





Appendix A

■ WATER ■ MINING ■ SPORTS & RECREATION ■ HORTICULTURE & AGRICULTURE ■ ENVIRONMENTAL ■ ENGINEERING & GEOTECH ■ URBAN HORTICULTURE & LANDSCAPING

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T 1300 30 40 80
F 1300 64 46 89
E info@sesl.com.au
W sesl.com.au

POST PO Box 357, Pennant Hills NSW 1715
LAB 16 Chilvers Rd, Thomleigh NSW 2120
ACT Level 5 Tower A, 7 London Cct, Canberra ACT 2601
VIC Level 1, 21 Shields St, Flemington VIC 3031
QLD Level 10, 15 Green Square Cl, Fortitude Valley QLD 4006



| Site Photographs | | | |
|---|-----------|--|-----------|
|  | |  | |
| Photo 1. | Feature 2 | Photo 2. | Feature 2 |
|  | |  | |
| Photo 3. | Feature 2 | Photo 4. | Feature 2 |

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| Site Photographs | | | |
|---|------------------|--|-----------------------------|
|  | |  | |
| Photo 5. | Feature 5 | Photo 6. | Feature 5 - Asbestos |
|  | |  | |
| Photo 7. | Feature 6 | Photo 8. | Feature 7 |

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| Site Photographs | | | |
|---|------------|--|------------|
|  | |  | |
| Photo 9. | Feature 3 | Photo 10. | Feature 3 |
|  | |  | |
| Photo 11. | Feature 17 | Photo 12. | Feature 17 |

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|---|--------------------------------------|--|---|
|  | |  | |
| Photo 13. | Feature 16 | Photo 14. | Feature 16 |
|  | |  | |
| Photo 15. | Feature 18 – Suspected Livestock Dip | Photo 16. | Feature 18 – Chemical Container Storage |

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|---|------------------------|--|---------------------------|
|  | |  | |
| Photo 17. | Feature 18 - Fill | Photo 18. | Feature 18 - Fill |
|  | |  | |
| Photo 19. | Feature 18 - Structure | Photo 20. | Feature 18 – ACM Fragment |

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| Site Photographs | | | |
|---|------------|--|------------|
|  | |  | |
| Photo 21. | Feature 19 | Photo 22. | Feature 20 |
|  | |  | |
| Photo 23. | Feature 21 | Photo 24. | Feature 21 |

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|---|------------------------------------|--|-------------------------------|
|  | |  | |
| Photo 25. | Feature 22 – Fill Materials | Photo 26. | Feature 22 – Fill Materials |
|  | |  | |
| Photo 27. | Feature 22 – Scrap/Vehicle Storage | Photo 28. | Feature 22 – Chemical Storage |

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|---|----------------------------|--|----------------------------|
|  | |  | |
| Photo 29. | Feature 22 – ACM Fragments | Photo 30. | Feature 22 – Fill Profile |
|  | |  | |
| Photo 31. | Feature 22 – Scrap Storage | Photo 32. | Feature 22 – Scrap Storage |

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Appendix B

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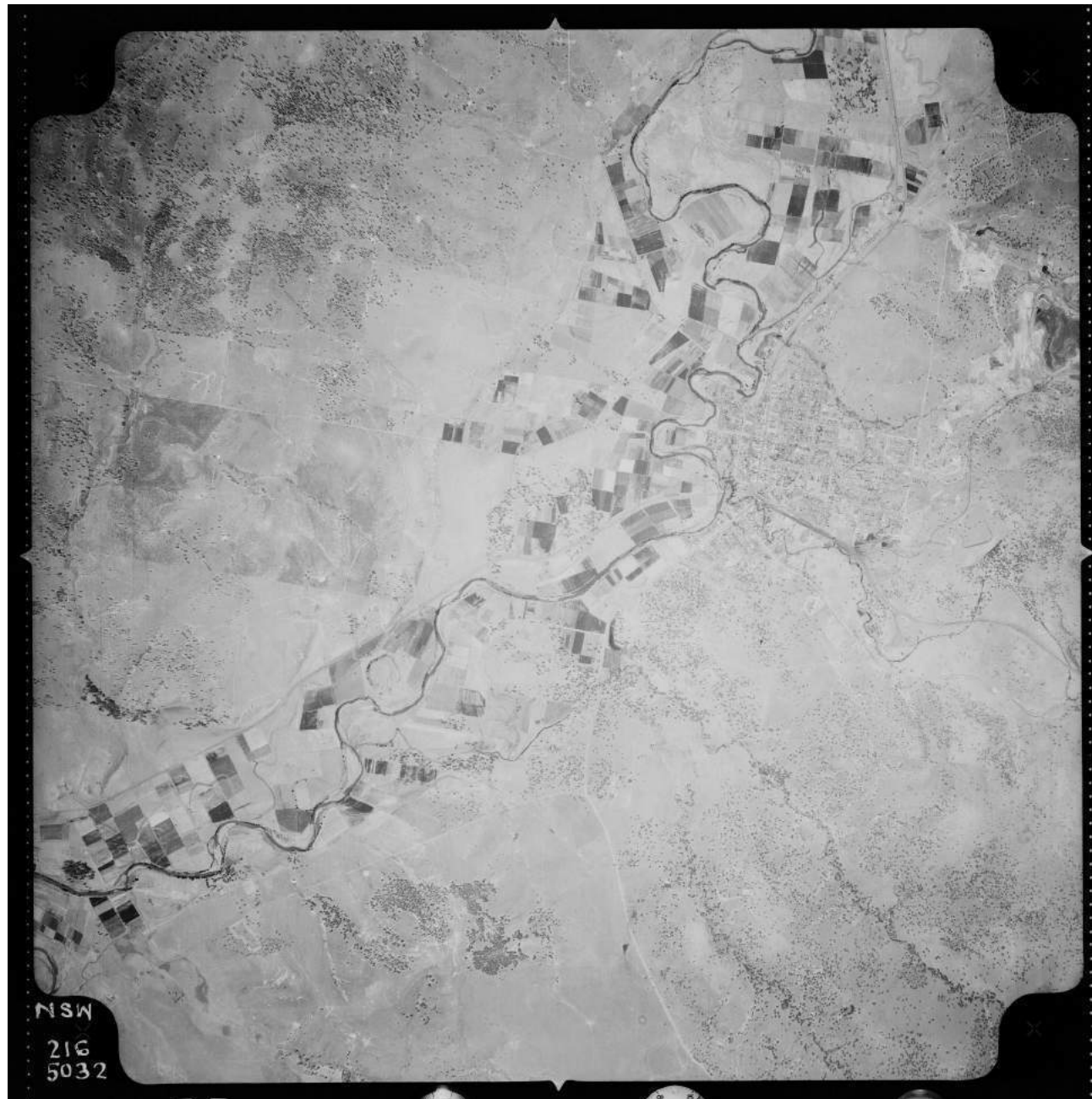
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1958_216_1M_032



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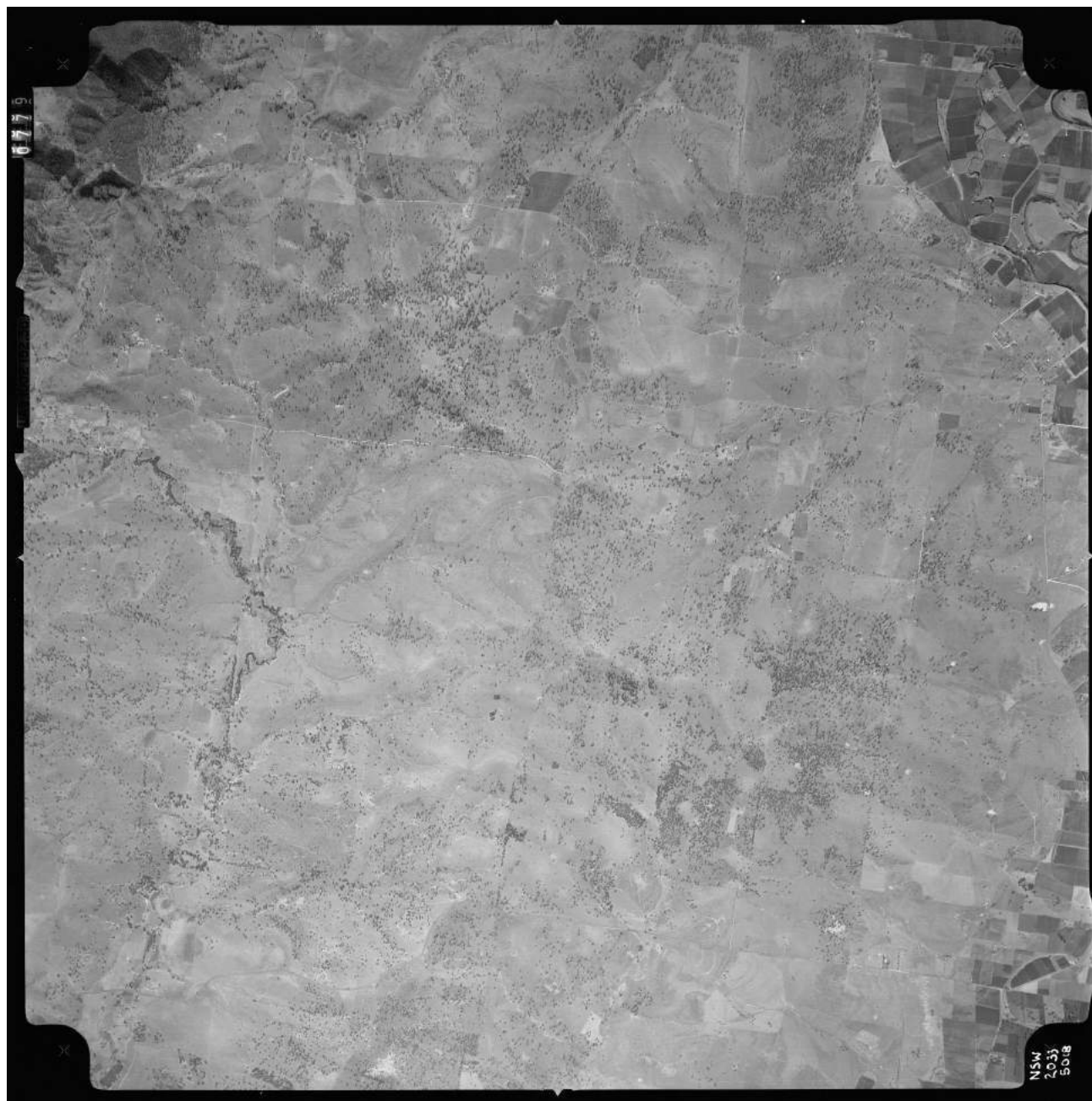




