General's opinion as to whether the land concerned is or is not biophysical strategic agricultural land or critical industry cluster land – see Division 3 of Part 4AA of the *State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007*.

b) the date on which the certificate ceases to be current (if any), and

c) that a copy may be obtained from the head office of the Department of Planning and Infrastructure

Not applicable.

OTHER ITEMS (i)

Section 23 exemption or Section 24 authorisation

Whether an exemption under Section 23 or an authorisation under section 24 of the *Nation Building and Jobs Plan (State Infrastructure Delivery) Act 2009* No 1 has been issued by the Co-ordinator General in relation to the land.

An exemption under Section 23 or an authorisation under Section 24 of the Nation Building and Jobs Plan (State Infrastructure Delivery) Act 2009 No 1 HAS NOT been issued by the Co-ordinator General in relation to the land.

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OTHER ITEMS (ii)

Matters arising under the Contaminated Land Management Act 1997

Section 59(2) of the *Contaminated Land Management Act 1997* prescribes the following additional matters that are to be specified in a planning certificate:

- (a) that the land to which the certificate relates is significantly contaminated land within the meaning of that Act - if the land (or part of the land) is significantly contaminated land at the date when the certificate is issued,

No.

- (b) that the land to which the certificate relates is subject to a management order within the meaning of the Act - if it is subject to such an order at the date when the certificate is issued,

No.

- (c) that the land to which the certificate relates is the subject of an approved voluntary management proposal within the meaning of that Act - if it is the subject of such an approved proposal at the date when the certificate is issued,

No.

- (d) that the land to which the certificate relates is subject to an ongoing maintenance order within the meaning of the Act - if it is subject to such an order at the date when the certificate is issued,

No.

- (e) that the land to which the certificate relates is the subject of a site audit statement within the meaning of the Act - if a copy of such a statement has been provided at any time to the local authority issuing the certificate.

No.

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ADDITIONAL INFORMATION PURSUANT TO S.149(5) OF THE ENVIRONMENTAL PLANNING AND ASSESSMENT ACT, 1979.

- a) The property IS NOT listed on the State Heritage Register.

The Register is a list of places and items of State heritage significance which has been endorsed by the NSW Heritage Council and the Assistant Minister for Infrastructure and Planning (Planning Administration), and came into effect through a legislative amendment of the Heritage Act 1977 on 2 April 1999.

Further information about items on the State Heritage Register can be obtained from the NSW Heritage Office web site at www.heritage.nsw.gov.au <<http://www.heritage.nsw.gov.au>>

- b) Australian Noise Exposure Forecast ANEF 2033:

Some land within the Marrickville Local Government area is subject to aircraft noise associated with Sydney Airport. Council has maps which indicate the land that is subject to noise exposure from aircraft and which contain information as to future levels of noise and related matters. Development within these areas may require noise and acoustic attenuation treatment. If you consider that the subject land is, or is likely to be affected by aircraft noise, or if you wish to ascertain whether the subject land is, or is likely to be affected by aircraft noise, please contact the Development and Environmental Services Division of Council on 9335 2222.

For further information concerning the Australian Noise Exposure Forecast (ANEF), as it relates to Sydney Airport and the Marrickville Local Government area please contact Airservices Australia, Customer and Community Relations, P.O. Box 211, Mascot, NSW 1460 or telephone 1300 302 240.

- c) Contaminated Land:

Marrickville Development Control Plan 2011 lists sources of information for investigating potential land contamination, including information that the Council may possess. Persons should make their own enquiries in accordance with the procedures specified in Marrickville DCP. The Council can provide access to information in Council's possession in relation to the land use history for a particular parcel of land.

- d) ***Flooding:***

Council has undertaken a flood drainage study of the catchment area within which this property is located. The results of this study indicate that the property may be affected by local flooding arising from the surcharge of the local drainage system. Council may place restrictions on the minimum floor levels of new building works where it is considered that the flood level so requires. New building works may be required to be constructed from flood-compatible materials. Therefore, it is recommended that interested

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persons make and rely upon their own enquiries as to the likelihood and extent of flooding affecting this property. Development controls and guidelines for development within flood affected areas are within section 2.22 of Marrickville Development Control Plan 2011. Further information is available from Council's Planning and Environmental Services Directorate on ph. 9335 2222.

Information provided in this planning certificate is in accordance with the matters prescribed under Schedule 4 of the Environmental Planning and Assessment Regulation 2000.

When information pursuant to Section 149 (5) is requested, the Council is under no obligation to furnish any particular information pursuant to that Section. The absence of any reference to any matters affecting the land shall not imply that the land is not affected by any matter not referred to in this Certificate.

Council draws your attention to Section 149 (6) which states that a Council shall not incur any liability in respect of any advice provided in good faith pursuant to subsection (5).

Please contact the Planning Services Section for further information about any instruments or affectations referred to in the Certificate.



**MARCUS ROWAN
MANAGER, PLANNING SERVICES**

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Date: 20/11/2013

APPLICANT
S XARRAS
Po Box 3247
Marrickville Metro, 2204

PROPERTY
18-26 Faversham Street
MARRICKVILLE NSW 2204
Lot 155 DP 761

PROPERTY NO.
8924

REFERENCE

In accordance with the requirements of section 149 of the Environmental Planning and Assessment Act 1979, the following prescribed matters relate to the land at the date of this certificate.

ITEM 1

Names of relevant planning instruments and DCPs

(1)	The name of each environmental planning instrument that applies to the carrying out of development on the land.
-----	---

1. The following environmental planning instruments apply to the land:

- Marrickville Local Environmental Plan 2011- Amendment 1
- S.E.P.P. No. 6 Number of Storeys in a Building
- S.E.P.P. No. 19 Bushland in Urban Areas
- S.E.P.P. No. 21 Caravan Parks
- S.E.P.P. No. 22 Shops and Commercial Premises
- S.E.P.P. No. 30 Intensive Agricultures
- S.E.P.P. No. 32 Urban Consolidation (Redevelopment of Urban Land)
- S.E.P.P. No. 33 Hazardous and Offensive Development
- S.E.P.P. No. 50 Canal Estates
- S.E.P.P. No. 53 Transitional Provisions
- S.E.P.P. No. 55 Remediation of Land
- S.E.P.P. No. 62 Sustainable Aquaculture
- S.E.P.P. No. 64 Advertising and Signage
- S.E.P.P. No. 65 Design Quality of Residential Flat Development

Phone 02 9335 2222
Fax 02 9335 2029
TTY 02 9335 2025 (hearing impaired)
Email council@marrickville.nsw.gov.au
Website www.marrickville.nsw.gov.au

ENGLISH

IMPORTANT

This letter contains important information. If you do not understand it, please ask a relative or friend to translate it or come to Council and discuss the letter with Council's staff using the Telephone Interpreter Service.

GREEK

ΣΗΜΑΝΤΙΚΟ

Αυτή η επιστολή περιέχει σημαντικές πληροφορίες. Αν δεν τις καταλαβαίνετε, παρακαλείστε να ζητήσετε από ένα συγγενή ή φίλο να σας τις μεταφράσει ή να έλθετε στα γραφεία της Δημαρχίας και να συζητήσετε την επιστολή με προσωπικό της Δημαρχίας χρησιμοποιώντας την Τηλεφωνική Υπηρεσία Διερμηνέων.

PORTUGUESE

IMPORTANTE

Este carta contém informação importante. Se não o compreender peça a uma pessoa de família ou a um/a amigo/a para o traduzir ou venha até à Câmara Municipal (Council) para discutir o assunto através do Serviço de Intérpretes pelo Telefone (Telephone Interpreter Service).

ARABIC

هَامَ
تحتوي هذه الرسالة معلومات هامة. فإذا لم تستوعبها يرجى أن تطلبوا من أحد أقربائكم أو أصدقائكم شرحها لكم، أو تفضلوا إلى البلدية واجلبوا الرسالة معكم لكي تناقشوها مع أحد موظفي البلدية من خلال الإستعانة بخدمة الترجمة الهاتفية.

VIETNAMESE

THÔNG TIN QUAN TRỌNG

Nội dung thư này gồm có các thông tin quan trọng. Nếu đọc không hiểu, xin quý vị nhờ thân nhân hay bạn bè dịch giúp hoặc đem đến Hội đồng Thành phố để thảo luận với nhân viên qua trung gian Dịch vụ Thông dịch qua Điện thoại.

MANDARIN

重要资料

本信写有重要资料。如果不明白，请亲友为您翻译，或到市政府来，通过电话传译服务，与市政府工作人员讨论此信。

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- S.E.P.P. (Housing for Seniors or People with a Disability) 2004
- S.E.P.P. (Building Sustainability Index: BASIX) 2004
- S.E.P.P. (Major Development) 2005
- S.E.P.P. (Mining, Petroleum Production and Extractive Industries) 2007
- S.E.P.P. (Temporary Structures) 2007
- S.E.P.P. (Infrastructure) 2007
- S.E.P.P. (Exempt and Complying Development Codes) 2008
- S.E.P.P. (Affordable Rental Housing) 2009

Any enquiries regarding these State Planning Policies should be directed to the Department of Planning on: 1300 305 695 or 02 9228 6333. Information can also be obtained from the Department's website at <http://www.planning.nsw.gov.au>

- (1) The name of each proposed environmental planning instrument that will apply to the carrying out of development on the land and that is or has been the subject of community consultation or on public exhibition under the Act (unless the Director-General has notified the council that the making of the proposed instrument has been deferred indefinitely or has not been approved).

2. The following proposed environmental planning instruments apply to the land:

- None

- (2) The name of each development control plan that applies to the carrying out of development on the land.