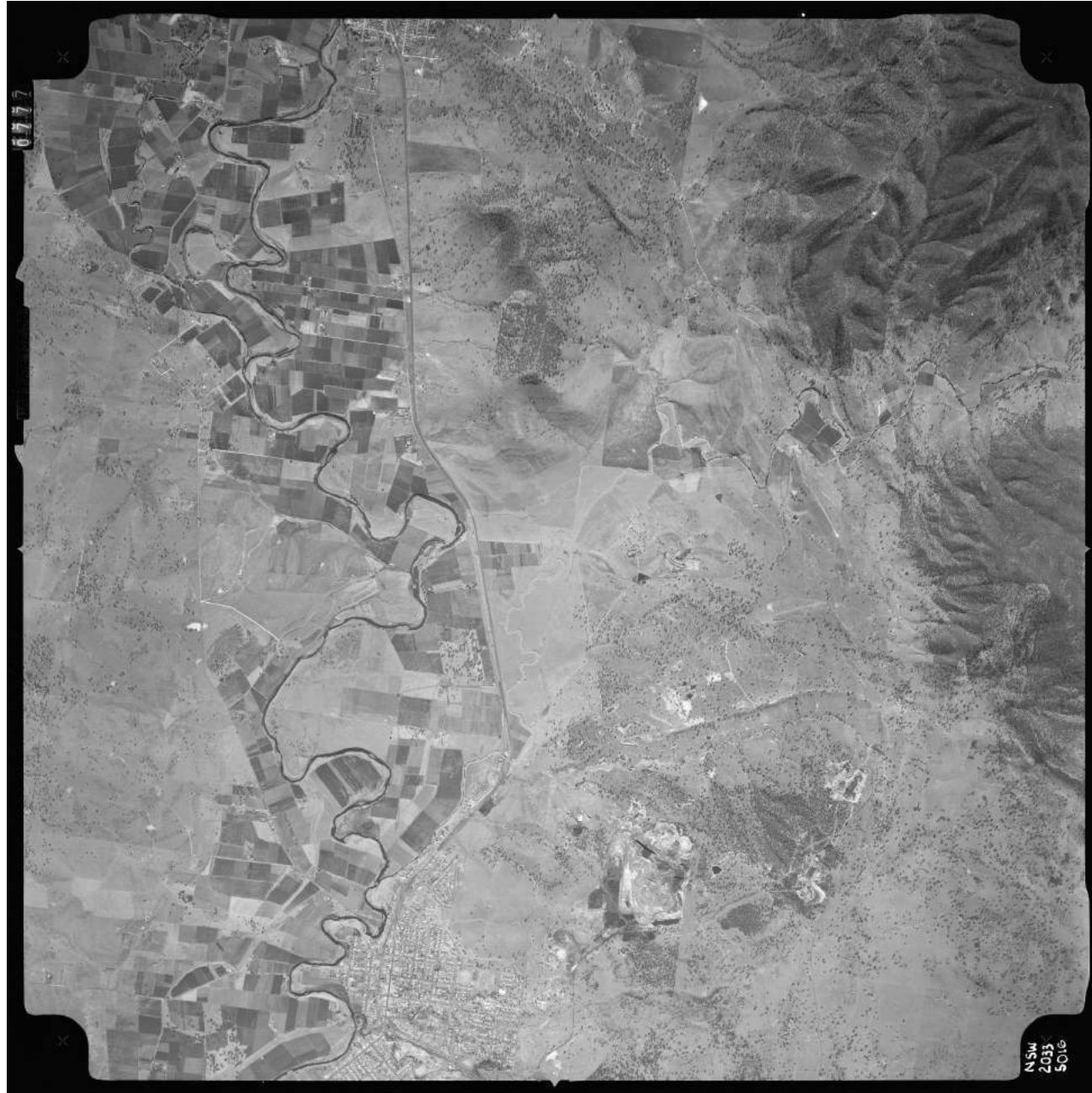
NSW
1215
5132

NSW GOVT
LANDS DEPT
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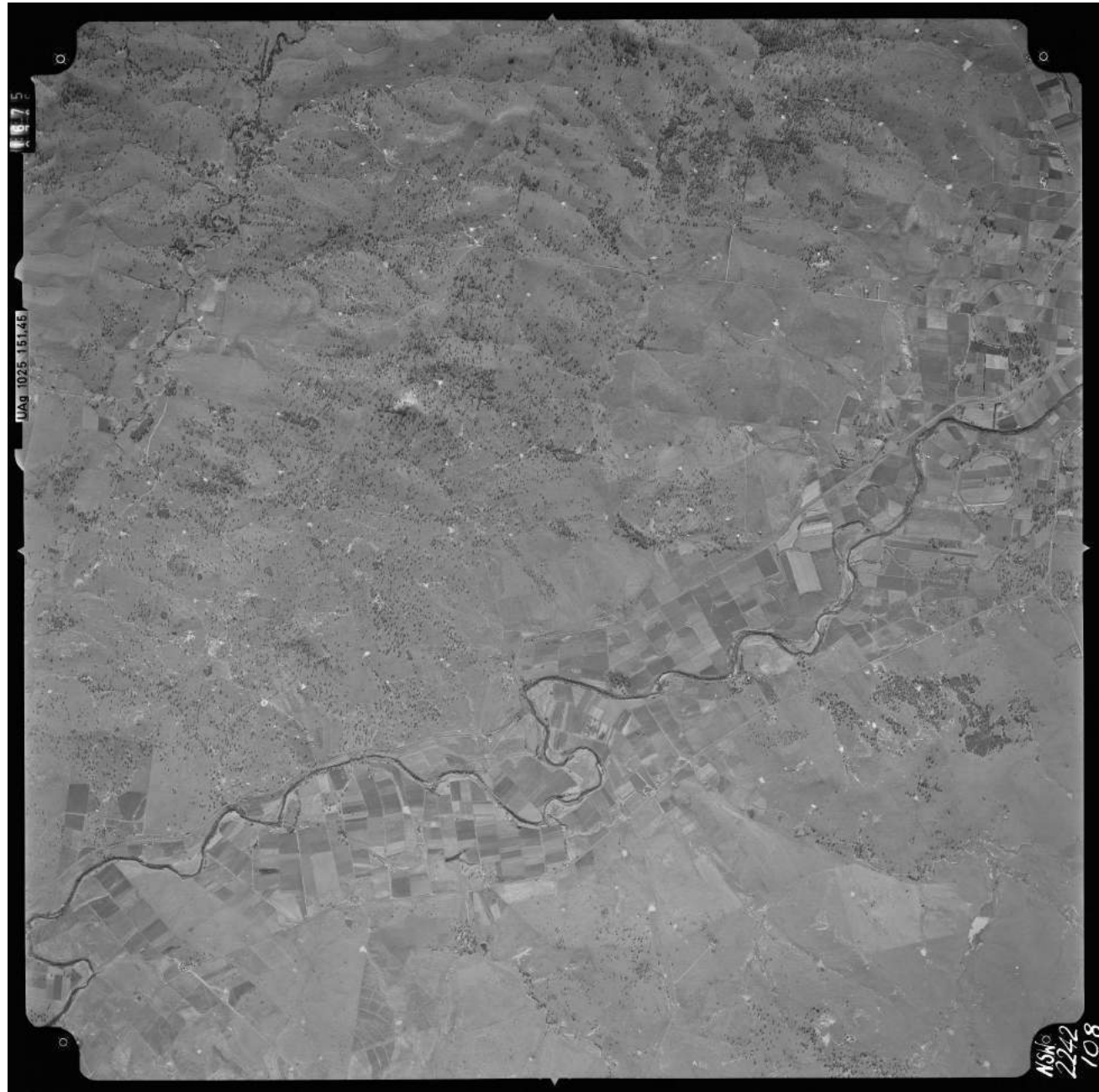
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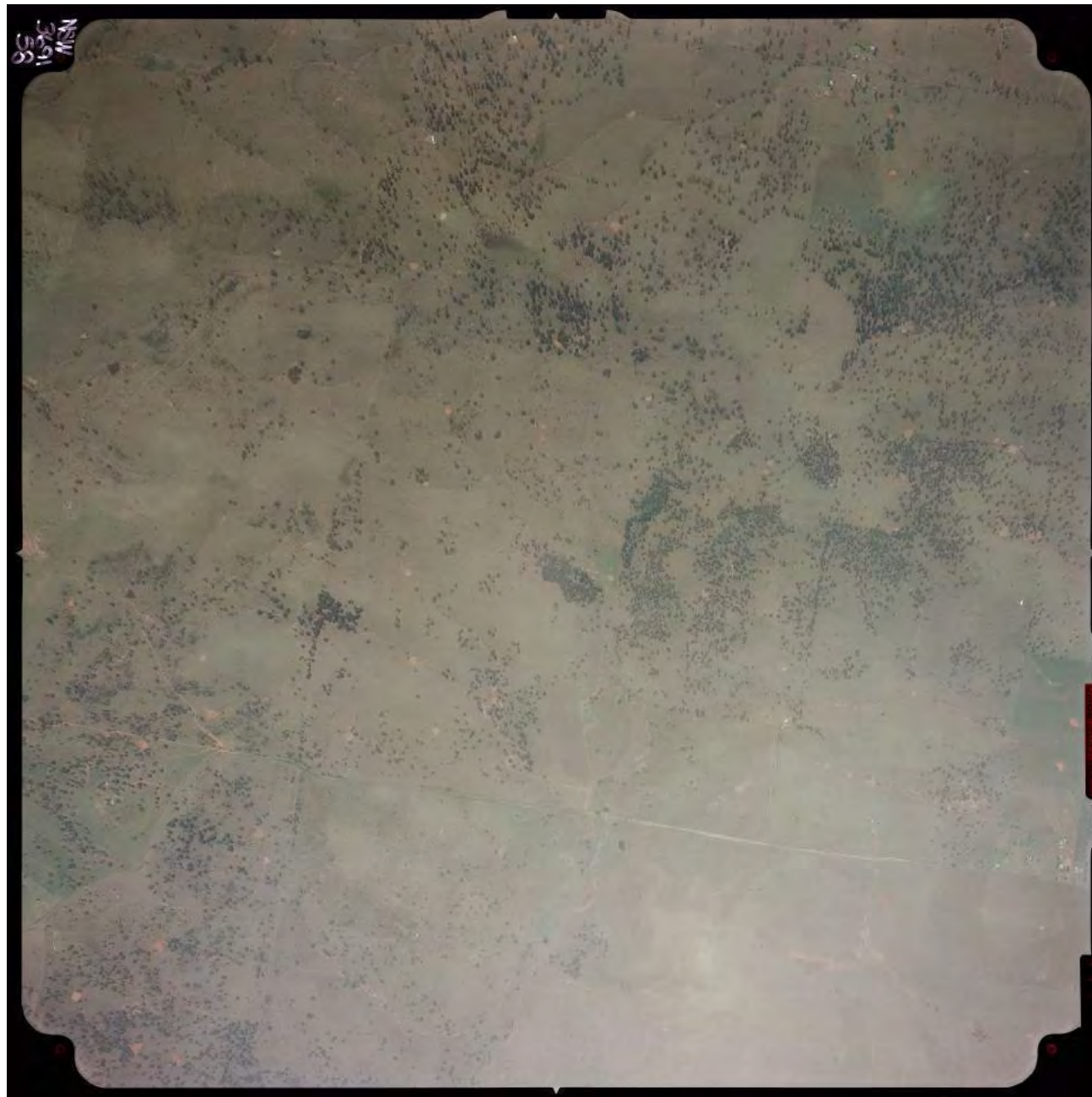
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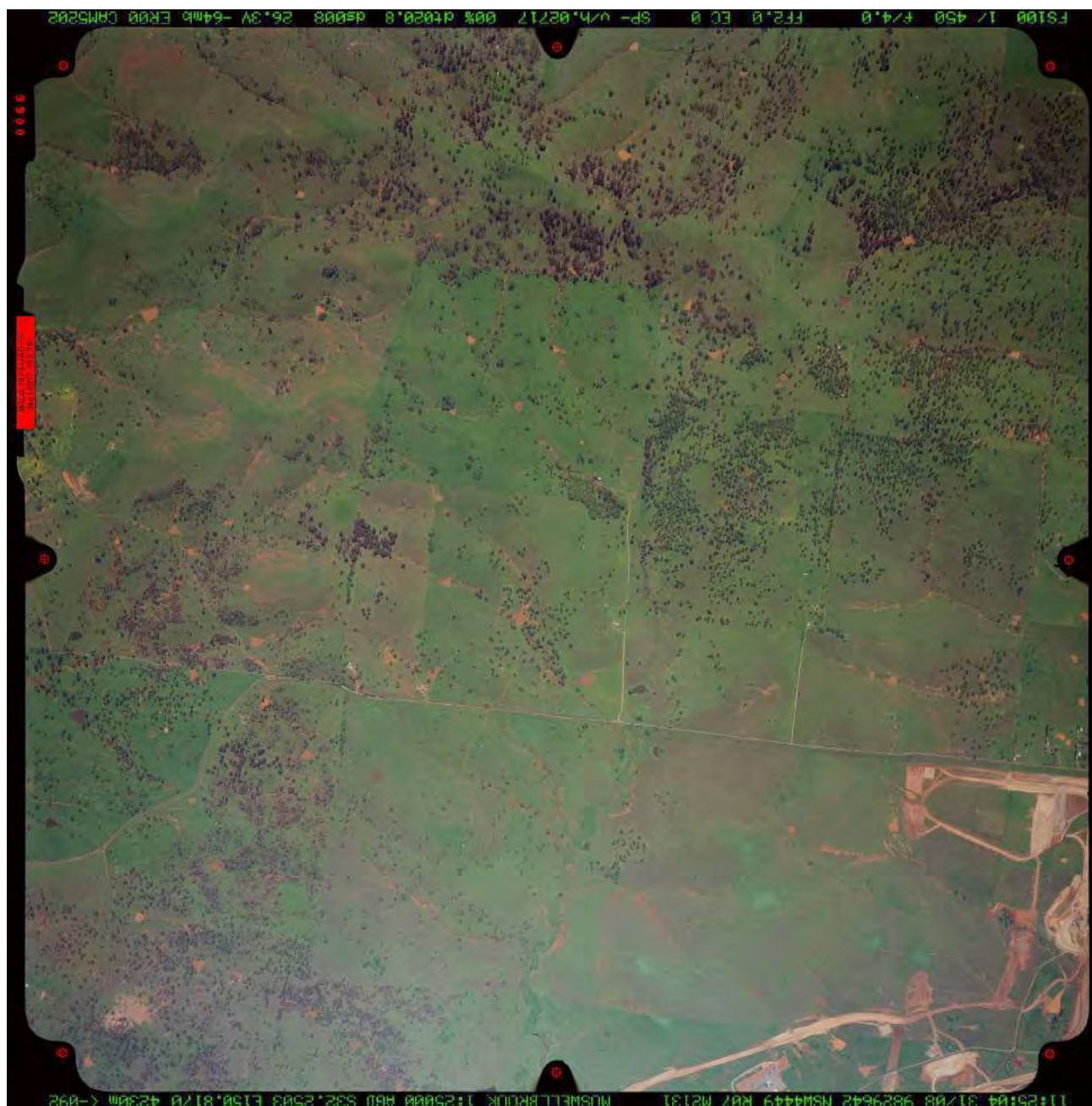
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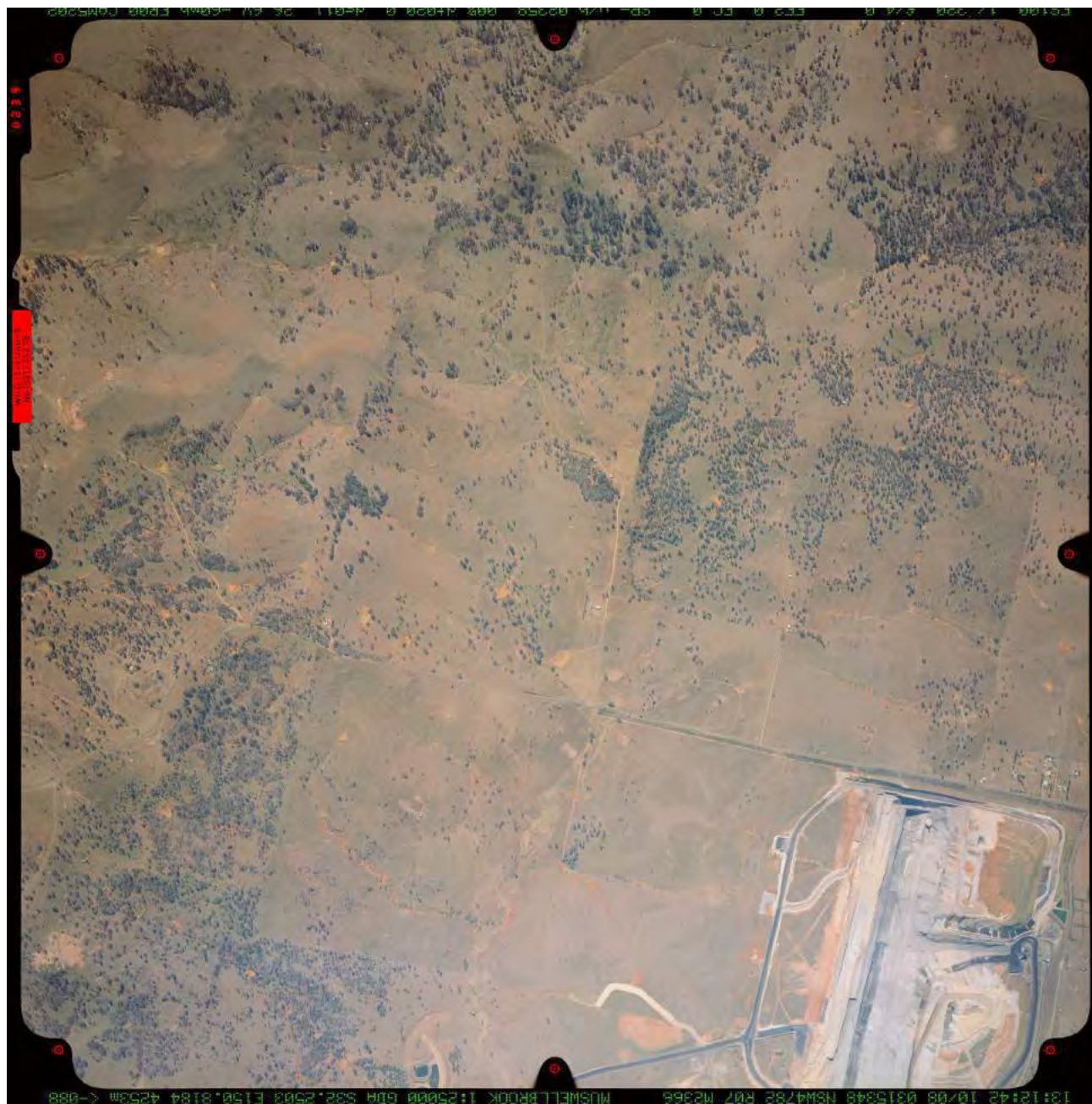
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1998_4449_07_068



2003_08_10_4782_07_239





Appendix C

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**PLANNING CERTIFICATE UNDER
SECTION 149 ENVIRONMENTAL PLANNING
AND ASSESSMENT ACT 1979**

Enquiries Environmental Services
Contact 02 6549 3700
Invoice no. 43721
Your reference Application

Date: 4 October 2017

Assessment: 127951

Cert No: 21298

MACH Energy Australia Pty Ltd
GPO Box 94
BRISBANE QLD 4001

Owner (as recorded by Council)

**Wesfarmers Bengalla Limited & Taipower Bengalla
Pty Limited & others**

Property Description: 3 BENGALLA ROAD MUSWELLBROOK 2333
LOT: 641 DP: 554159

Land to which the certificate relates

The land to which this certificate relates, being the lot or lots described on the application form, is shown in the Council's records as being situated at the street address described above. The information contained in this certificate relates only to the lot or lots described on this certificate. Separate planning certificates can be obtained upon application for the other lots, those certificates may contain different information than is contained in this certificate.

CERTIFICATE UNDER SECTION 149(2) ENVIRONMENTAL PLANNING & ASSESSMENT ACT

LOCAL ENVIRONMENTAL PLANS

PLANNING INSTRUMENT

Muswellbrook Local Environmental Plan 2009

LAND USE ZONING

RU1 Primary Production

PERMITTED WITHOUT CONSENT

Extensive agriculture; Home occupations; Intensive plant agriculture

PERMITTED WITH CONSENT

Air transport facilities; Airstrips; Animal boarding or training establishments; Aquaculture; Camping grounds; Caravan parks; Cellar door premises; Cemeteries; Community facilities; Crematoria; Depots; Dwelling houses; Educational establishments; Environmental facilities; Environmental protection works; Extractive industries; Farm buildings; Flood mitigation works; Forestry; Function centres; Group homes; Hazardous industries; Health consulting rooms; Heavy industrial storage establishments; Helipads; Highway service centres; Home-based child care; Home businesses; Home industries; Industrial retail outlets; Information and education facilities; Intensive livestock agriculture; Intensive plant agriculture; Kiosks; Landscaping material supplies; Open cut mining; Places of public worship; Plant nurseries; Recreation areas; Recreation facilities (indoor); Recreation facilities (major); Recreation facilities (outdoor); Research stations; Restaurants or cafes; Roads; Roadside stalls; Rural industries; Rural supplies; Rural worker's dwellings; Secondary dwellings; Service stations; Sewerage systems; Signage; Storage premises; Take away food and drink premises; Tourist and visitor accommodation; Transport depots; Truck depots; Turf farming; Veterinary hospitals; Waste disposal facilities; Water supply systems.

Date: 5 October 2017

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PROHIBITED

Any development not specified above.

MINIMUM LAND DIMENSIONS FOR THE ERECTION OF A DWELLING

Under the provisions of the Muswellbrook Local Environmental Plan 2009, the minimum subdivision lot size is 80ha and is also subject to the provisions detailed below.

Land zoned RU1 Primary Production may, with the consent of Council, be subdivided for the purpose of primary production to create a lot less than the minimum lot size. However, such a lot cannot be created if an existing dwelling would, as the result of the subdivision, be situated on the lot. A dwelling cannot be erected on such a lot created.

Development consent must not be granted to the subdivision of a lot in a strata plan or community title scheme on land zoned RU1 Primary Production that is used, or proposed to be used, for residential accommodation or tourist and visitor accommodation.

Only one dwelling house may be erected on land zoned RU1 Primary Production only if the land is:

- (a) a lot created in accordance with clause 4.1 of the LEP 2009, or
- (b) a lot created before the LEP 2009 commenced and on which the erection of a dwelling house was permissible immediately before that commencement, or
- (c) a lot created before the LEP 2009 commenced that is at least the minimum lot size specified for that lot by the Lot Size Map, or
- (d) a lot for which subdivision approval was granted before the LEP 2009 commenced and on which the erection of a dwelling house would have been permissible immediately before that commencement, or
- (e) an existing holding.

NOTE: EXISTING HOLDING means all adjoining land, even if separated by a road or railway, held in the same ownership:

- (a) on 11 April 1974, and
- (b) at the time of lodging a development application for the erection of a dwelling house under this clause.

and includes any other land adjoining that land acquired by the owner since 11 April 1974.

NOTE: The owner in whose ownership all the land is at the time the application is lodged need not be the same person as the owner in whose ownership all the land was on the stated date.

WHETHER THE LAND INCLUDES OR COMPRISES CRITICAL HABITAT

The subject land has not been declared as critical habitat.

WHETHER THE LAND IS IN A CONSERVATION AREA

The subject land is not known to be in a conservation area.

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WHETHER AN ITEM OF ENVIRONMENTAL HERITAGE IS SITUATED ON THE LAND

The land is NOT affected by any known or listed heritage item.

STATE ENVIRONMENTAL PLANNING POLICIES (EXEMPT & COMPLYING DEVELOPMENT CODES 2008)

| |
|---|
| CERTIFICATE UNDER SECTION 149(2) IDENTIFYING THE INFORMATION SET OUT IN CLAUSE 3 OF SCHEDULE 4 OF THE ENVIRONMENTAL PLANNING & ASSESSMENT REGULATIONS |
|---|

Part 3 General Housing Code

Not applicable to the land to which this certificate relates.

Part 3A Rural Housing Code

YES. Complying development specified in the Rural Housing Code may be carried out on this land in certain circumstances pursuant to Clause 1.19 of State Environmental Planning Policy (Exempt and Complying Development Codes) 2008.

Part 4 Housing Alterations Code

YES. Complying development specified in the Housing Alterations Code may be carried out on this land in certain circumstances pursuant to Clause 1.19 of State Environmental Planning Policy (Exempt and Complying Development Codes) 2008.

Part 4A General Development Code

YES. Complying development specified in the General Development Code may be carried out on this land in certain circumstances pursuant to Clause 1.19 of State Environmental Planning Policy (Exempt and Complying Development Codes) 2008.

Part 5 Commercial and Industrial Alterations Code

Not applicable to the land to which this certificate relates.

Part 5A Commercial and Industrial (New Buildings and Additions) Code

Not applicable to the land to which this certificate relates.

Part 6 Subdivision Code

YES. Complying development specified in the Subdivision Code may be carried out on this land in certain circumstances pursuant to Clause 1.19 of State Environmental Planning Policy (Exempt and Complying Development Codes) 2008.

Part 7 Demolition Code

YES. Complying development specified in the Demolition Code may be carried out on this land in certain circumstances pursuant to Clause 1.19 of State Environmental Planning Policy (Exempt and Complying Development Codes) 2008.

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Part 8 Fire Safety Code

YES. Complying development specified in the Fire Safety Code may be carried out on this land in certain circumstances pursuant to Clause 1.19 of State Environmental Planning Policy (Exempt and Complying Development Codes) 2008.

STATE ENVIRONMENTAL PLANNING POLICIES

The following State Environmental Planning Policies apply to land within the Muswellbrook Shire LGA:-

No. 21. Caravan Parks - Ensures that where caravan parks or camping grounds are permitted under an environmental planning instrument, movable dwellings, as defined in the Local Government Act 1993, are also permitted. The policy ensures that development consent is required for new caravan parks and camping grounds and for additional long-term sites in existing caravan parks.

No. 30. Intensive Agriculture - Requires development consent for cattle feedlots having a capacity of 50 or more cattle or piggeries having a capacity of 200 or more pigs. The policy sets out information and public notification requirements to ensure there are effective planning control over this export-driven rural industry. The policy does not alter if, and where, such development is permitted, or the functions of the consent authority.

No. 33. Hazardous and Offensive Development - Provides new definitions for 'hazardous industry', 'hazardous storage establishment', 'offensive industry' and 'offensive storage establishment'. The definitions apply to all planning instruments, existing and future. The new definitions enable decisions to approve or refuse a development to be based on the merit of proposal. The consent authority must carefully consider the specifics of the case, the location and the way in which the proposed activity is to be carried out. The policy also requires specified matters to be considered for proposals that are 'potentially hazardous' or 'potentially offensive' as defined in the policy. For example, any application to carry out a potentially hazardous or potentially offensive development is to be advertised for public comment, and applications to carry out potentially hazardous development must be supported by a preliminary hazard analysis (PHA).

No. 36. Manufactured Home Estates - Helps establish well-designed and properly serviced manufactured home estates (MHEs) in suitable locations. Affordability and security of tenure for residents are important aspects. To enable the immediate development of estates, the policy allows MHEs to be located on certain land where caravan parks are permitted. There are however, criteria that a proposal must satisfy before the local council can approve development.

No. 44. Koala Habitat Protection - Encourages the proper conservation and management of areas of natural vegetation that provide habitat for koalas to ensure a permanent free-living population over their present range and reverse the current trend of koala population decline.

No. 55. Remediation of Land - Introduces state-wide planning controls for the remediation of contaminated land. The policy states that land must not be developed if it is unsuitable for a proposed use because it is contaminated. If the land is unsuitable, remediation must take place before the land is developed. The policy makes remediation permissible across the State, defines when consent is required, requires all remediation to comply with standards, ensures land is investigated if contamination is suspected, and requires councils to be notified of all remediation proposals.

No. 62. Sustainable Aquaculture - The policy implements the regional strategies already developed by creating a simple approach to identify and categorise aquaculture development on the basis of its potential environmental impact. The SEPP also identifies aquaculture development as a designated development only where there are potential environmental risks.

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No. 64. Advertising and Signage - Aims to improve the amenity of urban and natural settings by managing the impact of outdoor advertising. The policy responds to growing concerns from the community, the advertising industry and local government that existing controls and guidelines were not effective. SEPP No. 64 offers the comprehensive provisions and consistent approach needed. SEPP 64 – Advertising and Signage: Explanatory Information should be read in conjunction with the policy.

No. 65. Design Quality of Residential Flat Development - Raises the design quality of residential flat development across the state through the application of a series of design principles. The policy provides for the establishment of Design Review Panels to provide independent expert advice to councils on the merit of residential flat development. The accompanying regulation requires the involvement of a qualified designer throughout the design, approval and construction stages.

SEPP (Housing for Seniors or People with a Disability) 2004 - Encourage the development of high quality accommodation for our ageing population and for people who have disabilities - housing that is in keeping with the local neighbourhood

SEPP (Building Sustainability Index: BASIX) 2004 - This SEPP operates in conjunction with Environmental Planning and Assessment Amendment (Building Sustainability Index: BASIX) Regulation 2004 to ensure the effective introduction of BASIX in NSW. The SEPP ensures consistency in the implementation of BASIX throughout the State by overriding competing provisions in other environmental planning instruments and development control plans, and specifying that SEPP 1 does not apply in relation to any development standard arising under BASIX.

SEPP (Infrastructure) 2007 - Provides a consistent planning regime for infrastructure and the provision of services across NSW, along with providing for consultation with relevant public authorities during the assessment process. The SEPP supports greater flexibility in the location of infrastructure and service facilities along with improved regulatory certainty and efficiency.

SEPP (Mining, Petroleum Production and Extractive Industries) 2007 - This Policy aims to provide for the proper management and development of mineral, petroleum and extractive material resources for the social and economic welfare of the State. The Policy establishes appropriate planning controls to encourage ecologically sustainable development.

SEPP (Miscellaneous Consent Provisions) 2007 - Provides for the erection of temporary structures and the use of places of public entertainment while protecting public safety and local amenity. The SEPP supports the transfer of the regulation of places of public entertainment and temporary structures (such as tents, marquees and booths) from the Local Government Act 1993 to the Environmental Planning and Assessment Act 1979.

SEPP (Rural Lands) 2008 - The aim of this policy is to facilitate the orderly and economic use and development of rural lands for rural and related purposes.

SEPP (Exempt and Complying Development Codes) 2008 – This policy streamlines assessment processes for development that complies with specified development standards. The policy provides exempt codes that have State-wide application, identifying, in the General Exempt Development Code, types of development that are of minimal environmental impact that may be carried out without the need for development consent.

SEPP (Affordable Rental Housing) 2009 – The aims of this policy are to provide a consistent planning regime for the provision of affordable rental housing; facilitate the effective delivery of new affordable rental housing by providing incentives by way of expanding zoning permissibility, floor space ratio bonuses and non-discretionary development standards; facilitate the retention and mitigate the loss of existing affordable rental housing; employ a balanced approach between obligations for retaining and mitigating the loss of existing affordable rental housing, and incentives for the development of new

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affordable rental housing; facilitate an expanding role for not-for-profit-providers of affordable rental housing; support local business centres by providing affordable rental housing for workers close to places of work; and facilitate the development of housing for the homeless and other disadvantaged people who may require support services, including group homes and supportive accommodation.

SEPP (State and Regional Development) 2011 – The aims of this policy are to identify development that is State significant development; identify development that is State significant infrastructure and critical State significant infrastructure; and confer functions on joint regional planning panels to determine development applications.

Further details regarding these State Environmental Planning Policies and the circumstances in which they may apply to the subject and can be found on the Department of Planning's website.

REGIONAL PLANNING INSTRUMENTS

There are no Regional Environmental Plans applying within the Muswellbrook Shire Council area.

DEVELOPMENT CONTROL PLANS

This land is affected by the following Development Control Plans:
Muswellbrook Shire Development Control Plan 2009

COASTAL PROTECTION

The land IS NOT affected by the operations of Sections 38 and 39 of the *Coastal Protection Act* 1979.

MINE SUBSIDENCE

The land IS NOT WITHIN a Mine Subsidence District proclaimed under section 15 of the Mine Subsidence Compensation Act, 1961.

ROAD WIDENING AND ROAD REALIGNMENT

The subject land IS NOT 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.

COUNCIL AND OTHER PUBLIC AUTHORITY POLICIES ON HAZARD RISK RESTRICTIONS

The land IS NOT affected by a policy adopted by the council, or 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).

FLOOD RELATED DEVELOPMENT CONTROLS INFORMATION

The Hunter River Flood Study 2014 shows the land to be affected by flooding.

LAND RESERVED FOR ACQUISITION

There are NOT any environmental planning instruments; deemed environmental planning instruments or draft environmental planning instruments applying to the land that provide for the acquisition of the

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land by a public authority, as referred to in section 27 of the Environmental Planning and Assessment Act 1979.

CONTRIBUTIONS PLANS

The Muswellbrook Section 94 Contributions Plan 2001 and Muswellbrook Section 94A Contributions Plan 2009 apply to all land within the Muswellbrook Shire Local Government Area.

BIODIVERSITY CERTIFIED LAND

The land IS NOT biodiversity certified land (within the meaning of Part 7AA of the Threatened Species Conservation Act 1995)

BIOBANKING AGREEMENTS

The land IS NOT affected by a biobanking agreement under Part 7A of the *Threatened Species Conservation Act 1995*.

MATTERS RELATING TO THE MANAGEMENT OF CONTAMINATED LAND

- (a) The land to which this certificate relates is NOT within land declared to be significantly contaminated land under the Contaminated Land Management Act 2008 at the date when the certificate is issued.
- (b) The land to which this certificate relates is NOT subject to a management order under the Contaminated Land Management Act 2008 at the date when the certificate is issued.
- (c) The land to which this certificate relates is NOT the subject of approved voluntary management proposal the subject of the Environment Protection Authority's agreement under the Contaminated Land Management Act 2008 at the date when the certificate is issued.
- (d) The land to which this certificate relates is NOT the subject to an ongoing maintenance order under the Contaminated Land Management Act 2008 at the date when the certificate is issued.
- (e) The land to which this certificate relates has NOT been the subject of a site audit statement provided to Muswellbrook Shire Council.

BUSH FIRE PRONE LAND

The land IS NOT bushfire prone land.

PROPERTY VEGETATION PLANS

Council has NOT been notified of the existence of such a plan or if the land is land to which a property vegetation plan under the Native Vegetation Act 2003 applies.

ORDERS UNDER TREES (DISPUTES BETWEEN NEIGHBOURS) ACT 2006

Council has NOT been notified of any order made under the Trees (Disputes Between Neighbours) Act 2006 to carry out work in relation to a tree on the land.

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DIRECTIONS UNDER PART 3A

There is NOT a direction by the Minister in force under section 75P (2) (c1) of the Act in relation to prohibiting or restricting the carrying out of a project or a stage of a project on the land under Part 4 of the Act.

SITE COMPATIBILITY CERTIFICATES AND CONDITIONS FOR SENIORS HOUSING

There is NOT a current site compatibility certificate (of which the council is aware), issued under clause 25 of State Environmental Planning Policy (Housing for Seniors or People with a Disability) 2004 in respect of proposed development on the land.

SITE COMPATIBILITY CERTIFICATES FOR INFRASTRUCTURE

There is NOT a valid site compatibility certificate (of which the council is aware), issued under clause 19 of State Environmental Planning Policy (Infrastructure) 2007 in respect of proposed development on the land.

SITE COMPATIBILITY CERTIFICATES AND CONDITIONS FOR AFFORDABLE RENTAL HOUSING

There is NOT a current site compatibility certificate for affordable rental housing (of which the council is aware), issued under clause 37 of State Environmental Planning Policy (Affordable Rental Housing) 2007 in respect of proposed development on the land.

PAPER SUBDIVISION INFORMATION

There is NOT an adopted development plan or subdivision order that applies to the land.

SITE VERIFICATION CERTIFICATE

There is NOT a current site verification certificate (of which the council is aware), issued under clause 17C of State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007, in relation to the land.

LOOSE-FILL ASBESTOS INSULATION

There are NO residential premises located on this land that are listed on the register that are required to be maintained under Division 1A of Part 8 of the *Home Building Act 1989*.

The accuracy and currency of the details provided by agencies external to Council have not be verified by Muswellbrook Shire Council and should be verified by the applicant.

ADDITIONAL INFORMATION PURSUANT TO SECTION 149(5) OF THE ACT

Council is unaware of any other relevant matters that may affect the land.

For further information, please contact the
Environmental Services Department.

S J McDonald
General Manager

Per: _____

DJ Watson

**PLANNING CERTIFICATE UNDER
SECTION 149 ENVIRONMENTAL PLANNING
AND ASSESSMENT ACT 1979**

Enquiries Environmental Services
Contact 02 6549 3700
Invoice no. 43721
Your reference Application

Date: 3 October 2017

Assessment: 127845

Cert No: 21286

MACH Energy Australia Pty Ltd
GPO Box 94
BRISBANE QLD 4001

Owner (as recorded by Council)

**Wesfarmers Bengalla Limited & Taipower Bengalla
Pty Limited & others**

Property Description: BENGALLA ROAD MUSWELLBROOK 2333
LOT: 28 DP: 1072668

Land to which the certificate relates

The land to which this certificate relates, being the lot or lots described on the application form, is shown in the Council's records as being situated at the street address described above. The information contained in this certificate relates only to the lot or lots described on this certificate. Separate planning certificates can be obtained upon application for the other lots, those certificates may contain different information than is contained in this certificate.

CERTIFICATE UNDER SECTION 149(2) ENVIRONMENTAL PLANNING & ASSESSMENT ACT

LOCAL ENVIRONMENTAL PLANS

PLANNING INSTRUMENT

Muswellbrook Local Environmental Plan 2009

LAND USE ZONING

RU1 Primary Production

PERMITTED WITHOUT CONSENT

Extensive agriculture; Home occupations; Intensive plant agriculture

PERMITTED WITH CONSENT

Air transport facilities; Airstrips; Animal boarding or training establishments; Aquaculture; Camping grounds; Caravan parks; Cellar door premises; Cemeteries; Community facilities; Crematoria; Depots; Dwelling houses; Educational establishments; Environmental facilities; Environmental protection works; Extractive industries; Farm buildings; Flood mitigation works; Forestry; Function centres; Group homes; Hazardous industries; Health consulting rooms; Heavy industrial storage establishments; Helipads; Highway service centres; Home-based child care; Home businesses; Home industries; Industrial retail outlets; Information and education facilities; Intensive livestock agriculture; Intensive plant agriculture; Kiosks; Landscaping material supplies; Open cut mining; Places of public worship; Plant nurseries; Recreation areas; Recreation facilities (indoor); Recreation facilities (major); Recreation facilities (outdoor); Research stations; Restaurants or cafes; Roads; Roadside stalls; Rural industries; Rural supplies; Rural worker's dwellings; Secondary dwellings; Service stations; Sewerage systems; Signage; Storage premises; Take away food and drink premises; Tourist and visitor accommodation; Transport depots; Truck depots; Turf farming; Veterinary hospitals; Waste disposal facilities; Water supply systems.

Date: 5 October 2017

Cert No: 21286

PROHIBITED

Any development not specified above.

MINIMUM LAND DIMENSIONS FOR THE ERECTION OF A DWELLING

Under the provisions of the Muswellbrook Local Environmental Plan 2009, the minimum subdivision lot size is 80ha and is also subject to the provisions detailed below.

Land zoned RU1 Primary Production may, with the consent of Council, be subdivided for the purpose of primary production to create a lot less than the minimum lot size. However, such a lot cannot be created if an existing dwelling would, as the result of the subdivision, be situated on the lot. A dwelling cannot be erected on such a lot created.

Development consent must not be granted to the subdivision of a lot in a strata plan or community title scheme on land zoned RU1 Primary Production that is used, or proposed to be used, for residential accommodation or tourist and visitor accommodation.

Only one dwelling house may be erected on land zoned RU1 Primary Production only if the land is:

- (a) a lot created in accordance with clause 4.1 of the LEP 2009, or
- (b) a lot created before the LEP 2009 commenced and on which the erection of a dwelling house was permissible immediately before that commencement, or
- (c) a lot created before the LEP 2009 commenced that is at least the minimum lot size specified for that lot by the Lot Size Map, or
- (d) a lot for which subdivision approval was granted before the LEP 2009 commenced and on which the erection of a dwelling house would have been permissible immediately before that commencement, or
- (e) an existing holding.

NOTE: EXISTING HOLDING means all adjoining land, even if separated by a road or railway, held in the same ownership:

- (a) on 11 April 1974, and
- (b) at the time of lodging a development application for the erection of a dwelling house under this clause.

and includes any other land adjoining that land acquired by the owner since 11 April 1974.

NOTE: The owner in whose ownership all the land is at the time the application is lodged need not be the same person as the owner in whose ownership all the land was on the stated date.

WHETHER THE LAND INCLUDES OR COMPRISES CRITICAL HABITAT

The subject land has not been declared as critical habitat.

WHETHER THE LAND IS IN A CONSERVATION AREA

The subject land is not known to be in a conservation area.

Date: 5 October 2017

Cert No: 21286

WHETHER AN ITEM OF ENVIRONMENTAL HERITAGE IS SITUATED ON THE LAND

The land is NOT affected by any known or listed heritage item.

STATE ENVIRONMENTAL PLANNING POLICIES (EXEMPT & COMPLYING DEVELOPMENT CODES 2008)

| |
|---|
| CERTIFICATE UNDER SECTION 149(2) IDENTIFYING THE INFORMATION SET OUT IN CLAUSE 3 OF SCHEDULE 4 OF THE ENVIRONMENTAL PLANNING & ASSESSMENT REGULATIONS |
|---|

Part 3 General Housing Code

Not applicable to the land to which this certificate relates.

Part 3A Rural Housing Code

YES. Complying development specified in the Rural Housing Code may be carried out on this land in certain circumstances pursuant to Clause 1.19 of State Environmental Planning Policy (Exempt and Complying Development Codes) 2008.

Part 4 Housing Alterations Code

YES. Complying development specified in the Housing Alterations Code may be carried out on this land in certain circumstances pursuant to Clause 1.19 of State Environmental Planning Policy (Exempt and Complying Development Codes) 2008.

Part 4A General Development Code

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Part 5 Commercial and Industrial Alterations Code

Not applicable to the land to which this certificate relates.

Part 5A Commercial and Industrial (New Buildings and Additions) Code

Not applicable to the land to which this certificate relates.

Part 6 Subdivision Code

YES. Complying development specified in the Subdivision Code may be carried out on this land in certain circumstances pursuant to Clause 1.19 of State Environmental Planning Policy (Exempt and Complying Development Codes) 2008.

Part 7 Demolition Code

YES. Complying development specified in the Demolition Code may be carried out on this land in certain circumstances pursuant to Clause 1.19 of State Environmental Planning Policy (Exempt and Complying Development Codes) 2008.

Date: 5 October 2017

Cert No: 21286

Part 8 Fire Safety Code

YES. Complying development specified in the Fire Safety Code may be carried out on this land in certain circumstances pursuant to Clause 1.19 of State Environmental Planning Policy (Exempt and Complying Development Codes) 2008.

STATE ENVIRONMENTAL PLANNING POLICIES

The following State Environmental Planning Policies apply to land within the Muswellbrook Shire LGA:-

No. 21. Caravan Parks - Ensures that where caravan parks or camping grounds are permitted under an environmental planning instrument, movable dwellings, as defined in the Local Government Act 1993, are also permitted. The policy ensures that development consent is required for new caravan parks and camping grounds and for additional long-term sites in existing caravan parks.

No. 30. Intensive Agriculture - Requires development consent for cattle feedlots having a capacity of 50 or more cattle or piggeries having a capacity of 200 or more pigs. The policy sets out information and public notification requirements to ensure there are effective planning control over this export-driven rural industry. The policy does not alter if, and where, such development is permitted, or the functions of the consent authority.

No. 33. Hazardous and Offensive Development - Provides new definitions for 'hazardous industry', 'hazardous storage establishment', 'offensive industry' and 'offensive storage establishment'. The definitions apply to all planning instruments, existing and future. The new definitions enable decisions to approve or refuse a development to be based on the merit of proposal. The consent authority must carefully consider the specifics of the case, the location and the way in which the proposed activity is to be carried out. The policy also requires specified matters to be considered for proposals that are 'potentially hazardous' or 'potentially offensive' as defined in the policy. For example, any application to carry out a potentially hazardous or potentially offensive development is to be advertised for public comment, and applications to carry out potentially hazardous development must be supported by a preliminary hazard analysis (PHA).

No. 36. Manufactured Home Estates - Helps establish well-designed and properly serviced manufactured home estates (MHEs) in suitable locations. Affordability and security of tenure for residents are important aspects. To enable the immediate development of estates, the policy allows MHEs to be located on certain land where caravan parks are permitted. There are however, criteria that a proposal must satisfy before the local council can approve development.

No. 44. Koala Habitat Protection - Encourages the proper conservation and management of areas of natural vegetation that provide habitat for koalas to ensure a permanent free-living population over their present range and reverse the current trend of koala population decline.

No. 55. Remediation of Land - Introduces state-wide planning controls for the remediation of contaminated land. The policy states that land must not be developed if it is unsuitable for a proposed use because it is contaminated. If the land is unsuitable, remediation must take place before the land is developed. The policy makes remediation permissible across the State, defines when consent is required, requires all remediation to comply with standards, ensures land is investigated if contamination is suspected, and requires councils to be notified of all remediation proposals.

No. 62. Sustainable Aquaculture - The policy implements the regional strategies already developed by creating a simple approach to identify and categorise aquaculture development on the basis of its potential environmental impact. The SEPP also identifies aquaculture development as a designated development only where there are potential environmental risks.