3. The following development control plans (D.C.P's) apply to the land:

- Marrickville Development Control Plan 2011

ITEM 2

Zoning and land use under relevant LEPs

For each environmental planning instrument or proposed instrument referred to in clause 1 (other than a SEPP or proposed SEPP) that includes the land in any zone (however described):

- (a) the identity of the zone, whether by reference to a name (such as "Residential Zone" or Heritage Area") or by reference to a number (such as "Zone No 2 (a)"),
- (b) the purposes for which the instrument provides that development may be carried out within the zone without the need for development consent,

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- (c) the purposes for which the instrument provides that development may not be carried out within the zone except with development consent,
- (d) the purposes for which the instrument provides that development is prohibited within the zone,
- (e) whether any development standards applying to the land fix minimum land dimensions for the erection of a dwelling-house on the land and, if so, the minimum land dimensions so fixed,
- (f) whether the land includes or comprises critical habitat,
- (g) whether the land is in a conservation area (however described),
- (h) whether an item of environmental heritage (however described) is situated on the land.

Item 2 (a), (b), (c) & (d) – Zoning and Land use table

IN1 - General Industrial

1 Objectives of zone

- To provide a wide range of industrial and warehouse land uses.
- To encourage employment opportunities.
- To minimise any adverse effect of industry on other land uses.
- To support and protect industrial land for industrial uses.
- To protect industrial land in proximity to Sydney Airport and Port Botany.
- To enable a purpose built dwelling house to be used in certain circumstances as a dwelling house.

2 Permitted without consent

Home occupations

3 Permitted with consent

Agricultural produce industries; Depots; Dwelling houses; Freight transport facilities; General industries; Industrial training facilities; Intensive plant agriculture; Kiosks; Light industries; Markets; Neighbourhood shops; Roads; Take away food and drink premises; Timber yards; Warehouse or distribution centres; Any other development not specified in item 2 or 4

4 Prohibited

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Agriculture; Air transport facilities; Airstrips; Amusement centres; Animal boarding or training establishments; Boat launching ramps; Boat sheds; Camping grounds; Caravan parks; Cemeteries; Charter and tourism boating facilities; Child care centres; Commercial premises; Community facilities; Correctional centres; Eco-tourist facilities; Educational establishments; Environmental facilities; Exhibition homes; Exhibition villages; Extractive industries; Farm buildings; Forestry; Function centres; Health services facilities; Heavy industrial storage establishments; Heavy industries; Helipads; Highway service centres; Home occupations (sex services); Information and education facilities; Jetties; Marinas; Mooring pens; Moorings; Offensive industries; Open cut mining; Passenger transport facilities; Places of public worship; Port facilities; Public administration buildings; Recreation facilities (major); Recreation facilities (outdoor); Registered clubs; Research stations; Residential accommodation; Respite day care centres; Restricted premises; Rural industries; Tourist and visitor accommodation; Transport depots; Veterinary hospitals; Water recreation structures; Water supply systems; Wholesale supplies

Item 2 (e) – Minimum land dimensions

There are NO minimum land dimensions for the erection of a dwelling house on the land. All applications for the erection of a dwelling house will be assessed in accordance with the Environmental Planning and Assessment Act, 1979.

Item 2 (f) – Critical habitat

The land DOES NOT include or comprise critical habitat.

Item 2 (g) – Conservation Area

The land IS NOT within a heritage conservation area referred to in Schedule 5 of Marrickville Local Environmental Plan 2011

Item 2 (h) – Heritage Item

An item of environmental heritage IS NOT situated on the land under Marrickville Local Environmental Plan 2011

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ITEM 2A

Zoning and land use under State Environmental Planning Policy (Sydney Region Growth Centres) 2006

To the extent that the land is within any zone (however described) under:

- (a) Part 3 of the *State Environmental Planning Policy (Sydney Region Growth Centres) 2006* (the 2006 SEPP), or
- (b) a Precinct Plan (within the meaning of the 2006 SEPP), or
- (c) a proposed Precinct Plan that is or has been the subject of community consultation or on public exhibition under the Act,

the particulars referred to in clause 2 (a)–(h) in relation to that land (with a reference to “the instrument” in any of those paragraphs being read as a reference to Part 3 of the 2006 SEPP, or the Precinct Plan or proposed Precinct Plan, as the case requires).

The land IS NOT land to which State Environmental Planning Policy (Sydney Region Growth Centres) 2006 applies.

ITEM 3

Complying development

- (1) Whether or not the land is land on which complying development may be carried out under each of the codes for complying development because of the provisions of clauses 1.17A (c) and (d) and 1.19 of *State Environmental Planning Policy (Exempt and Complying Development Codes) 2008*.
- (2) If complying development may not be carried out on that land because of the provisions of clauses 1.17A (c) and (d) and 1.19 of that Policy, the reasons why it may not be carried out under that clause.

General Housing Code

No. Complying Development under State Environmental Planning Policy (Exempt and Complying Development Codes) 2008 may not be carried out on this land.

The land is excluded land identified as being within ANEF 25 or higher, unless the development is for the erection of ancillary development

The land is excluded land identified on an Acid Sulfate Soils map as being Class 2

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Housing Alterations Code

Yes. Complying Development under State Environmental Planning Policy (Exempt and Complying Development Codes) 2008 may be carried out on this land subject to an assessment of compliance with the requirements of the SEPP.

General Development Code

Yes. Complying Development under State Environmental Planning Policy (Exempt and Complying Development Codes) 2008 may be carried out on this land subject to an assessment of compliance with the requirements of the SEPP.

General Commercial and Industrial Code

Yes. Complying Development under State Environmental Planning Policy (Exempt and Complying Development Codes) 2008 may be carried out on this land subject to an assessment of compliance with the requirements of the SEPP.

Subdivisions Code

Yes. Complying Development under State Environmental Planning Policy (Exempt and Complying Development Codes) 2008 may be carried out on this land subject to an assessment of compliance with the requirements of the SEPP.

Demolitions Code

Yes. Complying Development under State Environmental Planning Policy (Exempt and Complying Development Codes) 2008 may be carried out on this land subject to an assessment of compliance with the requirements of the SEPP.

ITEM 4

Coastal protection

Whether or not the land is affected by the operation of section 38 or 39 of the <u>Coastal Protection Act 1979</u> , but only to the extent that the council has been so notified by the Department of Services, Technology and Administration.

No.

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ITEM 4A

Certain information relating to beaches and coasts

- (1) In relation to a coastal council – whether an order has been made under Part 4D of the Coastal Protection Act 1979 in relation to temporary coastal protection works (within the meaning of that Act) on the land (or on public land adjacent to that land), except where the council is satisfied that such an order has been fully complied with.

NO order has been made under Part 4D of the Coastal Protection Act 1979.

- (2) In relation to a coastal council:
(a) whether the council has been notified under section 55X of the Coastal Protection Act 1979 that temporary coastal protection works (within the meaning of that Act) have been placed on the land (or on public land adjacent to that land), and

Council HAS NOT been notified under Section 55X of the Coastal Protection Act 1979.

- (b) if works have been so placed – whether the council is satisfied that the works have been removed and the land restored in accordance with that Act.

Not Applicable

- (3) (Repealed)

ITEM 4B

Annual charges under Local Government Act 1993 for coastal protection services that relate to the existing coastal protection works

- In relation to a coastal council – whether the owner (or any previous owner) of the land has consented in writing to the land being subject to annual charges under section 496B of the Local Government Act 1993 for coastal protection services that relate to existing coastal protection works (within the meaning of section 553B of that Act).

The land IS NOT subject to any annual charges under Section 496B of the Local Government Act 1993.

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ITEM 5

Mine subsidence

Whether or not the land is proclaimed to be a mine subsidence district within the meaning of section 15 of the *Mine Subsidence Compensation Act 1961*.

No.

ITEM 6

Road widening and road realignment

Whether or not the land is affected by any road widening or road realignment under:
(a) Division 2 of Part 3 of the *Roads Act 1993*, or
(b) any environmental planning instrument, or
(c) any resolution of the council.

The land IS NOT affected by a road widening or road realignment under:

- (i) Part 3 Division 2 of the *Roads Act 1993*
- (ii) any environmental planning instrument; or
- (iii) any resolution of the Council

ITEM 7

Council and other public authority policies on hazard risk restrictions

Whether or not the land is affected by a policy:
(a) adopted by the council, or
(b) adopted by any other public authority and notified to the council for the express purpose of its adoption by that authority being referred to in planning certificates issued by the council,

that restricts the development of the land because of the likelihood of land slip, bushfire, tidal inundation, subsidence, acid sulphate soils or any other risk (other than flooding).

- Council HAS adopted by resolution and in accordance with S.72 of the Environmental Planning & Assessment Act, 1979 a development control plan incorporating Council's policy on contaminated land. The Plan has been prepared substantially in accordance with State Environmental Planning Policy No. 55, and the Contaminated Land Planning Guidelines. This policy may affect development of land:

- (a) which is affected by contamination;
- (b) which has been used for certain purposes;
- (c) in respect of which there is not sufficient information about contamination;

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- (d) which is proposed to be used for certain purposes;
- (e) in other circumstances contained in the development control plan and policy;

and in some cases may restrict the development of land.

- The land IS identified as being subject to acid sulfate soil risk under clause 6.2 of Marrickville Local Environmental Plan 2011. Development on land that is subject to acid sulphate soil risk requires development consent and the preparation of an acid sulphate soils management plan subject to a preliminary assessment of the proposed works prepared in accordance with the Acid Sulfate Soils Manual. Development consent is not required where the works involve the disturbance of less than 1 tonne of soil or are not likely to lower the watertable.
- Council HAS NOT by resolution (aside from the matters raised in the above item(s)) adopted a policy to restrict the development of the land because of the likelihood of land slip, bushfire, tidal inundation, subsidence, acid sulfate soils or any other risk (other than flooding).
- Council HAS received no notification of the type described in item 7(b) from a public authority of a policy adopted by that authority that restricts the development of the land because of land slip, bushfire, tidal inundation, subsidence, acid sulfate soils or any other risk (other than flooding).

ITEM 7A

Flood related development controls information

(1) Whether or not development on that land or part of the land for the purposes of dwelling houses, dual occupancies, multi dwelling housing or residential flat buildings (not including development for the purposes of group homes or seniors housing) is subject to flood related development controls.

Yes.

(2) Whether or not development on that land or part of the land for any other purpose is subject to flood related development controls.

Yes.