Date: 5 October 2017

Cert No: 21286

No. 64. Advertising and Signage - Aims to improve the amenity of urban and natural settings by managing the impact of outdoor advertising. The policy responds to growing concerns from the community, the advertising industry and local government that existing controls and guidelines were not effective. SEPP No. 64 offers the comprehensive provisions and consistent approach needed. SEPP 64 – Advertising and Signage: Explanatory Information should be read in conjunction with the policy.

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SEPP (Housing for Seniors or People with a Disability) 2004 - Encourage the development of high quality accommodation for our ageing population and for people who have disabilities - housing that is in keeping with the local neighbourhood

SEPP (Building Sustainability Index: BASIX) 2004 - This SEPP operates in conjunction with Environmental Planning and Assessment Amendment (Building Sustainability Index: BASIX) Regulation 2004 to ensure the effective introduction of BASIX in NSW. The SEPP ensures consistency in the implementation of BASIX throughout the State by overriding competing provisions in other environmental planning instruments and development control plans, and specifying that SEPP 1 does not apply in relation to any development standard arising under BASIX.

SEPP (Infrastructure) 2007 - Provides a consistent planning regime for infrastructure and the provision of services across NSW, along with providing for consultation with relevant public authorities during the assessment process. The SEPP supports greater flexibility in the location of infrastructure and service facilities along with improved regulatory certainty and efficiency.

SEPP (Mining, Petroleum Production and Extractive Industries) 2007 - This Policy aims to provide for the proper management and development of mineral, petroleum and extractive material resources for the social and economic welfare of the State. The Policy establishes appropriate planning controls to encourage ecologically sustainable development.

SEPP (Miscellaneous Consent Provisions) 2007 - Provides for the erection of temporary structures and the use of places of public entertainment while protecting public safety and local amenity. The SEPP supports the transfer of the regulation of places of public entertainment and temporary structures (such as tents, marquees and booths) from the Local Government Act 1993 to the Environmental Planning and Assessment Act 1979.

SEPP (Rural Lands) 2008 - The aim of this policy is to facilitate the orderly and economic use and development of rural lands for rural and related purposes.

SEPP (Exempt and Complying Development Codes) 2008 – This policy streamlines assessment processes for development that complies with specified development standards. The policy provides exempt codes that have State-wide application, identifying, in the General Exempt Development Code, types of development that are of minimal environmental impact that may be carried out without the need for development consent.

SEPP (Affordable Rental Housing) 2009 – The aims of this policy are to provide a consistent planning regime for the provision of affordable rental housing; facilitate the effective delivery of new affordable rental housing by providing incentives by way of expanding zoning permissibility, floor space ratio bonuses and non-discretionary development standards; facilitate the retention and mitigate the loss of existing affordable rental housing; employ a balanced approach between obligations for retaining and mitigating the loss of existing affordable rental housing, and incentives for the development of new

Date: 5 October 2017

Cert No: 21286

affordable rental housing; facilitate an expanding role for not-for-profit-providers of affordable rental housing; support local business centres by providing affordable rental housing for workers close to places of work; and facilitate the development of housing for the homeless and other disadvantaged people who may require support services, including group homes and supportive accommodation.

SEPP (State and Regional Development) 2011 – The aims of this policy are to identify development that is State significant development; identify development that is State significant infrastructure and critical State significant infrastructure; and confer functions on joint regional planning panels to determine development applications.

Further details regarding these State Environmental Planning Policies and the circumstances in which they may apply to the subject and can be found on the Department of Planning's website.

REGIONAL PLANNING INSTRUMENTS

There are no Regional Environmental Plans applying within the Muswellbrook Shire Council area.

DEVELOPMENT CONTROL PLANS

This land is affected by the following Development Control Plans:
Muswellbrook Shire Development Control Plan 2009

COASTAL PROTECTION

The land IS NOT affected by the operations of Sections 38 and 39 of the *Coastal Protection Act* 1979.

MINE SUBSIDENCE

The land IS NOT WITHIN a Mine Subsidence District proclaimed under section 15 of the Mine Subsidence Compensation Act, 1961.

ROAD WIDENING AND ROAD REALIGNMENT

The subject land IS NOT 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.

COUNCIL AND OTHER PUBLIC AUTHORITY POLICIES ON HAZARD RISK RESTRICTIONS

The land IS NOT affected by a policy adopted by the council, or 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).

FLOOD RELATED DEVELOPMENT CONTROLS INFORMATION

The Hunter River Flood Study 2014 shows the land to be affected by flooding.

LAND RESERVED FOR ACQUISITION

There are NOT any environmental planning instruments; deemed environmental planning instruments or draft environmental planning instruments applying to the land that provide for the acquisition of the

Date: 5 October 2017

Cert No: 21286

land by a public authority, as referred to in section 27 of the Environmental Planning and Assessment Act 1979.

CONTRIBUTIONS PLANS

The Muswellbrook Section 94 Contributions Plan 2001 and Muswellbrook Section 94A Contributions Plan 2009 apply to all land within the Muswellbrook Shire Local Government Area.

BIODIVERSITY CERTIFIED LAND

The land IS NOT biodiversity certified land (within the meaning of Part 7AA of the Threatened Species Conservation Act 1995)

BIOBANKING AGREEMENTS

The land IS NOT affected by a biobanking agreement under Part 7A of the *Threatened Species Conservation Act 1995*.

MATTERS RELATING TO THE MANAGEMENT OF CONTAMINATED LAND

- (a) The land to which this certificate relates is NOT within land declared to be significantly contaminated land under the Contaminated Land Management Act 2008 at the date when the certificate is issued.
- (b) The land to which this certificate relates is NOT subject to a management order under the Contaminated Land Management Act 2008 at the date when the certificate is issued.
- (c) The land to which this certificate relates is NOT the subject of approved voluntary management proposal the subject of the Environment Protection Authority's agreement under the Contaminated Land Management Act 2008 at the date when the certificate is issued.
- (d) The land to which this certificate relates is NOT the subject to an ongoing maintenance order under the Contaminated Land Management Act 2008 at the date when the certificate is issued.
- (e) The land to which this certificate relates has NOT been the subject of a site audit statement provided to Muswellbrook Shire Council.

BUSH FIRE PRONE LAND

The land IS NOT bushfire prone land.

PROPERTY VEGETATION PLANS

Council has NOT been notified of the existence of such a plan or if the land is land to which a property vegetation plan under the Native Vegetation Act 2003 applies.

ORDERS UNDER TREES (DISPUTES BETWEEN NEIGHBOURS) ACT 2006

Council has NOT been notified of any order made under the Trees (Disputes Between Neighbours) Act 2006 to carry out work in relation to a tree on the land.

Date: 5 October 2017

Cert No: 21286

DIRECTIONS UNDER PART 3A

There is NOT a direction by the Minister in force under section 75P (2) (c1) of the Act in relation to prohibiting or restricting the carrying out of a project or a stage of a project on the land under Part 4 of the Act.

SITE COMPATIBILITY CERTIFICATES AND CONDITIONS FOR SENIORS HOUSING

There is NOT a current site compatibility certificate (of which the council is aware), issued under clause 25 of State Environmental Planning Policy (Housing for Seniors or People with a Disability) 2004 in respect of proposed development on the land.

SITE COMPATIBILITY CERTIFICATES FOR INFRASTRUCTURE

There is NOT a valid site compatibility certificate (of which the council is aware), issued under clause 19 of State Environmental Planning Policy (Infrastructure) 2007 in respect of proposed development on the land.

SITE COMPATIBILITY CERTIFICATES AND CONDITIONS FOR AFFORDABLE RENTAL HOUSING

There is NOT a current site compatibility certificate for affordable rental housing (of which the council is aware), issued under clause 37 of State Environmental Planning Policy (Affordable Rental Housing) 2007 in respect of proposed development on the land.

PAPER SUBDIVISION INFORMATION

There is NOT an adopted development plan or subdivision order that applies to the land.

SITE VERIFICATION CERTIFICATE

There is NOT a current site verification certificate (of which the council is aware), issued under clause 17C of State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007, in relation to the land.

LOOSE-FILL ASBESTOS INSULATION

There are NO residential premises located on this land that are listed on the register that are required to be maintained under Division 1A of Part 8 of the *Home Building Act 1989*.

The accuracy and currency of the details provided by agencies external to Council have not be verified by Muswellbrook Shire Council and should be verified by the applicant.

ADDITIONAL INFORMATION PURSUANT TO SECTION 149(5) OF THE ACT

Council is unaware of any other relevant matters that may affect the land.

For further information, please contact the
Environmental Services Department.

S J McDonald
General Manager

Per: _____

DJ Watson

**PLANNING CERTIFICATE UNDER
SECTION 149 ENVIRONMENTAL PLANNING
AND ASSESSMENT ACT 1979**

Enquiries Environmental Services
Contact 02 6549 3700
Invoice no. 43721
Your reference Application

Date: 4 October 2017

Assessment: 127845

Cert No: 21293

MACH Energy Australia Pty Ltd
GPO Box 94
BRISBANE QLD 4001

Owner (as recorded by Council)

**Wesfarmers Bengalla Limited & Taipower Bengalla
Pty Limited & others**

Property Description: BENGALLA ROAD MUSWELLBROOK 2333
LOT: 123 DP: 700578

Land to which the certificate relates

The land to which this certificate relates, being the lot or lots described on the application form, is shown in the Council's records as being situated at the street address described above. The information contained in this certificate relates only to the lot or lots described on this certificate. Separate planning certificates can be obtained upon application for the other lots, those certificates may contain different information than is contained in this certificate.

CERTIFICATE UNDER SECTION 149(2) ENVIRONMENTAL PLANNING & ASSESSMENT ACT

LOCAL ENVIRONMENTAL PLANS

PLANNING INSTRUMENT

Muswellbrook Local Environmental Plan 2009

LAND USE ZONING

RU1 Primary Production

PERMITTED WITHOUT CONSENT

Extensive agriculture; Home occupations; Intensive plant agriculture

PERMITTED WITH CONSENT

Air transport facilities; Airstrips; Animal boarding or training establishments; Aquaculture; Camping grounds; Caravan parks; Cellar door premises; Cemeteries; Community facilities; Crematoria; Depots; Dwelling houses; Educational establishments; Environmental facilities; Environmental protection works; Extractive industries; Farm buildings; Flood mitigation works; Forestry; Function centres; Group homes; Hazardous industries; Health consulting rooms; Heavy industrial storage establishments; Helipads; Highway service centres; Home-based child care; Home businesses; Home industries; Industrial retail outlets; Information and education facilities; Intensive livestock agriculture; Intensive plant agriculture; Kiosks; Landscaping material supplies; Open cut mining; Places of public worship; Plant nurseries; Recreation areas; Recreation facilities (indoor); Recreation facilities (major); Recreation facilities (outdoor); Research stations; Restaurants or cafes; Roads; Roadside stalls; Rural industries; Rural supplies; Rural worker's dwellings; Secondary dwellings; Service stations; Sewerage systems; Signage; Storage premises; Take away food and drink premises; Tourist and visitor accommodation; Transport depots; Truck depots; Turf farming; Veterinary hospitals; Waste disposal facilities; Water supply systems.

Date: 5 October 2017

Cert No: 21293

PROHIBITED

Any development not specified above.

MINIMUM LAND DIMENSIONS FOR THE ERECTION OF A DWELLING

Under the provisions of the Muswellbrook Local Environmental Plan 2009, the minimum subdivision lot size is 80ha and is also subject to the provisions detailed below.

Land zoned RU1 Primary Production may, with the consent of Council, be subdivided for the purpose of primary production to create a lot less than the minimum lot size. However, such a lot cannot be created if an existing dwelling would, as the result of the subdivision, be situated on the lot. A dwelling cannot be erected on such a lot created.

Development consent must not be granted to the subdivision of a lot in a strata plan or community title scheme on land zoned RU1 Primary Production that is used, or proposed to be used, for residential accommodation or tourist and visitor accommodation.

Only one dwelling house may be erected on land zoned RU1 Primary Production only if the land is:

- (a) a lot created in accordance with clause 4.1 of the LEP 2009, or
- (b) a lot created before the LEP 2009 commenced and on which the erection of a dwelling house was permissible immediately before that commencement, or
- (c) a lot created before the LEP 2009 commenced that is at least the minimum lot size specified for that lot by the Lot Size Map, or
- (d) a lot for which subdivision approval was granted before the LEP 2009 commenced and on which the erection of a dwelling house would have been permissible immediately before that commencement, or
- (e) an existing holding.

NOTE: EXISTING HOLDING means all adjoining land, even if separated by a road or railway, held in the same ownership:

- (a) on 11 April 1974, and
- (b) at the time of lodging a development application for the erection of a dwelling house under this clause.

and includes any other land adjoining that land acquired by the owner since 11 April 1974.

NOTE: The owner in whose ownership all the land is at the time the application is lodged need not be the same person as the owner in whose ownership all the land was on the stated date.

WHETHER THE LAND INCLUDES OR COMPRISES CRITICAL HABITAT

The subject land has not been declared as critical habitat.

WHETHER THE LAND IS IN A CONSERVATION AREA

The subject land is not known to be in a conservation area.

Date: 5 October 2017

Cert No: 21293

WHETHER AN ITEM OF ENVIRONMENTAL HERITAGE IS SITUATED ON THE LAND

The land is NOT affected by any known or listed heritage item.

STATE ENVIRONMENTAL PLANNING POLICIES (EXEMPT & COMPLYING DEVELOPMENT CODES 2008)

| |
|---|
| CERTIFICATE UNDER SECTION 149(2) IDENTIFYING THE INFORMATION SET OUT IN CLAUSE 3 OF SCHEDULE 4 OF THE ENVIRONMENTAL PLANNING & ASSESSMENT REGULATIONS |
|---|

Part 3 General Housing Code

Not applicable to the land to which this certificate relates.

Part 3A Rural Housing Code

YES. Complying development specified in the Rural Housing Code may be carried out on this land in certain circumstances pursuant to Clause 1.19 of State Environmental Planning Policy (Exempt and Complying Development Codes) 2008.

Part 4 Housing Alterations Code

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Part 4A General Development Code

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Part 5 Commercial and Industrial Alterations Code

Not applicable to the land to which this certificate relates.

Part 5A Commercial and Industrial (New Buildings and Additions) Code

Not applicable to the land to which this certificate relates.

Part 6 Subdivision Code

YES. Complying development specified in the Subdivision Code may be carried out on this land in certain circumstances pursuant to Clause 1.19 of State Environmental Planning Policy (Exempt and Complying Development Codes) 2008.

Part 7 Demolition Code

YES. Complying development specified in the Demolition Code may be carried out on this land in certain circumstances pursuant to Clause 1.19 of State Environmental Planning Policy (Exempt and Complying Development Codes) 2008.

Date: 5 October 2017

Cert No: 21293

Part 8 Fire Safety Code

YES. Complying development specified in the Fire Safety Code may be carried out on this land in certain circumstances pursuant to Clause 1.19 of State Environmental Planning Policy (Exempt and Complying Development Codes) 2008.

STATE ENVIRONMENTAL PLANNING POLICIES

The following State Environmental Planning Policies apply to land within the Muswellbrook Shire LGA:-

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SEPP (Infrastructure) 2007 - Provides a consistent planning regime for infrastructure and the provision of services across NSW, along with providing for consultation with relevant public authorities during the assessment process. The SEPP supports greater flexibility in the location of infrastructure and service facilities along with improved regulatory certainty and efficiency.

SEPP (Mining, Petroleum Production and Extractive Industries) 2007 - This Policy aims to provide for the proper management and development of mineral, petroleum and extractive material resources for the social and economic welfare of the State. The Policy establishes appropriate planning controls to encourage ecologically sustainable development.

SEPP (Miscellaneous Consent Provisions) 2007 - Provides for the erection of temporary structures and the use of places of public entertainment while protecting public safety and local amenity. The SEPP supports the transfer of the regulation of places of public entertainment and temporary structures (such as tents, marquees and booths) from the Local Government Act 1993 to the Environmental Planning and Assessment Act 1979.

SEPP (Rural Lands) 2008 - The aim of this policy is to facilitate the orderly and economic use and development of rural lands for rural and related purposes.

SEPP (Exempt and Complying Development Codes) 2008 – This policy streamlines assessment processes for development that complies with specified development standards. The policy provides exempt codes that have State-wide application, identifying, in the General Exempt Development Code, types of development that are of minimal environmental impact that may be carried out without the need for development consent.

SEPP (Affordable Rental Housing) 2009 – The aims of this policy are to provide a consistent planning regime for the provision of affordable rental housing; facilitate the effective delivery of new affordable rental housing by providing incentives by way of expanding zoning permissibility, floor space ratio bonuses and non-discretionary development standards; facilitate the retention and mitigate the loss of existing affordable rental housing; employ a balanced approach between obligations for retaining and mitigating the loss of existing affordable rental housing, and incentives for the development of new

Date: 5 October 2017

Cert No: 21293

affordable rental housing; facilitate an expanding role for not-for-profit-providers of affordable rental housing; support local business centres by providing affordable rental housing for workers close to places of work; and facilitate the development of housing for the homeless and other disadvantaged people who may require support services, including group homes and supportive accommodation.

SEPP (State and Regional Development) 2011 – The aims of this policy are to identify development that is State significant development; identify development that is State significant infrastructure and critical State significant infrastructure; and confer functions on joint regional planning panels to determine development applications.

Further details regarding these State Environmental Planning Policies and the circumstances in which they may apply to the subject and can be found on the Department of Planning's website.

REGIONAL PLANNING INSTRUMENTS

There are no Regional Environmental Plans applying within the Muswellbrook Shire Council area.

DEVELOPMENT CONTROL PLANS

This land is affected by the following Development Control Plans:
Muswellbrook Shire Development Control Plan 2009

COASTAL PROTECTION

The land IS NOT affected by the operations of Sections 38 and 39 of the *Coastal Protection Act* 1979.

MINE SUBSIDENCE

The land IS NOT WITHIN a Mine Subsidence District proclaimed under section 15 of the Mine Subsidence Compensation Act, 1961.

ROAD WIDENING AND ROAD REALIGNMENT

The subject land IS NOT 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.

COUNCIL AND OTHER PUBLIC AUTHORITY POLICIES ON HAZARD RISK RESTRICTIONS

The land IS NOT affected by a policy adopted by the council, or 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).

FLOOD RELATED DEVELOPMENT CONTROLS INFORMATION

The Hunter River Flood Study 2014 shows the land to be affected by flooding.

LAND RESERVED FOR ACQUISITION

There are NOT any environmental planning instruments; deemed environmental planning instruments or draft environmental planning instruments applying to the land that provide for the acquisition of the

Date: 5 October 2017

Cert No: 21293

land by a public authority, as referred to in section 27 of the Environmental Planning and Assessment Act 1979.

CONTRIBUTIONS PLANS

The Muswellbrook Section 94 Contributions Plan 2001 and Muswellbrook Section 94A Contributions Plan 2009 apply to all land within the Muswellbrook Shire Local Government Area.

BIODIVERSITY CERTIFIED LAND

The land IS NOT biodiversity certified land (within the meaning of Part 7AA of the Threatened Species Conservation Act 1995)

BIOBANKING AGREEMENTS

The land IS NOT affected by a biobanking agreement under Part 7A of the *Threatened Species Conservation Act 1995*.