(3) Words and expressions in this clause have the same meaning as in the instrument set out in the Schedule to the *Standard Instrument (Local Environmental Plan) Order 2006*.

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ITEM 8

Land reserved for acquisition

Whether or not any environmental planning instrument or proposed environmental planning instrument referred to in clause 1 makes provision in relation to the acquisition of the land by a public authority, as referred to in section 27 of the Act.

The land IS NOT reserved, in part or whole, for acquisition by a public authority, as referred to in section 27 of the Act, under:

- (i) any environmental planning instrument
- (ii) deemed environmental planning instrument; or
- (iii) draft environmental planning instrument

ITEM 9

Contributions plans

The name of each contributions plan applying to the land.

Marrickville Section 94 Contributions Plan 2004.

ITEM 9A

Biodiversity certified land

If the land is biodiversity certified land (within the meaning of *Part 7AA of the Threatened Species Conservation Act 1995*) a statement to that effect.

The land IS NOT biodiversity certified land (within the meaning of Part 7AA of the Threatened Species Conservation Act 1995).

ITEM 10

Biobanking agreements

If the land is land to which a biobanking agreement under *Part 7A of the Threatened Species Conservation Act 1995* relates, a statement to that effect (but only if the council has been notified of the existence of the agreement by the Director-General of the Department of Environment, Climate Change and Water).

The land IS NOT land to which a biobanking agreement under Part 7A of the Threatened Species Conservation Act 1995 relates.

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ITEM 11

Bush fire prone land

If any of the land is bush fire prone land (as defined in the Act), a statement that all or, as the case may be, some of the land is bush fire prone land.

If none of the land is bush fire prone land, a statement to that effect.

The land IS NOT bush fire prone land.

ITEM 12

Property vegetation plans

If the land is land to which a property vegetation plan under the *Native Vegetation Act 2003* applies, a statement to that effect (but only if the council has been notified of the existence of the plan by the person or body that approved the plan under that Act).

No.

ITEM 13

Orders under Trees (Disputes Between Neighbours) Act 2006

Whether an order has been made under the *Trees (Disputes Between Neighbours) Act 2006* to carry out work in relation to a tree on the land (but only if the council has been notified of the order).

No.

ITEM 14

Directions under Part 3A

If there is a direction by the Minister in force under section 75P (2) (c1) of the Act that a provision of an environmental planning instrument prohibiting or restricting the carrying out of a project or a stage of a project on the land under Part 4 of the Act does not have effect, a statement to that effect identifying the provision that does not have effect.

No.

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ITEM 15

Site compatibility certificates and conditions for seniors housing

If the land is land to which *State Environmental Planning Policy (Housing for Seniors or People with a Disability) 2004* applies:

- (a) a statement of whether there is a current site compatibility certificate (seniors housing), of which the council is aware, in respect of proposed development on the land and, if there is a certificate, the statement is to include:
 - (i) the period for which the certificate is current, and
 - (ii) that a copy may be obtained from the head office of the Department of Planning, and
- (b) a statement setting out any terms of a kind referred to in clause 18 (2) of that Policy that have been imposed as a condition of consent to a development application granted after 11 October 2007 in respect of the land.

Item 15(a)

There IS NOT a current site compatibility certificate (seniors housing) relating to the land

Item 15(b)

There ARE NO applicable terms of a kind referred to in clause 18(2) of that Policy that have been imposed as a condition of consent to a development application granted after 11 October 2007 in respect of the land

ITEM 16

Site compatibility certificate for Infrastructure

A statement of whether there is a valid site compatibility certificate (infrastructure), of which the council is aware, in respect of proposed development on the land and, if there is a certificate, the statement is to include:

- (a) the period for which the certificate is valid, and
- (b) that a copy may be obtained from the head office of the Department of Planning.

There IS NOT a current site compatibility certificate (infrastructure) relating to the land

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ITEM 17

Site compatibility certificate and conditions affecting affordable rental housing

- (1) A statement of whether there is a current site compatibility certificate (affordable rental housing), of which the council is aware, in respect of proposed development on the land and, if there is a certificate, the statement is to include:

 - (a) the period for which the certificate is current, and
 - (b) that a copy may be obtained from the head office of the Department of Planning.

(2) A statement setting out any terms of a kind referred to in clause 17 (1) or 38 (1) of *State Environmental Planning Policy (Affordable Rental Housing) 2009* that have been imposed as a condition of consent to a development application in respect of the land.

Item 17(1)

There IS NOT a current site compatibility certificate (affordable rental housing) relating to the land

Item 17(2)

There ARE NO applicable terms of a kind referred to in clause 17(1) or 38(1) of State Environmental Planning Policy (Affordable Rental Housing) 2009 that have been imposed as a condition of consent to a development application in respect of the land

ITEM 18

Paper subdivision information

- (1) The name of any development plan adopted by a relevant authority that applies to the land or that is proposed to be subject to a consent ballot.

Nil.

- (2) The date of any subdivision order that applies to the land.

Not applicable.

- (3) Words and expressions used in this clause have the same meaning as they have in Part 16C of this Regulation.

Not Applicable.

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ITEM 19

Site verification certificates

(1) A statement of whether there is a current site verification certificate, of which council is aware, in respect of the land and, if there is a certificate, the statement is to include:

a) the matter certified by the certificate, and

Note: A site verification certificate sets out the Director-General's opinion as to whether the land concerned is or is not biophysical strategic agricultural land or critical industry cluster land – see Division 3 of Part 4AA of the *State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007*.

b) the date on which the certificate ceases to be current (if any), and

c) that a copy may be obtained from the head office of the Department of Planning and Infrastructure

Not applicable.

OTHER ITEMS (i)

Section 23 exemption or Section 24 authorisation

Whether an exemption under Section 23 or an authorisation under section 24 of the *Nation Building and Jobs Plan (State Infrastructure Delivery) Act 2009* No 1 has been issued by the Co-ordinator General in relation to the land.

An exemption under Section 23 or an authorisation under Section 24 of the Nation Building and Jobs Plan (State Infrastructure Delivery) Act 2009 No 1 HAS NOT been issued by the Co-ordinator General in relation to the land.

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OTHER ITEMS (ii)

Matters arising under the Contaminated Land Management Act 1997

Section 59(2) of the *Contaminated Land Management Act 1997* prescribes the following additional matters that are to be specified in a planning certificate:

- (a) that the land to which the certificate relates is significantly contaminated land within the meaning of that Act - if the land (or part of the land) is significantly contaminated land at the date when the certificate is issued,

No.

- (b) that the land to which the certificate relates is subject to a management order within the meaning of the Act - if it is subject to such an order at the date when the certificate is issued,

No.

- (c) that the land to which the certificate relates is the subject of an approved voluntary management proposal within the meaning of that Act - if it is the subject of such an approved proposal at the date when the certificate is issued,

No.

- (d) that the land to which the certificate relates is subject to an ongoing maintenance order within the meaning of the Act - if it is subject to such an order at the date when the certificate is issued,

No.

- (e) that the land to which the certificate relates is the subject of a site audit statement within the meaning of the Act - if a copy of such a statement has been provided at any time to the local authority issuing the certificate.

No.

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ADDITIONAL INFORMATION PURSUANT TO S.149(5) OF THE ENVIRONMENTAL PLANNING AND ASSESSMENT ACT, 1979.

- a) The property IS NOT listed on the State Heritage Register.

The Register is a list of places and items of State heritage significance which has been endorsed by the NSW Heritage Council and the Assistant Minister for Infrastructure and Planning (Planning Administration), and came into effect through a legislative amendment of the Heritage Act 1977 on 2 April 1999.

Further information about items on the State Heritage Register can be obtained from the NSW Heritage Office web site at www.heritage.nsw.gov.au <<http://www.heritage.nsw.gov.au>>

- b) Australian Noise Exposure Forecast ANEF 2033:

Some land within the Marrickville Local Government area is subject to aircraft noise associated with Sydney Airport. Council has maps which indicate the land that is subject to noise exposure from aircraft and which contain information as to future levels of noise and related matters. Development within these areas may require noise and acoustic attenuation treatment. If you consider that the subject land is, or is likely to be affected by aircraft noise, or if you wish to ascertain whether the subject land is, or is likely to be affected by aircraft noise, please contact the Development and Environmental Services Division of Council on 9335 2222.

For further information concerning the Australian Noise Exposure Forecast (ANEF), as it relates to Sydney Airport and the Marrickville Local Government area please contact Airservices Australia, Customer and Community Relations, P.O. Box 211, Mascot, NSW 1460 or telephone 1300 302 240.

- c) Contaminated Land:

Marrickville Development Control Plan 2011 lists sources of information for investigating potential land contamination, including information that the Council may possess. Persons should make their own enquiries in accordance with the procedures specified in Marrickville DCP. The Council can provide access to information in Council's possession in relation to the land use history for a particular parcel of land.

- d) ***Flooding:***

Council has undertaken a flood drainage study of the catchment area within which this property is located. The results of this study indicate that the property may be affected by local flooding arising from the surcharge of the local drainage system. Council may place restrictions on the minimum floor levels of new building works where it is considered that the flood level so requires. New building works may be required to be constructed from flood-compatible materials. Therefore, it is recommended that interested

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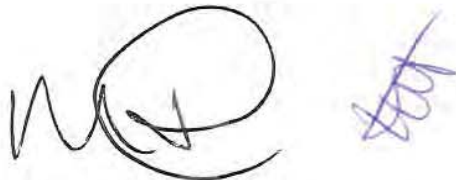
persons make and rely upon their own enquiries as to the likelihood and extent of flooding affecting this property. Development controls and guidelines for development within flood affected areas are within section 2.22 of Marrickville Development Control Plan 2011. Further information is available from Council's Planning and Environmental Services Directorate on ph. 9335 2222.

Information provided in this planning certificate is in accordance with the matters prescribed under Schedule 4 of the Environmental Planning and Assessment Regulation 2000.

When information pursuant to Section 149 (5) is requested, the Council is under no obligation to furnish any particular information pursuant to that Section. The absence of any reference to any matters affecting the land shall not imply that the land is not affected by any matter not referred to in this Certificate.