MATTERS RELATING TO THE MANAGEMENT OF CONTAMINATED LAND

- (a) The land to which this certificate relates is NOT within land declared to be significantly contaminated land under the Contaminated Land Management Act 2008 at the date when the certificate is issued.
- (b) The land to which this certificate relates is NOT subject to a management order under the Contaminated Land Management Act 2008 at the date when the certificate is issued.
- (c) The land to which this certificate relates is NOT the subject of approved voluntary management proposal the subject of the Environment Protection Authority's agreement under the Contaminated Land Management Act 2008 at the date when the certificate is issued.
- (d) The land to which this certificate relates is NOT the subject to an ongoing maintenance order under the Contaminated Land Management Act 2008 at the date when the certificate is issued.
- (e) The land to which this certificate relates has NOT been the subject of a site audit statement provided to Muswellbrook Shire Council.

BUSH FIRE PRONE LAND

The land IS NOT bushfire prone land.

PROPERTY VEGETATION PLANS

Council has NOT been notified of the existence of such a plan or if the land is land to which a property vegetation plan under the Native Vegetation Act 2003 applies.

ORDERS UNDER TREES (DISPUTES BETWEEN NEIGHBOURS) ACT 2006

Council has NOT been notified of any order made under the Trees (Disputes Between Neighbours) Act 2006 to carry out work in relation to a tree on the land.

Date: 5 October 2017

Cert No: 21293

DIRECTIONS UNDER PART 3A

There is NOT a direction by the Minister in force under section 75P (2) (c1) of the Act in relation to prohibiting or restricting the carrying out of a project or a stage of a project on the land under Part 4 of the Act.

SITE COMPATIBILITY CERTIFICATES AND CONDITIONS FOR SENIORS HOUSING

There is NOT a current site compatibility certificate (of which the council is aware), issued under clause 25 of State Environmental Planning Policy (Housing for Seniors or People with a Disability) 2004 in respect of proposed development on the land.

SITE COMPATIBILITY CERTIFICATES FOR INFRASTRUCTURE

There is NOT a valid site compatibility certificate (of which the council is aware), issued under clause 19 of State Environmental Planning Policy (Infrastructure) 2007 in respect of proposed development on the land.

SITE COMPATIBILITY CERTIFICATES AND CONDITIONS FOR AFFORDABLE RENTAL HOUSING

There is NOT a current site compatibility certificate for affordable rental housing (of which the council is aware), issued under clause 37 of State Environmental Planning Policy (Affordable Rental Housing) 2007 in respect of proposed development on the land.

PAPER SUBDIVISION INFORMATION

There is NOT an adopted development plan or subdivision order that applies to the land.

SITE VERIFICATION CERTIFICATE

There is NOT a current site verification certificate (of which the council is aware), issued under clause 17C of State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007, in relation to the land.

LOOSE-FILL ASBESTOS INSULATION

There are NO residential premises located on this land that are listed on the register that are required to be maintained under Division 1A of Part 8 of the *Home Building Act 1989*.

The accuracy and currency of the details provided by agencies external to Council have not be verified by Muswellbrook Shire Council and should be verified by the applicant.

ADDITIONAL INFORMATION PURSUANT TO SECTION 149(5) OF THE ACT

Council is unaware of any other relevant matters that may affect the land.

For further information, please contact the
Environmental Services Department.

S J McDonald
General Manager

Per: _____

DJ Watson

**PLANNING CERTIFICATE UNDER
SECTION 149 ENVIRONMENTAL PLANNING
AND ASSESSMENT ACT 1979**

Enquiries Environmental Services
Contact 02 6549 3700
Invoice no. 43721
Your reference Application

Date: 4 October 2017

Assessment: 127852

Cert No: 21294

MACH Energy Australia Pty Ltd
GPO Box 94
BRISBANE QLD 4001

Owner (as recorded by Council)

**New Hope Bengalla Pty Ltd & Taipower Bengalla
Pty Limited & others**

Property Description: BENGALLA ROAD MUSWELLBROOK 2333
LOT: 124 DP: 700578

Land to which the certificate relates

The land to which this certificate relates, being the lot or lots described on the application form, is shown in the Council's records as being situated at the street address described above. The information contained in this certificate relates only to the lot or lots described on this certificate. Separate planning certificates can be obtained upon application for the other lots, those certificates may contain different information than is contained in this certificate.

CERTIFICATE UNDER SECTION 149(2) ENVIRONMENTAL PLANNING & ASSESSMENT ACT

LOCAL ENVIRONMENTAL PLANS

PLANNING INSTRUMENT

Muswellbrook Local Environmental Plan 2009

LAND USE ZONING

RU1 Primary Production

PERMITTED WITHOUT CONSENT

Extensive agriculture; Home occupations; Intensive plant agriculture

PERMITTED WITH CONSENT

Air transport facilities; Airstrips; Animal boarding or training establishments; Aquaculture; Camping grounds; Caravan parks; Cellar door premises; Cemeteries; Community facilities; Crematoria; Depots; Dwelling houses; Educational establishments; Environmental facilities; Environmental protection works; Extractive industries; Farm buildings; Flood mitigation works; Forestry; Function centres; Group homes; Hazardous industries; Health consulting rooms; Heavy industrial storage establishments; Helipads; Highway service centres; Home-based child care; Home businesses; Home industries; Industrial retail outlets; Information and education facilities; Intensive livestock agriculture; Intensive plant agriculture; Kiosks; Landscaping material supplies; Open cut mining; Places of public worship; Plant nurseries; Recreation areas; Recreation facilities (indoor); Recreation facilities (major); Recreation facilities (outdoor); Research stations; Restaurants or cafes; Roads; Roadside stalls; Rural industries; Rural supplies; Rural worker's dwellings; Secondary dwellings; Service stations; Sewerage systems; Signage; Storage premises; Take away food and drink premises; Tourist and visitor accommodation; Transport depots; Truck depots; Turf farming; Veterinary hospitals; Waste disposal facilities; Water supply systems.

Date: 5 October 2017

Cert No: 21294

PROHIBITED

Any development not specified above.

MINIMUM LAND DIMENSIONS FOR THE ERECTION OF A DWELLING

Under the provisions of the Muswellbrook Local Environmental Plan 2009, the minimum subdivision lot size is 80ha and is also subject to the provisions detailed below.

Land zoned RU1 Primary Production may, with the consent of Council, be subdivided for the purpose of primary production to create a lot less than the minimum lot size. However, such a lot cannot be created if an existing dwelling would, as the result of the subdivision, be situated on the lot. A dwelling cannot be erected on such a lot created.

Development consent must not be granted to the subdivision of a lot in a strata plan or community title scheme on land zoned RU1 Primary Production that is used, or proposed to be used, for residential accommodation or tourist and visitor accommodation.

Only one dwelling house may be erected on land zoned RU1 Primary Production only if the land is:

- (a) a lot created in accordance with clause 4.1 of the LEP 2009, or
- (b) a lot created before the LEP 2009 commenced and on which the erection of a dwelling house was permissible immediately before that commencement, or
- (c) a lot created before the LEP 2009 commenced that is at least the minimum lot size specified for that lot by the Lot Size Map, or
- (d) a lot for which subdivision approval was granted before the LEP 2009 commenced and on which the erection of a dwelling house would have been permissible immediately before that commencement, or
- (e) an existing holding.

NOTE: EXISTING HOLDING means all adjoining land, even if separated by a road or railway, held in the same ownership:

- (a) on 11 April 1974, and
- (b) at the time of lodging a development application for the erection of a dwelling house under this clause.

and includes any other land adjoining that land acquired by the owner since 11 April 1974.

NOTE: The owner in whose ownership all the land is at the time the application is lodged need not be the same person as the owner in whose ownership all the land was on the stated date.

WHETHER THE LAND INCLUDES OR COMPRISES CRITICAL HABITAT

The subject land has not been declared as critical habitat.

WHETHER THE LAND IS IN A CONSERVATION AREA

The subject land is not known to be in a conservation area.

Date: 5 October 2017

Cert No: 21294

WHETHER AN ITEM OF ENVIRONMENTAL HERITAGE IS SITUATED ON THE LAND

The land is NOT affected by any known or listed heritage item.

STATE ENVIRONMENTAL PLANNING POLICIES (EXEMPT & COMPLYING DEVELOPMENT CODES 2008)

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| CERTIFICATE UNDER SECTION 149(2) IDENTIFYING THE INFORMATION SET OUT IN CLAUSE 3 OF SCHEDULE 4 OF THE ENVIRONMENTAL PLANNING & ASSESSMENT REGULATIONS |
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Part 3 General Housing Code

Not applicable to the land to which this certificate relates.

Part 3A Rural Housing Code

YES. Complying development specified in the Rural Housing Code may be carried out on this land in certain circumstances pursuant to Clause 1.19 of State Environmental Planning Policy (Exempt and Complying Development Codes) 2008.

Part 4 Housing Alterations Code

YES. Complying development specified in the Housing Alterations Code may be carried out on this land in certain circumstances pursuant to Clause 1.19 of State Environmental Planning Policy (Exempt and Complying Development Codes) 2008.

Part 4A General Development Code

YES. Complying development specified in the General Development Code may be carried out on this land in certain circumstances pursuant to Clause 1.19 of State Environmental Planning Policy (Exempt and Complying Development Codes) 2008.

Part 5 Commercial and Industrial Alterations Code

Not applicable to the land to which this certificate relates.

Part 5A Commercial and Industrial (New Buildings and Additions) Code

Not applicable to the land to which this certificate relates.

Part 6 Subdivision Code

YES. Complying development specified in the Subdivision Code may be carried out on this land in certain circumstances pursuant to Clause 1.19 of State Environmental Planning Policy (Exempt and Complying Development Codes) 2008.

Part 7 Demolition Code

YES. Complying development specified in the Demolition Code may be carried out on this land in certain circumstances pursuant to Clause 1.19 of State Environmental Planning Policy (Exempt and Complying Development Codes) 2008.

Date: 5 October 2017

Cert No: 21294

Part 8 Fire Safety Code

YES. Complying development specified in the Fire Safety Code may be carried out on this land in certain circumstances pursuant to Clause 1.19 of State Environmental Planning Policy (Exempt and Complying Development Codes) 2008.

STATE ENVIRONMENTAL PLANNING POLICIES

The following State Environmental Planning Policies apply to land within the Muswellbrook Shire LGA:-

No. 21. Caravan Parks - Ensures that where caravan parks or camping grounds are permitted under an environmental planning instrument, movable dwellings, as defined in the Local Government Act 1993, are also permitted. The policy ensures that development consent is required for new caravan parks and camping grounds and for additional long-term sites in existing caravan parks.

No. 30. Intensive Agriculture - Requires development consent for cattle feedlots having a capacity of 50 or more cattle or piggeries having a capacity of 200 or more pigs. The policy sets out information and public notification requirements to ensure there are effective planning control over this export-driven rural industry. The policy does not alter if, and where, such development is permitted, or the functions of the consent authority.

No. 33. Hazardous and Offensive Development - Provides new definitions for 'hazardous industry', 'hazardous storage establishment', 'offensive industry' and 'offensive storage establishment'. The definitions apply to all planning instruments, existing and future. The new definitions enable decisions to approve or refuse a development to be based on the merit of proposal. The consent authority must carefully consider the specifics of the case, the location and the way in which the proposed activity is to be carried out. The policy also requires specified matters to be considered for proposals that are 'potentially hazardous' or 'potentially offensive' as defined in the policy. For example, any application to carry out a potentially hazardous or potentially offensive development is to be advertised for public comment, and applications to carry out potentially hazardous development must be supported by a preliminary hazard analysis (PHA).

No. 36. Manufactured Home Estates - Helps establish well-designed and properly serviced manufactured home estates (MHEs) in suitable locations. Affordability and security of tenure for residents are important aspects. To enable the immediate development of estates, the policy allows MHEs to be located on certain land where caravan parks are permitted. There are however, criteria that a proposal must satisfy before the local council can approve development.

No. 44. Koala Habitat Protection - Encourages the proper conservation and management of areas of natural vegetation that provide habitat for koalas to ensure a permanent free-living population over their present range and reverse the current trend of koala population decline.

No. 55. Remediation of Land - Introduces state-wide planning controls for the remediation of contaminated land. The policy states that land must not be developed if it is unsuitable for a proposed use because it is contaminated. If the land is unsuitable, remediation must take place before the land is developed. The policy makes remediation permissible across the State, defines when consent is required, requires all remediation to comply with standards, ensures land is investigated if contamination is suspected, and requires councils to be notified of all remediation proposals.

No. 62. Sustainable Aquaculture - The policy implements the regional strategies already developed by creating a simple approach to identify and categorise aquaculture development on the basis of its potential environmental impact. The SEPP also identifies aquaculture development as a designated development only where there are potential environmental risks.

Date: 5 October 2017

Cert No: 21294

No. 64. Advertising and Signage - Aims to improve the amenity of urban and natural settings by managing the impact of outdoor advertising. The policy responds to growing concerns from the community, the advertising industry and local government that existing controls and guidelines were not effective. SEPP No. 64 offers the comprehensive provisions and consistent approach needed. SEPP 64 – Advertising and Signage: Explanatory Information should be read in conjunction with the policy.

No. 65. Design Quality of Residential Flat Development - Raises the design quality of residential flat development across the state through the application of a series of design principles. The policy provides for the establishment of Design Review Panels to provide independent expert advice to councils on the merit of residential flat development. The accompanying regulation requires the involvement of a qualified designer throughout the design, approval and construction stages.

SEPP (Housing for Seniors or People with a Disability) 2004 - Encourage the development of high quality accommodation for our ageing population and for people who have disabilities - housing that is in keeping with the local neighbourhood

SEPP (Building Sustainability Index: BASIX) 2004 - This SEPP operates in conjunction with Environmental Planning and Assessment Amendment (Building Sustainability Index: BASIX) Regulation 2004 to ensure the effective introduction of BASIX in NSW. The SEPP ensures consistency in the implementation of BASIX throughout the State by overriding competing provisions in other environmental planning instruments and development control plans, and specifying that SEPP 1 does not apply in relation to any development standard arising under BASIX.

SEPP (Infrastructure) 2007 - Provides a consistent planning regime for infrastructure and the provision of services across NSW, along with providing for consultation with relevant public authorities during the assessment process. The SEPP supports greater flexibility in the location of infrastructure and service facilities along with improved regulatory certainty and efficiency.

SEPP (Mining, Petroleum Production and Extractive Industries) 2007 - This Policy aims to provide for the proper management and development of mineral, petroleum and extractive material resources for the social and economic welfare of the State. The Policy establishes appropriate planning controls to encourage ecologically sustainable development.

SEPP (Miscellaneous Consent Provisions) 2007 - Provides for the erection of temporary structures and the use of places of public entertainment while protecting public safety and local amenity. The SEPP supports the transfer of the regulation of places of public entertainment and temporary structures (such as tents, marquees and booths) from the Local Government Act 1993 to the Environmental Planning and Assessment Act 1979.

SEPP (Rural Lands) 2008 - The aim of this policy is to facilitate the orderly and economic use and development of rural lands for rural and related purposes.

SEPP (Exempt and Complying Development Codes) 2008 – This policy streamlines assessment processes for development that complies with specified development standards. The policy provides exempt codes that have State-wide application, identifying, in the General Exempt Development Code, types of development that are of minimal environmental impact that may be carried out without the need for development consent.

SEPP (Affordable Rental Housing) 2009 – The aims of this policy are to provide a consistent planning regime for the provision of affordable rental housing; facilitate the effective delivery of new affordable rental housing by providing incentives by way of expanding zoning permissibility, floor space ratio bonuses and non-discretionary development standards; facilitate the retention and mitigate the loss of existing affordable rental housing; employ a balanced approach between obligations for retaining and mitigating the loss of existing affordable rental housing, and incentives for the development of new

Date: 5 October 2017

Cert No: 21294

affordable rental housing; facilitate an expanding role for not-for-profit-providers of affordable rental housing; support local business centres by providing affordable rental housing for workers close to places of work; and facilitate the development of housing for the homeless and other disadvantaged people who may require support services, including group homes and supportive accommodation.

SEPP (State and Regional Development) 2011 – The aims of this policy are to identify development that is State significant development; identify development that is State significant infrastructure and critical State significant infrastructure; and confer functions on joint regional planning panels to determine development applications.

Further details regarding these State Environmental Planning Policies and the circumstances in which they may apply to the subject and can be found on the Department of Planning's website.

REGIONAL PLANNING INSTRUMENTS

There are no Regional Environmental Plans applying within the Muswellbrook Shire Council area.

DEVELOPMENT CONTROL PLANS

This land is affected by the following Development Control Plans:
Muswellbrook Shire Development Control Plan 2009

COASTAL PROTECTION

The land IS NOT affected by the operations of Sections 38 and 39 of the *Coastal Protection Act* 1979.

MINE SUBSIDENCE

The land IS NOT WITHIN a Mine Subsidence District proclaimed under section 15 of the Mine Subsidence Compensation Act, 1961.

ROAD WIDENING AND ROAD REALIGNMENT

The subject land IS NOT 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.

COUNCIL AND OTHER PUBLIC AUTHORITY POLICIES ON HAZARD RISK RESTRICTIONS

The land IS NOT affected by a policy adopted by the council, or 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).

FLOOD RELATED DEVELOPMENT CONTROLS INFORMATION

The Hunter River Flood Study 2014 shows the land to be affected by flooding.

LAND RESERVED FOR ACQUISITION

There are NOT any environmental planning instruments; deemed environmental planning instruments or draft environmental planning instruments applying to the land that provide for the acquisition of the

Date: 5 October 2017

Cert No: 21294

land by a public authority, as referred to in section 27 of the Environmental Planning and Assessment Act 1979.

CONTRIBUTIONS PLANS

The Muswellbrook Section 94 Contributions Plan 2001 and Muswellbrook Section 94A Contributions Plan 2009 apply to all land within the Muswellbrook Shire Local Government Area.

BIODIVERSITY CERTIFIED LAND

The land IS NOT biodiversity certified land (within the meaning of Part 7AA of the Threatened Species Conservation Act 1995)

BIOBANKING AGREEMENTS

The land IS NOT affected by a biobanking agreement under Part 7A of the *Threatened Species Conservation Act 1995*.

MATTERS RELATING TO THE MANAGEMENT OF CONTAMINATED LAND

- (a) The land to which this certificate relates is NOT within land declared to be significantly contaminated land under the Contaminated Land Management Act 2008 at the date when the certificate is issued.
- (b) The land to which this certificate relates is NOT subject to a management order under the Contaminated Land Management Act 2008 at the date when the certificate is issued.
- (c) The land to which this certificate relates is NOT the subject of approved voluntary management proposal the subject of the Environment Protection Authority's agreement under the Contaminated Land Management Act 2008 at the date when the certificate is issued.
- (d) The land to which this certificate relates is NOT the subject to an ongoing maintenance order under the Contaminated Land Management Act 2008 at the date when the certificate is issued.
- (e) The land to which this certificate relates has NOT been the subject of a site audit statement provided to Muswellbrook Shire Council.