Council draws your attention to Section 149 (6) which states that a Council shall not incur any liability in respect of any advice provided in good faith pursuant to subsection (5).

Please contact the Planning Services Section for further information about any instruments or affectations referred to in the Certificate.



**MARCUS ROWAN
MANAGER, PLANNING SERVICES**

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Date: 20/11/2013

APPLICANT
S XARRAS
Po Box 3247
Marrickville Metro, 2204

PROPERTY
18-26 Faversham Street
MARRICKVILLE NSW 2204
Lot 153 DP 761

PROPERTY NO.
8924

REFERENCE

In accordance with the requirements of section 149 of the Environmental Planning and Assessment Act 1979, the following prescribed matters relate to the land at the date of this certificate.

ITEM 1

Names of relevant planning instruments and DCPs

(1) The name of each environmental planning instrument that applies to the carrying out of development on the land.

1. The following environmental planning instruments apply to the land:

- Marrickville Local Environmental Plan 2011- Amendment 1
- S.E.P.P. No. 6 Number of Storeys in a Building
- S.E.P.P. No. 19 Bushland in Urban Areas
- S.E.P.P. No. 21 Caravan Parks
- S.E.P.P. No. 22 Shops and Commercial Premises
- S.E.P.P. No. 30 Intensive Agricultures
- S.E.P.P. No. 32 Urban Consolidation (Redevelopment of Urban Land)
- S.E.P.P. No. 33 Hazardous and Offensive Development
- S.E.P.P. No. 50 Canal Estates
- S.E.P.P. No. 53 Transitional Provisions
- S.E.P.P. No. 55 Remediation of Land
- S.E.P.P. No. 62 Sustainable Aquaculture
- S.E.P.P. No. 64 Advertising and Signage
- S.E.P.P. No. 65 Design Quality of Residential Flat Development

ENGLISH

IMPORTANT

This letter contains important information. If you do not understand it, please ask a relative or friend to translate it or come to Council and discuss the letter with Council's staff using the Telephone Interpreter Service.

GREEK

ΣΗΜΑΝΤΙΚΟ

Αυτή η επιστολή περιέχει σημαντικές πληροφορίες. Αν δεν τις καταλαβαίνετε, παρακαλείστε να ζητήσετε από ένα συγγενή ή φίλο να σας τις μεταφράσει ή να έλθετε στα γραφεία της Δημαρχίας και να συζητήσετε την επιστολή με προσωπικό της Δημαρχίας χρησιμοποιώντας την Τηλεφωνική Υπηρεσία Διερμηνέων.

PORTUGUESE

IMPORTANTE

Este carta contém informação importante. Se não o compreender peça a uma pessoa de família ou a um/a amigo/a para o traduzir ou venha até à Câmara Municipal (Council) para discutir o assunto através do Serviço de Intérpretes pelo Telefone (Telephone Interpreter Service).

ARABIC

هَامَ
تحتوي هذه الرسالة معلومات هامة. فإذا لم تستوعبها يرجى أن تطلبوا من أحد أقربائكم أو أصدقائكم شرحها لكم، أو تفضلوا إلى البلدية واجلبوا الرسالة معكم لكي تناقشوها مع أحد موظفي البلدية من خلال الاستعانة بخدمة الترجمة الهاتفية.

VIETNAMESE

THÔNG TIN QUAN TRỌNG

Nội dung thư này gồm có các thông tin quan trọng. Nếu đọc không hiểu, xin quý vị nhờ thân nhân hay bạn bè dịch giúp hoặc đem đến Hội đồng Thành phố để thảo luận với nhân viên qua trung gian Dịch vụ Thông dịch qua Điện thoại.

MANDARIN

重要资料

本信写有重要资料。如果不明白，请亲友为您翻译，或到市政府来，通过电话传译服务，与市政府工作人员讨论此信。

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- S.E.P.P. (Housing for Seniors or People with a Disability) 2004
- S.E.P.P. (Building Sustainability Index: BASIX) 2004
- S.E.P.P. (Major Development) 2005
- S.E.P.P. (Mining, Petroleum Production and Extractive Industries) 2007
- S.E.P.P. (Temporary Structures) 2007
- S.E.P.P. (Infrastructure) 2007
- S.E.P.P. (Exempt and Complying Development Codes) 2008
- S.E.P.P. (Affordable Rental Housing) 2009

Any enquiries regarding these State Planning Policies should be directed to the Department of Planning on: 1300 305 695 or 02 9228 6333. Information can also be obtained from the Department's website at <http://www.planning.nsw.gov.au>

- | | |
|-----|---|
| (1) | The name of each proposed environmental planning instrument that will apply to the carrying out of development on the land and that is or has been the subject of community consultation or on public exhibition under the Act (unless the Director-General has notified the council that the making of the proposed instrument has been deferred indefinitely or has not been approved). |
|-----|---|

2. The following proposed environmental planning instruments apply to the land:

- None

- | | |
|-----|--|
| (2) | The name of each development control plan that applies to the carrying out of development on the land. |
|-----|--|