BUSH FIRE PRONE LAND

The land IS NOT bushfire prone land.

PROPERTY VEGETATION PLANS

Council has NOT been notified of the existence of such a plan or if the land is land to which a property vegetation plan under the Native Vegetation Act 2003 applies.

ORDERS UNDER TREES (DISPUTES BETWEEN NEIGHBOURS) ACT 2006

Council has NOT been notified of any order made under the Trees (Disputes Between Neighbours) Act 2006 to carry out work in relation to a tree on the land.

Date: 5 October 2017

Cert No: 21294

DIRECTIONS UNDER PART 3A

There is NOT a direction by the Minister in force under section 75P (2) (c1) of the Act in relation to prohibiting or restricting the carrying out of a project or a stage of a project on the land under Part 4 of the Act.

SITE COMPATIBILITY CERTIFICATES AND CONDITIONS FOR SENIORS HOUSING

There is NOT a current site compatibility certificate (of which the council is aware), issued under clause 25 of State Environmental Planning Policy (Housing for Seniors or People with a Disability) 2004 in respect of proposed development on the land.

SITE COMPATIBILITY CERTIFICATES FOR INFRASTRUCTURE

There is NOT a valid site compatibility certificate (of which the council is aware), issued under clause 19 of State Environmental Planning Policy (Infrastructure) 2007 in respect of proposed development on the land.

SITE COMPATIBILITY CERTIFICATES AND CONDITIONS FOR AFFORDABLE RENTAL HOUSING

There is NOT a current site compatibility certificate for affordable rental housing (of which the council is aware), issued under clause 37 of State Environmental Planning Policy (Affordable Rental Housing) 2007 in respect of proposed development on the land.

PAPER SUBDIVISION INFORMATION

There is NOT an adopted development plan or subdivision order that applies to the land.

SITE VERIFICATION CERTIFICATE

There is NOT a current site verification certificate (of which the council is aware), issued under clause 17C of State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007, in relation to the land.

LOOSE-FILL ASBESTOS INSULATION

There are NO residential premises located on this land that are listed on the register that are required to be maintained under Division 1A of Part 8 of the *Home Building Act 1989*.

The accuracy and currency of the details provided by agencies external to Council have not be verified by Muswellbrook Shire Council and should be verified by the applicant.

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|---|
| ADDITIONAL INFORMATION PURSUANT TO SECTION 149(5) OF THE ACT |
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Council is unaware of any other relevant matters that may affect the land.

For further information, please contact the
Environmental Services Department.

S J McDonald
General Manager

Per: _____

DJ Watson

**PLANNING CERTIFICATE UNDER
SECTION 149 ENVIRONMENTAL PLANNING
AND ASSESSMENT ACT 1979**

Enquiries Environmental Services
Contact 02 6549 3700
Invoice no. 43721
Your reference Application

Date: 29 September 2017

Assessment: 70763

Cert No: 21236

MACH Energy Australia Pty Ltd
GPO Box 94
BRISBANE QLD 4001

Owner (as recorded by Council)

MACH Energy Australia Pty Ltd

Property Description: LOGUES LANE MUSWELLBROOK 2333
LOT: 2 DP: 784436

Land to which the certificate relates

The land to which this certificate relates, being the lot or lots described on the application form, is shown in the Council's records as being situated at the street address described above. The information contained in this certificate relates only to the lot or lots described on this certificate. Separate planning certificates can be obtained upon application for the other lots, those certificates may contain different information than is contained in this certificate.

CERTIFICATE UNDER SECTION 149(2) ENVIRONMENTAL PLANNING & ASSESSMENT ACT

LOCAL ENVIRONMENTAL PLANS

PLANNING INSTRUMENT Muswellbrook Local Environmental Plan 2009

LAND USE ZONING RU1 Primary Production

PERMITTED WITHOUT CONSENT

Extensive agriculture; Home occupations; Intensive plant agriculture

PERMITTED WITH CONSENT

Air transport facilities; Airstrips; Animal boarding or training establishments; Aquaculture; Camping grounds; Caravan parks; Cellar door premises; Cemeteries; Community facilities; Crematoria; Depots; Dwelling houses; Educational establishments; Environmental facilities; Environmental protection works; Extractive industries; Farm buildings; Flood mitigation works; Forestry; Function centres; Group homes; Hazardous industries; Health consulting rooms; Heavy industrial storage establishments; Helipads; Highway service centres; Home-based child care; Home businesses; Home industries; Industrial retail outlets; Information and education facilities; Intensive livestock agriculture; Intensive plant agriculture; Kiosks; Landscaping material supplies; Open cut mining; Places of public worship; Plant nurseries; Recreation areas; Recreation facilities (indoor); Recreation facilities (major); Recreation facilities (outdoor); Research stations; Restaurants or cafes; Roads; Roadside stalls; Rural industries; Rural supplies; Rural worker's dwellings; Secondary dwellings; Service stations; Sewerage systems; Signage; Storage premises; Take away food and drink premises; Tourist and visitor accommodation; Transport depots; Truck depots; Turf farming; Veterinary hospitals; Waste disposal facilities; Water supply systems.

Date: 29 September 2017

Cert No: 21236

PROHIBITED

Any development not specified above.

MINIMUM LAND DIMENSIONS FOR THE ERECTION OF A DWELLING

Under the provisions of the Muswellbrook Local Environmental Plan 2009, the minimum subdivision lot size is 80ha and is also subject to the provisions detailed below.

Land zoned RU1 Primary Production may, with the consent of Council, be subdivided for the purpose of primary production to create a lot less than the minimum lot size. However, such a lot cannot be created if an existing dwelling would, as the result of the subdivision, be situated on the lot. A dwelling cannot be erected on such a lot created.

Development consent must not be granted to the subdivision of a lot in a strata plan or community title scheme on land zoned RU1 Primary Production that is used, or proposed to be used, for residential accommodation or tourist and visitor accommodation.

Only one dwelling house may be erected on land zoned RU1 Primary Production only if the land is:

- (a) a lot created in accordance with clause 4.1 of the LEP 2009, or
- (b) a lot created before the LEP 2009 commenced and on which the erection of a dwelling house was permissible immediately before that commencement, or
- (c) a lot created before the LEP 2009 commenced that is at least the minimum lot size specified for that lot by the Lot Size Map, or
- (d) a lot for which subdivision approval was granted before the LEP 2009 commenced and on which the erection of a dwelling house would have been permissible immediately before that commencement, or
- (e) an existing holding.

NOTE: EXISTING HOLDING means all adjoining land, even if separated by a road or railway, held in the same ownership:

- (a) on 11 April 1974, and
- (b) at the time of lodging a development application for the erection of a dwelling house under this clause.

and includes any other land adjoining that land acquired by the owner since 11 April 1974.

NOTE: The owner in whose ownership all the land is at the time the application is lodged need not be the same person as the owner in whose ownership all the land was on the stated date.

WHETHER THE LAND INCLUDES OR COMPRISES CRITICAL HABITAT

The subject land has not been declared as critical habitat.

WHETHER THE LAND IS IN A CONSERVATION AREA

The subject land is not known to be in a conservation area.

Date: 29 September 2017

Cert No: 21236

WHETHER AN ITEM OF ENVIRONMENTAL HERITAGE IS SITUATED ON THE LAND

The land is NOT affected by any known or listed heritage item.

STATE ENVIRONMENTAL PLANNING POLICIES (EXEMPT & COMPLYING DEVELOPMENT CODES 2008)

CERTIFICATE UNDER SECTION 149(2) IDENTIFYING THE INFORMATION SET OUT IN CLAUSE 3 OF SCHEDULE 4 OF THE ENVIRONMENTAL PLANNING & ASSESSMENT REGULATIONS

Part 3 General Housing Code

Not applicable to the land to which this certificate relates.

Part 3A Rural Housing Code

YES. Complying development specified in the Rural Housing Code may be carried out on this land in certain circumstances pursuant to Clause 1.19 of State Environmental Planning Policy (Exempt and Complying Development Codes) 2008.

Part 4 Housing Alterations Code

YES. Complying development specified in the Housing Alterations Code may be carried out on this land in certain circumstances pursuant to Clause 1.19 of State Environmental Planning Policy (Exempt and Complying Development Codes) 2008.

Part 4A General Development Code

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Part 5 Commercial and Industrial Alterations Code

Not applicable to the land to which this certificate relates.

Part 5A Commercial and Industrial (New Buildings and Additions) Code

Not applicable to the land to which this certificate relates.

Part 6 Subdivision Code

YES. Complying development specified in the Subdivision Code may be carried out on this land in certain circumstances pursuant to Clause 1.19 of State Environmental Planning Policy (Exempt and Complying Development Codes) 2008.

Part 7 Demolition Code

YES. Complying development specified in the Demolition Code may be carried out on this land in certain circumstances pursuant to Clause 1.19 of State Environmental Planning Policy (Exempt and Complying Development Codes) 2008.

Part 8 Fire Safety Code

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STATE ENVIRONMENTAL PLANNING POLICIES

The following State Environmental Planning Policies apply to land within the Muswellbrook Shire LGA:-

No. 21. Caravan Parks - Ensures that where caravan parks or camping grounds are permitted under an environmental planning instrument, movable dwellings, as defined in the Local Government Act 1993, are also permitted. The policy ensures that development consent is required for new caravan parks and camping grounds and for additional long-term sites in existing caravan parks.

No. 30. Intensive Agriculture - Requires development consent for cattle feedlots having a capacity of 50 or more cattle or piggeries having a capacity of 200 or more pigs. The policy sets out information and public notification requirements to ensure there are effective planning control over this export-driven rural industry. The policy does not alter if, and where, such development is permitted, or the functions of the consent authority.

No. 33. Hazardous and Offensive Development - Provides new definitions for 'hazardous industry', 'hazardous storage establishment', 'offensive industry' and 'offensive storage establishment'. The definitions apply to all planning instruments, existing and future. The new definitions enable decisions to approve or refuse a development to be based on the merit of proposal. The consent authority must carefully consider the specifics of the case, the location and the way in which the proposed activity is to be carried out. The policy also requires specified matters to be considered for proposals that are 'potentially hazardous' or 'potentially offensive' as defined in the policy. For example, any application to carry out a potentially hazardous or potentially offensive development is to be advertised for public comment, and applications to carry out potentially hazardous development must be supported by a preliminary hazard analysis (PHA).

No. 36. Manufactured Home Estates - Helps establish well-designed and properly serviced manufactured home estates (MHEs) in suitable locations. Affordability and security of tenure for residents are important aspects. To enable the immediate development of estates, the policy allows MHEs to be located on certain land where caravan parks are permitted. There are however, criteria that a proposal must satisfy before the local council can approve development.

No. 44. Koala Habitat Protection - Encourages the proper conservation and management of areas of natural vegetation that provide habitat for koalas to ensure a permanent free-living population over their present range and reverse the current trend of koala population decline.

No. 55. Remediation of Land - Introduces state-wide planning controls for the remediation of contaminated land. The policy states that land must not be developed if it is unsuitable for a proposed use because it is contaminated. If the land is unsuitable, remediation must take place before the land is developed. The policy makes remediation permissible across the State, defines when consent is required, requires all remediation to comply with standards, ensures land is investigated if contamination is suspected, and requires councils to be notified of all remediation proposals.

No. 62. Sustainable Aquaculture - The policy implements the regional strategies already developed by creating a simple approach to identify and categorise aquaculture development on the basis of its potential environmental impact. The SEPP also identifies aquaculture development as a designated development only where there are potential environmental risks.

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No. 65. Design Quality of Residential Flat Development - Raises the design quality of residential flat development across the state through the application of a series of design principles. The policy provides for the establishment of Design Review Panels to provide independent expert advice to councils on the merit of residential flat development. The accompanying regulation requires the involvement of a qualified designer throughout the design, approval and construction stages.

SEPP (Housing for Seniors or People with a Disability) 2004 - Encourage the development of high quality accommodation for our ageing population and for people who have disabilities - housing that is in keeping with the local neighbourhood

SEPP (Building Sustainability Index: BASIX) 2004 - This SEPP operates in conjunction with Environmental Planning and Assessment Amendment (Building Sustainability Index: BASIX) Regulation 2004 to ensure the effective introduction of BASIX in NSW. The SEPP ensures consistency in the implementation of BASIX throughout the State by overriding competing provisions in other environmental planning instruments and development control plans, and specifying that SEPP 1 does not apply in relation to any development standard arising under BASIX.

SEPP (Infrastructure) 2007 - Provides a consistent planning regime for infrastructure and the provision of services across NSW, along with providing for consultation with relevant public authorities during the assessment process. The SEPP supports greater flexibility in the location of infrastructure and service facilities along with improved regulatory certainty and efficiency.

SEPP (Mining, Petroleum Production and Extractive Industries) 2007 - This Policy aims to provide for the proper management and development of mineral, petroleum and extractive material resources for the social and economic welfare of the State. The Policy establishes appropriate planning controls to encourage ecologically sustainable development.

SEPP (Miscellaneous Consent Provisions) 2007 - Provides for the erection of temporary structures and the use of places of public entertainment while protecting public safety and local amenity. The SEPP supports the transfer of the regulation of places of public entertainment and temporary structures (such as tents, marquees and booths) from the Local Government Act 1993 to the Environmental Planning and Assessment Act 1979.

SEPP (Rural Lands) 2008 - The aim of this policy is to facilitate the orderly and economic use and development of rural lands for rural and related purposes.

SEPP (Exempt and Complying Development Codes) 2008 – This policy streamlines assessment processes for development that complies with specified development standards. The policy provides exempt codes that have State-wide application, identifying, in the General Exempt Development Code, types of development that are of minimal environmental impact that may be carried out without the need for development consent.

SEPP (Affordable Rental Housing) 2009 – The aims of this policy are to provide a consistent planning regime for the provision of affordable rental housing; facilitate the effective delivery of new affordable rental housing by providing incentives by way of expanding zoning permissibility, floor space ratio bonuses and non-discretionary development standards; facilitate the retention and mitigate the loss of existing affordable rental housing; employ a balanced approach between obligations for retaining and mitigating the loss of existing affordable rental housing, and incentives for the development of new

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affordable rental housing; facilitate an expanding role for not-for-profit-providers of affordable rental housing; support local business centres by providing affordable rental housing for workers close to places of work; and facilitate the development of housing for the homeless and other disadvantaged people who may require support services, including group homes and supportive accommodation.

SEPP (State and Regional Development) 2011 – The aims of this policy are to identify development that is State significant development; identify development that is State significant infrastructure and critical State significant infrastructure; and confer functions on joint regional planning panels to determine development applications.

Further details regarding these State Environmental Planning Policies and the circumstances in which they may apply to the subject and can be found on the Department of Planning's website.

REGIONAL PLANNING INSTRUMENTS

There are no Regional Environmental Plans applying within the Muswellbrook Shire Council area.

DEVELOPMENT CONTROL PLANS

This land is affected by the following Development Control Plans:
Muswellbrook Shire Development Control Plan 2009

COASTAL PROTECTION

The land IS NOT affected by the operations of Sections 38 and 39 of the *Coastal Protection Act* 1979.

MINE SUBSIDENCE

The land IS NOT WITHIN a Mine Subsidence District proclaimed under section 15 of the Mine Subsidence Compensation Act, 1961.

ROAD WIDENING AND ROAD REALIGNMENT

The subject land IS NOT 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.

COUNCIL AND OTHER PUBLIC AUTHORITY POLICIES ON HAZARD RISK RESTRICTIONS

The land IS NOT affected by a policy adopted by the council, or 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).

FLOOD RELATED DEVELOPMENT CONTROLS INFORMATION

The Hunter River Flood Study 2014 shows the land to be affected by flooding.

LAND RESERVED FOR ACQUISITION

There are NOT any environmental planning instruments; deemed environmental planning instruments or draft environmental planning instruments applying to the land that provide for the acquisition of the

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land by a public authority, as referred to in section 27 of the Environmental Planning and Assessment Act 1979.

CONTRIBUTIONS PLANS

The Muswellbrook Section 94 Contributions Plan 2001 and Muswellbrook Section 94A Contributions Plan 2009 apply to all land within the Muswellbrook Shire Local Government Area.

BIODIVERSITY CERTIFIED LAND

The land IS NOT biodiversity certified land (within the meaning of Part 7AA of the Threatened Species Conservation Act 1995)

BIOBANKING AGREEMENTS

The land IS NOT affected by a biobanking agreement under Part 7A of the *Threatened Species Conservation Act 1995*.

MATTERS RELATING TO THE MANAGEMENT OF CONTAMINATED LAND

- (a) The land to which this certificate relates is NOT within land declared to be significantly contaminated land under the Contaminated Land Management Act 2008 at the date when the certificate is issued.
- (b) The land to which this certificate relates is NOT subject to a management order under the Contaminated Land Management Act 2008 at the date when the certificate is issued.
- (c) The land to which this certificate relates is NOT the subject of approved voluntary management proposal the subject of the Environment Protection Authority's agreement under the Contaminated Land Management Act 2008 at the date when the certificate is issued.
- (d) The land to which this certificate relates is NOT the subject to an ongoing maintenance order under the Contaminated Land Management Act 2008 at the date when the certificate is issued.
- (e) The land to which this certificate relates has NOT been the subject of a site audit statement provided to Muswellbrook Shire Council.

BUSH FIRE PRONE LAND

The land IS NOT bushfire prone land.

PROPERTY VEGETATION PLANS

Council has NOT been notified of the existence of such a plan or if the land is land to which a property vegetation plan under the Native Vegetation Act 2003 applies.

ORDERS UNDER TREES (DISPUTES BETWEEN NEIGHBOURS) ACT 2006

Council has NOT been notified of any order made under the Trees (Disputes Between Neighbours) Act 2006 to carry out work in relation to a tree on the land.

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DIRECTIONS UNDER PART 3A

There is NOT a direction by the Minister in force under section 75P (2) (c1) of the Act in relation to prohibiting or restricting the carrying out of a project or a stage of a project on the land under Part 4 of the Act.

SITE COMPATIBILITY CERTIFICATES AND CONDITIONS FOR SENIORS HOUSING

There is NOT a current site compatibility certificate (of which the council is aware), issued under clause 25 of State Environmental Planning Policy (Housing for Seniors or People with a Disability) 2004 in respect of proposed development on the land.

SITE COMPATIBILITY CERTIFICATES FOR INFRASTRUCTURE

There is NOT a valid site compatibility certificate (of which the council is aware), issued under clause 19 of State Environmental Planning Policy (Infrastructure) 2007 in respect of proposed development on the land.

SITE COMPATIBILITY CERTIFICATES AND CONDITIONS FOR AFFORDABLE RENTAL HOUSING

There is NOT a current site compatibility certificate for affordable rental housing (of which the council is aware), issued under clause 37 of State Environmental Planning Policy (Affordable Rental Housing) 2007 in respect of proposed development on the land.

PAPER SUBDIVISION INFORMATION

There is NOT an adopted development plan or subdivision order that applies to the land.

SITE VERIFICATION CERTIFICATE

There is NOT a current site verification certificate (of which the council is aware), issued under clause 17C of State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007, in relation to the land.

LOOSE-FILL ASBESTOS INSULATION

There are NO residential premises located on this land that are listed on the register that are required to be maintained under Division 1A of Part 8 of the *Home Building Act 1989*.

The accuracy and currency of the details provided by agencies external to Council have not be verified by Muswellbrook Shire Council and should be verified by the applicant.

ADDITIONAL INFORMATION PURSUANT TO SECTION 149(5) OF THE ACT

Council is unaware of any other relevant matters that may affect the land.

For further information, please contact the
Environmental Services Department.

S J McDonald
General Manager

Per: 

**PLANNING CERTIFICATE UNDER
SECTION 149 ENVIRONMENTAL PLANNING
AND ASSESSMENT ACT 1979**

Enquiries Environmental Services
Contact 02 6549 3700
Invoice no. 43721
Your reference Application

Date: 30 September 2017

Assessment: 70763

Cert No: 21252

MACH Energy Australia Pty Ltd
GPO Box 94
BRISBANE QLD 4001

Owner (as recorded by Council)

MACH Energy Australia Pty Ltd

Property Description: LOGUES LANE MUSWELLBROOK 2333
LOT: 6 DP: 784436

Land to which the certificate relates

The land to which this certificate relates, being the lot or lots described on the application form, is shown in the Council's records as being situated at the street address described above. The information contained in this certificate relates only to the lot or lots described on this certificate. Separate planning certificates can be obtained upon application for the other lots, those certificates may contain different information than is contained in this certificate.

CERTIFICATE UNDER SECTION 149(2) ENVIRONMENTAL PLANNING & ASSESSMENT ACT

LOCAL ENVIRONMENTAL PLANS

PLANNING INSTRUMENT

Muswellbrook Local Environmental Plan 2009

LAND USE ZONING

RU1 Primary Production

PERMITTED WITHOUT CONSENT

Extensive agriculture; Home occupations; Intensive plant agriculture

PERMITTED WITH CONSENT

Air transport facilities; Airstrips; Animal boarding or training establishments; Aquaculture; Camping grounds; Caravan parks; Cellar door premises; Cemeteries; Community facilities; Crematoria; Depots; Dwelling houses; Educational establishments; Environmental facilities; Environmental protection works; Extractive industries; Farm buildings; Flood mitigation works; Forestry; Function centres; Group homes; Hazardous industries; Health consulting rooms; Heavy industrial storage establishments; Helipads; Highway service centres; Home-based child care; Home businesses; Home industries; Industrial retail outlets; Information and education facilities; Intensive livestock agriculture; Intensive plant agriculture; Kiosks; Landscaping material supplies; Open cut mining; Places of public worship; Plant nurseries; Recreation areas; Recreation facilities (indoor); Recreation facilities (major); Recreation facilities (outdoor); Research stations; Restaurants or cafes; Roads; Roadside stalls; Rural industries; Rural supplies; Rural worker's dwellings; Secondary dwellings; Service stations; Sewerage systems; Signage; Storage premises; Take away food and drink premises; Tourist and visitor accommodation; Transport depots; Truck depots; Turf farming; Veterinary hospitals; Waste disposal facilities; Water supply systems.

Date: 3 October 2017

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PROHIBITED

Any development not specified above.

MINIMUM LAND DIMENSIONS FOR THE ERECTION OF A DWELLING

Under the provisions of the Muswellbrook Local Environmental Plan 2009, the minimum subdivision lot size is 80ha and is also subject to the provisions detailed below.

Land zoned RU1 Primary Production may, with the consent of Council, be subdivided for the purpose of primary production to create a lot less than the minimum lot size. However, such a lot cannot be created if an existing dwelling would, as the result of the subdivision, be situated on the lot. A dwelling cannot be erected on such a lot created.

Development consent must not be granted to the subdivision of a lot in a strata plan or community title scheme on land zoned RU1 Primary Production that is used, or proposed to be used, for residential accommodation or tourist and visitor accommodation.

Only one dwelling house may be erected on land zoned RU1 Primary Production only if the land is:

- (a) a lot created in accordance with clause 4.1 of the LEP 2009, or
- (b) a lot created before the LEP 2009 commenced and on which the erection of a dwelling house was permissible immediately before that commencement, or
- (c) a lot created before the LEP 2009 commenced that is at least the minimum lot size specified for that lot by the Lot Size Map, or
- (d) a lot for which subdivision approval was granted before the LEP 2009 commenced and on which the erection of a dwelling house would have been permissible immediately before that commencement, or
- (e) an existing holding.

NOTE: EXISTING HOLDING means all adjoining land, even if separated by a road or railway, held in the same ownership:

- (a) on 11 April 1974, and
- (b) at the time of lodging a development application for the erection of a dwelling house under this clause.

and includes any other land adjoining that land acquired by the owner since 11 April 1974.

NOTE: The owner in whose ownership all the land is at the time the application is lodged need not be the same person as the owner in whose ownership all the land was on the stated date.

WHETHER THE LAND INCLUDES OR COMPRISES CRITICAL HABITAT

The subject land has not been declared as critical habitat.

WHETHER THE LAND IS IN A CONSERVATION AREA

The subject land is not known to be in a conservation area.

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WHETHER AN ITEM OF ENVIRONMENTAL HERITAGE IS SITUATED ON THE LAND

The land is NOT affected by any known or listed heritage item.

STATE ENVIRONMENTAL PLANNING POLICIES (EXEMPT & COMPLYING DEVELOPMENT CODES 2008)

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|---|
| CERTIFICATE UNDER SECTION 149(2) IDENTIFYING THE INFORMATION SET OUT IN CLAUSE 3 OF SCHEDULE 4 OF THE ENVIRONMENTAL PLANNING & ASSESSMENT REGULATIONS |
|---|

Part 3 General Housing Code

Not applicable to the land to which this certificate relates.

Part 3A Rural Housing Code

YES. Complying development specified in the Rural Housing Code may be carried out on this land in certain circumstances pursuant to Clause 1.19 of State Environmental Planning Policy (Exempt and Complying Development Codes) 2008.

Part 4 Housing Alterations Code

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Part 4A General Development Code

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Part 5 Commercial and Industrial Alterations Code

Not applicable to the land to which this certificate relates.

Part 5A Commercial and Industrial (New Buildings and Additions) Code

Not applicable to the land to which this certificate relates.

Part 6 Subdivision Code

YES. Complying development specified in the Subdivision Code may be carried out on this land in certain circumstances pursuant to Clause 1.19 of State Environmental Planning Policy (Exempt and Complying Development Codes) 2008.

Part 7 Demolition Code

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Further details regarding these State Environmental Planning Policies and the circumstances in which they may apply to the subject and can be found on the Department of Planning's website.

REGIONAL PLANNING INSTRUMENTS

There are no Regional Environmental Plans applying within the Muswellbrook Shire Council area.

DEVELOPMENT CONTROL PLANS

This land is affected by the following Development Control Plans:
Muswellbrook Shire Development Control Plan 2009

COASTAL PROTECTION

The land IS NOT affected by the operations of Sections 38 and 39 of the *Coastal Protection Act* 1979.

MINE SUBSIDENCE

The land IS NOT WITHIN a Mine Subsidence District proclaimed under section 15 of the Mine Subsidence Compensation Act, 1961.

ROAD WIDENING AND ROAD REALIGNMENT

The subject land IS NOT affected by any road widening or road realignment under:

- (a) Division 2 of Part 3 of the Roads Act 1993, or
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COUNCIL AND OTHER PUBLIC AUTHORITY POLICIES ON HAZARD RISK RESTRICTIONS

The land IS NOT affected by a policy adopted by the council, or 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).

FLOOD RELATED DEVELOPMENT CONTROLS INFORMATION

The Hunter River Flood Study 2014 shows the land to be affected by flooding.

LAND RESERVED FOR ACQUISITION

There are NOT any environmental planning instruments; deemed environmental planning instruments or draft environmental planning instruments applying to the land that provide for the acquisition of the

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CONTRIBUTIONS PLANS

The Muswellbrook Section 94 Contributions Plan 2001 and Muswellbrook Section 94A Contributions Plan 2009 apply to all land within the Muswellbrook Shire Local Government Area.

BIODIVERSITY CERTIFIED LAND

The land IS NOT biodiversity certified land (within the meaning of Part 7AA of the Threatened Species Conservation Act 1995)

BIOBANKING AGREEMENTS

The land IS NOT affected by a biobanking agreement under Part 7A of the *Threatened Species Conservation Act 1995*.

MATTERS RELATING TO THE MANAGEMENT OF CONTAMINATED LAND

- (a) The land to which this certificate relates is NOT within land declared to be significantly contaminated land under the Contaminated Land Management Act 2008 at the date when the certificate is issued.
- (b) The land to which this certificate relates is NOT subject to a management order under the Contaminated Land Management Act 2008 at the date when the certificate is issued.
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- (d) The land to which this certificate relates is NOT the subject to an ongoing maintenance order under the Contaminated Land Management Act 2008 at the date when the certificate is issued.
- (e) The land to which this certificate relates has NOT been the subject of a site audit statement provided to Muswellbrook Shire Council.

BUSH FIRE PRONE LAND

The land IS NOT bushfire prone land.

PROPERTY VEGETATION PLANS

Council has NOT been notified of the existence of such a plan or if the land is land to which a property vegetation plan under the Native Vegetation Act 2003 applies.

ORDERS UNDER TREES (DISPUTES BETWEEN NEIGHBOURS) ACT 2006

Council has NOT been notified of any order made under the Trees (Disputes Between Neighbours) Act 2006 to carry out work in relation to a tree on the land.

Date: 3 October 2017

Cert No: 21252

DIRECTIONS UNDER PART 3A

There is NOT a direction by the Minister in force under section 75P (2) (c1) of the Act in relation to prohibiting or restricting the carrying out of a project or a stage of a project on the land under Part 4 of the Act.

SITE COMPATIBILITY CERTIFICATES AND CONDITIONS FOR SENIORS HOUSING

There is NOT a current site compatibility certificate (of which the council is aware), issued under clause 25 of State Environmental Planning Policy (Housing for Seniors or People with a Disability) 2004 in respect of proposed development on the land.

SITE COMPATIBILITY CERTIFICATES FOR INFRASTRUCTURE

There is NOT a valid site compatibility certificate (of which the council is aware), issued under clause 19 of State Environmental Planning Policy (Infrastructure) 2007 in respect of proposed development on the land.

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There is NOT a current site compatibility certificate for affordable rental housing (of which the council is aware), issued under clause 37 of State Environmental Planning Policy (Affordable Rental Housing) 2007 in respect of proposed development on the land.

PAPER SUBDIVISION INFORMATION

There is NOT an adopted development plan or subdivision order that applies to the land.

SITE VERIFICATION CERTIFICATE

There is NOT a current site verification certificate (of which the council is aware), issued under clause 17C of State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007, in relation to the land.

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There are NO residential premises located on this land that are listed on the register that are required to be maintained under Division 1A of Part 8 of the *Home Building Act 1989*.

The accuracy and currency of the details provided by agencies external to Council have not be verified by Muswellbrook Shire Council and should be verified by the applicant.

ADDITIONAL INFORMATION PURSUANT TO SECTION 149(5) OF THE ACT

Council is unaware of any other relevant matters that may affect the land.

For further information, please contact the
Environmental Services Department.

S J McDonald
General Manager

Per: _____

DJ Watson

**PLANNING CERTIFICATE UNDER
SECTION 149 ENVIRONMENTAL PLANNING
AND ASSESSMENT ACT 1979**

Enquiries Environmental Services
Contact 02 6549 3700
Invoice no. 43721
Your reference Application

Date: 4 October 2017

Assessment: 127969

Cert No: 21297

MACH Energy Australia Pty Ltd
GPO Box 94
BRISBANE QLD 4001

Owner (as recorded by Council)

**Wesfarmers Bengalla Limited & Taipower Bengalla
Pty Limited & others**

Property Description: 79 OVERTON ROAD MUSWELLBROOK 2333
LOT: 505 DP: 711996

Land to which the certificate relates

The land to which this certificate relates, being the lot or lots described on the application form, is shown in the Council's records as being situated at the street address described above. The information contained in this certificate relates only to the lot or lots described on this certificate. Separate planning certificates can be obtained upon application for the other lots, those certificates may contain different information than is contained in this certificate.

CERTIFICATE UNDER SECTION 149(2) ENVIRONMENTAL PLANNING & ASSESSMENT ACT

LOCAL ENVIRONMENTAL PLANS

PLANNING INSTRUMENT

Muswellbrook Local Environmental Plan 2009

LAND USE ZONING

RU1 Primary Production

PERMITTED WITHOUT CONSENT

Extensive agriculture; Home occupations; Intensive plant agriculture

PERMITTED WITH CONSENT

Air transport facilities; Airstrips; Animal boarding or training establishments; Aquaculture; Camping grounds; Caravan parks; Cellar door premises; Cemeteries; Community facilities; Crematoria; Depots; Dwelling houses; Educational establishments; Environmental facilities; Environmental protection works; Extractive industries; Farm buildings; Flood mitigation works; Forestry; Function centres; Group homes; Hazardous industries; Health consulting rooms; Heavy industrial storage establishments; Helipads; Highway service centres; Home-based child care; Home businesses; Home industries; Industrial retail outlets; Information and education facilities; Intensive livestock agriculture; Intensive plant agriculture; Kiosks; Landscaping material supplies; Open cut mining; Places of public worship; Plant nurseries; Recreation areas; Recreation facilities (indoor); Recreation facilities (major); Recreation facilities (outdoor); Research stations; Restaurants or cafes; Roads; Roadside stalls; Rural industries; Rural supplies; Rural worker's dwellings; Secondary dwellings; Service stations; Sewerage systems; Signage; Storage premises; Take away food and drink premises; Tourist and visitor accommodation; Transport depots; Truck depots; Turf farming; Veterinary hospitals; Waste disposal facilities; Water supply systems.

Date: 5 October 2017

Cert No: 21297

PROHIBITED

Any development not specified above.

MINIMUM LAND DIMENSIONS FOR THE ERECTION OF A DWELLING

Under the provisions of the Muswellbrook Local Environmental Plan 2009, the minimum subdivision lot size is 80ha and is also subject to the provisions detailed below.

Land zoned RU1 Primary Production may, with the consent of Council, be subdivided for the purpose of primary production to create a lot less than the minimum lot size. However, such a lot cannot be created if an existing dwelling would, as the result of the subdivision, be situated on the lot. A dwelling cannot be erected on such a lot created.

Development consent must not be granted to the subdivision of a lot in a strata plan or community title scheme on land zoned RU1 Primary Production that is used, or proposed to be used, for residential accommodation or tourist and visitor accommodation.

Only one dwelling house may be erected on land zoned RU1 Primary Production only if the land is:

- (a) a lot created in accordance with clause 4.1 of the LEP 2009, or
- (b) a lot created before the LEP 2009 commenced and on which the erection of a dwelling house was permissible immediately before that commencement, or
- (c) a lot created before the LEP 2009 commenced that is at least the minimum lot size specified for that lot by the Lot Size Map, or
- (d) a lot for which subdivision approval was granted before the LEP 2009 commenced and on which the erection of a dwelling house would have been permissible immediately before that commencement, or
- (e) an existing holding.

NOTE: EXISTING HOLDING means all adjoining land, even if separated by a road or railway, held in the same ownership:

- (a) on 11 April 1974, and
- (b) at the time of lodging a development application for the erection of a dwelling house under this clause.

and includes any other land adjoining that land acquired by the owner since 11 April 1974.

NOTE: The owner in whose ownership all the land is at the time the application is lodged need not be the same person as the owner in whose ownership all the land was on the stated date.

WHETHER THE LAND INCLUDES OR COMPRISES CRITICAL HABITAT

The subject land has not been declared as critical habitat.

WHETHER THE LAND IS IN A CONSERVATION AREA

The subject land is not known to be in a conservation area.

Date: 5 October 2017

Cert No: 21297

WHETHER AN ITEM OF ENVIRONMENTAL HERITAGE IS SITUATED ON THE LAND

The subject property is listed as an item of heritage under schedule 5 of the Muswellbrook Local Environmental Plan 2009.

STATE ENVIRONMENTAL PLANNING POLICIES (EXEMPT & COMPLYING DEVELOPMENT CODES 2008)

CERTIFICATE UNDER SECTION 149(2) IDENTIFYING THE INFORMATION SET OUT IN CLAUSE 3 OF SCHEDULE 4 OF THE ENVIRONMENTAL PLANNING & ASSESSMENT REGULATIONS

Part 3 General Housing Code

Not applicable to the land to which this certificate relates.

Part 3A Rural Housing Code

NO. Complying development specified in the Rural Housing Code may NOT be carried out on this land pursuant to Clause 1.19 of State Environmental Planning Policy (Exempt and Complying Development Codes) 2008.

The land is excluded land; being land identified by an environmental planning instrument as being within an area of:-

HERITAGE ITEM UNDER THE MUSWELLBROOK LOCAL ENVIRONMENTAL PLAN 2009

Part 4 Housing Alterations Code

NO. Complying development specified in the Housing Alterations Code may NOT be carried out on this land pursuant to Clause 1.19 of State Environmental Planning Policy (Exempt and Complying Development Codes) 2008.

The land is excluded land; being land identified by an environmental planning instrument as being within an area of:-

HERITAGE ITEM UNDER THE MUSWELLBROOK LOCAL ENVIRONMENTAL PLAN 2009

Part 4A General Development Code

NO. Complying development specified in the General Development Code may NOT be carried out on this land pursuant to Clause 1.19 of State Environmental Planning Policy (Exempt and Complying Development Codes) 2008.

The land is excluded land; being land identified by an environmental planning instrument as being within an area of:-

HERITAGE ITEM UNDER THE MUSWELLBROOK LOCAL ENVIRONMENTAL PLAN 2009

Part 5 Commercial and Industrial Alterations Code

Not applicable to the land to which this certificate relates.

Part 5A Commercial and Industrial (New Buildings and Additions) Code

Not applicable to the land to which this certificate relates.

Date: 5 October 2017

Cert No: 21297

Part 6 Subdivision Code

NO. Complying development specified in the Subdivision Code may NOT be carried out on this land pursuant to Clause 1.19 of State Environmental Planning Policy (Exempt and Complying Development Codes) 2008.

The land is excluded land; being land identified by an environmental planning instrument as being within an area of:-

HERITAGE ITEM UNDER THE MUSWELLBROOK LOCAL ENVIRONMENTAL PLAN 2009

Part 7 Demolition Code

NO. Complying development specified in the Demolition Code may NOT be carried out on this land pursuant to Clause 1.19 of State Environmental Planning Policy (Exempt and Complying Development Codes) 2008.

The land is excluded land; being land identified by an environmental planning instrument as being within an area of:-

HERITAGE ITEM UNDER THE MUSWELLBROOK LOCAL ENVIRONMENTAL PLAN 2009

Part 8 Fire Safety Code

YES. Complying development specified in the Fire Safety Code may be carried out on this land in certain circumstances pursuant to Clause 1.19 of State Environmental Planning Policy (Exempt and Complying Development Codes) 2008.