3. The following development control plans (D.C.P's) apply to the land:

- Marrickville Development Control Plan 2011

ITEM 2

Zoning and land use under relevant LEPs

For each environmental planning instrument or proposed instrument referred to in clause 1 (other than a SEPP or proposed SEPP) that includes the land in any zone (however described):
--

- | | |
|-----|--|
| (a) | the identity of the zone, whether by reference to a name (such as "Residential Zone" or Heritage Area") or by reference to a number (such as "Zone No 2 (a)"), |
| (b) | the purposes for which the instrument provides that development may be carried out within the zone without the need for development consent, |

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- (c) the purposes for which the instrument provides that development may not be carried out within the zone except with development consent,
 - (d) the purposes for which the instrument provides that development is prohibited within the zone,
 - (e) whether any development standards applying to the land fix minimum land dimensions for the erection of a dwelling-house on the land and, if so, the minimum land dimensions so fixed,
 - (f) whether the land includes or comprises critical habitat,
 - (g) whether the land is in a conservation area (however described),
 - (h) whether an item of environmental heritage (however described) is situated on the land.

Item 2 (a), (b), (c) & (d) – Zoning and Land use table

IN1 - General Industrial

1 Objectives of zone

- To provide a wide range of industrial and warehouse land uses.
- To encourage employment opportunities.
- To minimise any adverse effect of industry on other land uses.
- To support and protect industrial land for industrial uses.
- To protect industrial land in proximity to Sydney Airport and Port Botany.
- To enable a purpose built dwelling house to be used in certain circumstances as a dwelling house.

2 Permitted without consent

Home occupations

3 Permitted with consent

Agricultural produce industries; Depots; Dwelling houses; Freight transport facilities; General industries; Industrial training facilities; Intensive plant agriculture; Kiosks; Light industries; Markets; Neighbourhood shops; Roads; Take away food and drink premises; Timber yards; Warehouse or distribution centres; Any other development not specified in item 2 or 4

4 Prohibited

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Agriculture; Air transport facilities; Airstrips; Amusement centres; Animal boarding or training establishments; Boat launching ramps; Boat sheds; Camping grounds; Caravan parks; Cemeteries; Charter and tourism boating facilities; Child care centres; Commercial premises; Community facilities; Correctional centres; Eco-tourist facilities; Educational establishments; Environmental facilities; Exhibition homes; Exhibition villages; Extractive industries; Farm buildings; Forestry; Function centres; Health services facilities; Heavy industrial storage establishments; Heavy industries; Helipads; Highway service centres; Home occupations (sex services); Information and education facilities; Jetties; Marinas; Mooring pens; Moorings; Offensive industries; Open cut mining; Passenger transport facilities; Places of public worship; Port facilities; Public administration buildings; Recreation facilities (major); Recreation facilities (outdoor); Registered clubs; Research stations; Residential accommodation; Respite day care centres; Restricted premises; Rural industries; Tourist and visitor accommodation; Transport depots; Veterinary hospitals; Water recreation structures; Water supply systems; Wholesale supplies

Item 2 (e) – Minimum land dimensions

There are NO minimum land dimensions for the erection of a dwelling house on the land. All applications for the erection of a dwelling house will be assessed in accordance with the Environmental Planning and Assessment Act, 1979.

Item 2 (f) – Critical habitat

The land DOES NOT include or comprise critical habitat.

Item 2 (g) – Conservation Area

The land IS NOT within a heritage conservation area referred to in Schedule 5 of Marrickville Local Environmental Plan 2011

Item 2 (h) – Heritage Item

An item of environmental heritage IS NOT situated on the land under Marrickville Local Environmental Plan 2011

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ITEM 2A

Zoning and land use under State Environmental Planning Policy (Sydney Region Growth Centres) 2006

To the extent that the land is within any zone (however described) under:

- (a) Part 3 of the *State Environmental Planning Policy (Sydney Region Growth Centres) 2006* (the 2006 SEPP), or
 - (b) a Precinct Plan (within the meaning of the 2006 SEPP), or
 - (c) a proposed Precinct Plan that is or has been the subject of community consultation or on public exhibition under the Act,
- the particulars referred to in clause 2 (a)–(h) in relation to that land (with a reference to “the instrument” in any of those paragraphs being read as a reference to Part 3 of the 2006 SEPP, or the Precinct Plan or proposed Precinct Plan, as the case requires).

The land IS NOT land to which State Environmental Planning Policy (Sydney Region Growth Centres) 2006 applies.

ITEM 3

Complying development

(1) Whether or not the land is land on which complying development may be carried out under each of the codes for complying development because of the provisions of clauses 1.17A (c) and (d) and 1.19 of *State Environmental Planning Policy (Exempt and Complying Development Codes) 2008*.

(2) If complying development may not be carried out on that land because of the provisions of clauses 1.17A (c) and (d) and 1.19 of that Policy, the reasons why it may not be carried out under that clause.

General Housing Code

No. Complying Development under State Environmental Planning Policy (Exempt and Complying Development Codes) 2008 may not be carried out on this land.

The land is excluded land identified as being within ANEF 25 or higher, unless the development is for the erection of ancillary development

The land is excluded land identified on an Acid Sulfate Soils map as being Class 2