STATE ENVIRONMENTAL PLANNING POLICIES

The following State Environmental Planning Policies apply to land within the Muswellbrook Shire LGA:-

No. 21. Caravan Parks - Ensures that where caravan parks or camping grounds are permitted under an environmental planning instrument, movable dwellings, as defined in the Local Government Act 1993, are also permitted. The policy ensures that development consent is required for new caravan parks and camping grounds and for additional long-term sites in existing caravan parks.

No. 30. Intensive Agriculture - Requires development consent for cattle feedlots having a capacity of 50 or more cattle or piggeries having a capacity of 200 or more pigs. The policy sets out information and public notification requirements to ensure there are effective planning control over this export-driven rural industry. The policy does not alter if, and where, such development is permitted, or the functions of the consent authority.

No. 33. Hazardous and Offensive Development - Provides new definitions for 'hazardous industry', 'hazardous storage establishment', 'offensive industry' and 'offensive storage establishment'. The definitions apply to all planning instruments, existing and future. The new definitions enable decisions to approve or refuse a development to be based on the merit of proposal. The consent authority must carefully consider the specifics the case, the location and the way in which the proposed activity is to be carried out. The policy also requires specified matters to be considered for proposals that are 'potentially hazardous' or 'potentially offensive' as defined in the policy. For example, any application to carry out a potentially hazardous or potentially offensive development is to be advertised for public comment, and applications to carry out potentially hazardous development must be supported by a preliminary hazard analysis (PHA).

Date: 5 October 2017

Cert No: 21297

No. 36. Manufactured Home Estates - Helps establish well-designed and properly serviced manufactured home estates (MHEs) in suitable locations. Affordability and security of tenure for residents are important aspects. To enable the immediate development of estates, the policy allows MHEs to be located on certain land where caravan parks are permitted. There are however, criteria that a proposal must satisfy before the local council can approved development.

No. 44. Koala Habitat Protection - Encourages the proper conservation and management of areas of natural vegetation that provide habitat for koalas to ensure a permanent free-living population over their present range and reverse the current trend of koala population decline.

No. 55. Remediation of Land - Introduces state-wide planning controls for the remediation of contaminated land. The policy states that land must not be developed if it is unsuitable for a proposed use because it is contaminated. If the land is unsuitable, remediation must take place before the land is developed. The policy makes remediation permissible across the State, defines when consent is required, requires all remediation to comply with standards, ensures land is investigated if contamination is suspected, and requires councils to be notified of all remediation proposals.

No. 62. Sustainable Aquaculture - The policy implements the regional strategies already developed by creating a simple approach to identify and categorise aquaculture development on the basis of its potential environmental impact. The SEPP also identifies aquaculture development as a designated development only where there are potential environmental risks.

No. 64. Advertising and Signage - Aims to improve the amenity of urban and natural settings by managing the impact of outdoor advertising. The policy responds to growing concerns from the community, the advertising industry and local government that existing controls and guidelines were not effective. SEPP No. 64 offers the comprehensive provisions and consistent approach needed. SEPP 64 – Advertising and Signage: Explanatory Information should be read in conjunction with the policy.

No. 65. Design Quality of Residential Flat Development - Raises the design quality of residential flat development across the state through the application of a series of design principles. The policy provides for the establishment of Design Review Panels to provide independent expert advice to councils on the merit of residential flat development. The accompanying regulation requires the involvement of a qualified designer throughout the design, approval and construction stages.

SEPP (Housing for Seniors or People with a Disability) 2004 - Encourage the development of high quality accommodation for our ageing population and for people who have disabilities - housing that is in keeping with the local neighbourhood

SEPP (Building Sustainability Index: BASIX) 2004 - This SEPP operates in conjunction with Environmental Planning and Assessment Amendment (Building Sustainability Index: BASIX) Regulation 2004 to ensure the effective introduction of BASIX in NSW. The SEPP ensures consistency in the implementation of BASIX throughout the State by overriding competing provisions in other environmental planning instruments and development control plans, and specifying that SEPP 1 does not apply in relation to any development standard arising under BASIX.

SEPP (Infrastructure) 2007 - Provides a consistent planning regime for infrastructure and the provision of services across NSW, along with providing for consultation with relevant public authorities during the assessment process. The SEPP supports greater flexibility in the location of infrastructure and service facilities along with improved regulatory certainty and efficiency.

SEPP (Mining, Petroleum Production and Extractive Industries) 2007 - This Policy aims to provide for the proper management and development of mineral, petroleum and extractive material resources for the social and economic welfare of the State. The Policy establishes appropriate planning controls to encourage ecologically sustainable development.

Date: 5 October 2017

Cert No: 21297

SEPP (Miscellaneous Consent Provisions) 2007 - Provides for the erection of temporary structures and the use of places of public entertainment while protecting public safety and local amenity. The SEPP supports the transfer of the regulation of places of public entertainment and temporary structures (such as tents, marquees and booths) from the Local Government Act 1993 to the Environmental Planning and Assessment Act 1979.

SEPP (Rural Lands) 2008 - The aim of this policy is to facilitate the orderly and economic use and development of rural lands for rural and related purposes.

SEPP (Exempt and Complying Development Codes) 2008 – This policy streamlines assessment processes for development that complies with specified development standards. The policy provides exempt codes that have State-wide application, identifying, in the General Exempt Development Code, types of development that are of minimal environmental impact that may be carried out without the need for development consent.

SEPP (Affordable Rental Housing) 2009 – The aims of this policy are to provide a consistent planning regime for the provision of affordable rental housing; facilitate the effective delivery of new affordable rental housing by providing incentives by way of expanding zoning permissibility, floor space ratio bonuses and non-discretionary development standards; facilitate the retention and mitigate the loss of existing affordable rental housing; employ a balanced approach between obligations for retaining and mitigating the loss of existing affordable rental housing, and incentives for the development of new affordable rental housing; facilitate an expanding role for not-for-profit-providers of affordable rental housing; support local business centres by providing affordable rental housing for workers close to places of work; and facilitate the development of housing for the homeless and other disadvantaged people who may require support services, including group homes and supportive accommodation.

SEPP (State and Regional Development) 2011 – The aims of this policy are to identify development that is State significant development; identify development that is State significant infrastructure and critical State significant infrastructure; and confer functions on joint regional planning panels to determine development applications.

Further details regarding these State Environmental Planning Policies and the circumstances in which they may apply to the subject and can be found on the Department of Planning's website.

REGIONAL PLANNING INSTRUMENTS

There are no Regional Environmental Plans applying within the Muswellbrook Shire Council area.

DEVELOPMENT CONTROL PLANS

This land is affected by the following Development Control Plans:
Muswellbrook Shire Development Control Plan 2009

COASTAL PROTECTION

The land IS NOT affected by the operations of Sections 38 and 39 of the *Coastal Protection Act* 1979.

MINE SUBSIDENCE

The land IS WITHIN a proclaimed Mine Subsidence District under the Mine Subsidence Compensation Act 1961. The approval of the Mine Subsidence Board is required for all subdivision and building, except for certain minor structures. Surface development controls are in place to prevent damage from old, current or future mining. It is strongly recommended prospective purchasers consult with the Mine Subsidence Board regarding mine subsidence and any surface development guidelines.

Date: 5 October 2017

Cert No: 21297

The Board can assist with information about mine subsidence and advise whether existing structures comply with the requirements of the Act.

The Department of Mineral Resources has identified the lands may be subject to coal mining (either open cut mining or underground mining). Further enquiries should be directed to the Department of Mineral Resources.

ROAD WIDENING AND ROAD REALIGNMENT

The subject land IS NOT 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.

COUNCIL AND OTHER PUBLIC AUTHORITY POLICIES ON HAZARD RISK RESTRICTIONS

The land IS NOT affected by a policy adopted by the council, or 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).

FLOOD RELATED DEVELOPMENT CONTROLS INFORMATION

The Hunter River Flood Study 2014 shows the land to be affected by flooding.

LAND RESERVED FOR ACQUISITION

There are NOT any environmental planning instruments; deemed environmental planning instruments or draft environmental planning instruments applying to the land that provide for the acquisition of the land by a public authority, as referred to in section 27 of the Environmental Planning and Assessment Act 1979.

CONTRIBUTIONS PLANS

The Muswellbrook Section 94 Contributions Plan 2001 and Muswellbrook Section 94A Contributions Plan 2009 apply to all land within the Muswellbrook Shire Local Government Area.

BIODIVERSITY CERTIFIED LAND

The land IS NOT biodiversity certified land (within the meaning of Part 7AA of the Threatened Species Conservation Act 1995)

BIOBANKING AGREEMENTS

The land IS NOT affected by a biobanking agreement under Part 7A of the *Threatened Species Conservation Act 1995*.

MATTERS RELATING TO THE MANAGEMENT OF CONTAMINATED LAND

- (a) The land to which this certificate relates is NOT within land declared to be significantly contaminated land under the Contaminated Land Management Act 2008 at the date when the certificate is issued.

Date: 5 October 2017

Cert No: 21297

- (b) The land to which this certificate relates is NOT subject to a management order under the Contaminated Land Management Act 2008 at the date when the certificate is issued.
- (c) The land to which this certificate relates is NOT the subject of approved voluntary management proposal the subject of the Environment Protection Authority's agreement under the Contaminated Land Management Act 2008 at the date when the certificate is issued.
- (d) The land to which this certificate relates is NOT the subject to an ongoing maintenance order under the Contaminated Land Management Act 2008 at the date when the certificate is issued.
- (e) The land to which this certificate relates has NOT been the subject of a site audit statement provided to Muswellbrook Shire Council.

BUSH FIRE PRONE LAND

The land IS NOT bushfire prone land.

PROPERTY VEGETATION PLANS

Council has NOT been notified of the existence of such a plan or if the land is land to which a property vegetation plan under the Native Vegetation Act 2003 applies.

ORDERS UNDER TREES (DISPUTES BETWEEN NEIGHBOURS) ACT 2006

Council has NOT been notified of any order made under the Trees (Disputes Between Neighbours) Act 2006 to carry out work in relation to a tree on the land.

DIRECTIONS UNDER PART 3A

There is NOT a direction by the Minister in force under section 75P (2) (c1) of the Act in relation to prohibiting or restricting the carrying out of a project or a stage of a project on the land under Part 4 of the Act.

SITE COMPATIBILITY CERTIFICATES AND CONDITIONS FOR SENIORS HOUSING

There is NOT a current site compatibility certificate (of which the council is aware), issued under clause 25 of State Environmental Planning Policy (Housing for Seniors or People with a Disability) 2004 in respect of proposed development on the land.

SITE COMPATIBILITY CERTIFICATES FOR INFRASTRUCTURE

There is NOT a valid site compatibility certificate (of which the council is aware), issued under clause 19 of State Environmental Planning Policy (Infrastructure) 2007 in respect of proposed development on the land.

SITE COMPATIBILITY CERTIFICATES AND CONDITIONS FOR AFFORDABLE RENTAL HOUSING

There is NOT a current site compatibility certificate for affordable rental housing (of which the council is aware), issued under clause 37 of State Environmental Planning Policy (Affordable Rental Housing) 2007 in respect of proposed development on the land.

PAPER SUBDIVISION INFORMATION

There is NOT an adopted development plan or subdivision order that applies to the land.

Date: 5 October 2017

Cert No: 21297

SITE VERIFICATION CERTIFICATE

There is NOT a current site verification certificate (of which the council is aware), issued under clause 17C of State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007, in relation to the land.

LOOSE-FILL ASBESTOS INSULATION

There are NO residential premises located on this land that are listed on the register that are required to be maintained under Division 1A of Part 8 of the *Home Building Act 1989*.

The accuracy and currency of the details provided by agencies external to Council have not be verified by Muswellbrook Shire Council and should be verified by the applicant.

| |
|---|
| ADDITIONAL INFORMATION PURSUANT TO SECTION 149(5) OF THE ACT |
|---|

Council is unaware of any other relevant matters that may affect the land.

For further information, please contact the
Environmental Services Department.

S J McDonald
General Manager

Per: _____

DJ Watson

**PLANNING CERTIFICATE UNDER
SECTION 149 ENVIRONMENTAL PLANNING
AND ASSESSMENT ACT 1979**

Enquiries Environmental Services
Contact 02 6549 3700
Invoice no. 43721
Your reference Application

Date: 30 September 2017

Assessment: 127696

Cert No: 21253

MACH Energy Australia Pty Ltd
GPO Box 94
BRISBANE QLD 4001

Owner (as recorded by Council)

**Wesfarmers Bengalla Limited & Taipower Bengalla
Pty Limited & others**

Property Description: OVERTON ROAD MUSWELLBROOK 2333
LOT: 6 DP: 1170997

Land to which the certificate relates

The land to which this certificate relates, being the lot or lots described on the application form, is shown in the Council's records as being situated at the street address described above. The information contained in this certificate relates only to the lot or lots described on this certificate. Separate planning certificates can be obtained upon application for the other lots, those certificates may contain different information than is contained in this certificate.

CERTIFICATE UNDER SECTION 149(2) ENVIRONMENTAL PLANNING & ASSESSMENT ACT

LOCAL ENVIRONMENTAL PLANS

PLANNING INSTRUMENT

Muswellbrook Local Environmental Plan 2009

LAND USE ZONING

RU1 Primary Production

PERMITTED WITHOUT CONSENT

Extensive agriculture; Home occupations; Intensive plant agriculture

PERMITTED WITH CONSENT

Air transport facilities; Airstrips; Animal boarding or training establishments; Aquaculture; Camping grounds; Caravan parks; Cellar door premises; Cemeteries; Community facilities; Crematoria; Depots; Dwelling houses; Educational establishments; Environmental facilities; Environmental protection works; Extractive industries; Farm buildings; Flood mitigation works; Forestry; Function centres; Group homes; Hazardous industries; Health consulting rooms; Heavy industrial storage establishments; Helipads; Highway service centres; Home-based child care; Home businesses; Home industries; Industrial retail outlets; Information and education facilities; Intensive livestock agriculture; Intensive plant agriculture; Kiosks; Landscaping material supplies; Open cut mining; Places of public worship; Plant nurseries; Recreation areas; Recreation facilities (indoor); Recreation facilities (major); Recreation facilities (outdoor); Research stations; Restaurants or cafes; Roads; Roadside stalls; Rural industries; Rural supplies; Rural worker's dwellings; Secondary dwellings; Service stations; Sewerage systems; Signage; Storage premises; Take away food and drink premises; Tourist and visitor accommodation; Transport depots; Truck depots; Turf farming; Veterinary hospitals; Waste disposal facilities; Water supply systems.

Date: 3 October 2017

Cert No: 21253

PROHIBITED

Any development not specified above.

MINIMUM LAND DIMENSIONS FOR THE ERECTION OF A DWELLING

Under the provisions of the Muswellbrook Local Environmental Plan 2009, the minimum subdivision lot size is 80ha and is also subject to the provisions detailed below.

Land zoned RU1 Primary Production may, with the consent of Council, be subdivided for the purpose of primary production to create a lot less than the minimum lot size. However, such a lot cannot be created if an existing dwelling would, as the result of the subdivision, be situated on the lot. A dwelling cannot be erected on such a lot created.

Development consent must not be granted to the subdivision of a lot in a strata plan or community title scheme on land zoned RU1 Primary Production that is used, or proposed to be used, for residential accommodation or tourist and visitor accommodation.

Only one dwelling house may be erected on land zoned RU1 Primary Production only if the land is:

- (a) a lot created in accordance with clause 4.1 of the LEP 2009, or
- (b) a lot created before the LEP 2009 commenced and on which the erection of a dwelling house was permissible immediately before that commencement, or
- (c) a lot created before the LEP 2009 commenced that is at least the minimum lot size specified for that lot by the Lot Size Map, or
- (d) a lot for which subdivision approval was granted before the LEP 2009 commenced and on which the erection of a dwelling house would have been permissible immediately before that commencement, or
- (e) an existing holding.

NOTE: EXISTING HOLDING means all adjoining land, even if separated by a road or railway, held in the same ownership:

- (a) on 11 April 1974, and
- (b) at the time of lodging a development application for the erection of a dwelling house under this clause.

and includes any other land adjoining that land acquired by the owner since 11 April 1974.

NOTE: The owner in whose ownership all the land is at the time the application is lodged need not be the same person as the owner in whose ownership all the land was on the stated date.

WHETHER THE LAND INCLUDES OR COMPRISES CRITICAL HABITAT

The subject land has not been declared as critical habitat.

WHETHER THE LAND IS IN A CONSERVATION AREA

The subject land is not known to be in a conservation area.

Date: 3 October 2017

Cert No: 21253

WHETHER AN ITEM OF ENVIRONMENTAL HERITAGE IS SITUATED ON THE LAND

The subject property is listed as an item of heritage under schedule 5 of the Muswellbrook Local Environmental Plan 2009.

STATE ENVIRONMENTAL PLANNING POLICIES (EXEMPT & COMPLYING DEVELOPMENT CODES 2008)

CERTIFICATE UNDER SECTION 149(2) IDENTIFYING THE INFORMATION SET OUT IN CLAUSE 3 OF SCHEDULE 4 OF THE ENVIRONMENTAL PLANNING & ASSESSMENT REGULATIONS

Part 3 General Housing Code

Not applicable to the land to which this certificate relates.

Part 3A Rural Housing Code

NO. Complying development specified in the Rural Housing Code may NOT be carried out on this land pursuant to Clause 1.19 of State Environmental Planning Policy (Exempt and Complying Development Codes) 2008.

The land is excluded land; being land identified by an environmental planning instrument as being within an area of:-

HERITAGE ITEM UNDER THE MUSWELLBROOK LOCAL ENVIRONMENTAL PLAN 2009

Part 4 Housing Alterations Code

NO. Complying development specified in the Housing Alterations Code may NOT be carried out on this land pursuant to Clause 1.19 of State Environmental Planning Policy (Exempt and Complying Development Codes) 2008.

The land is excluded land; being land identified by an environmental planning instrument as being within an area of:-

HERITAGE ITEM UNDER THE MUSWELLBROOK LOCAL ENVIRONMENTAL PLAN 2009

Part 4A General Development Code

NO. Complying development specified in the General Development Code may NOT be carried out on this land pursuant to Clause 1.19 of State Environmental Planning Policy (Exempt and Complying Development Codes) 2008.

The land is excluded land; being land identified by an environmental planning instrument as being within an area of:-

HERITAGE ITEM UNDER THE MUSWELLBROOK LOCAL ENVIRONMENTAL PLAN 2009

Part 5 Commercial and Industrial Alterations Code

Not applicable to the land to which this certificate relates.

Part 5A Commercial and Industrial (New Buildings and Additions) Code

Not applicable to the land to which this certificate relates.

Date: 3 October 2017

Cert No: 21253

Part 6 Subdivision Code

NO. Complying development specified in the Subdivision Code may NOT be carried out on this land pursuant to Clause 1.19 of State Environmental Planning Policy (Exempt and Complying Development Codes) 2008.

The land is excluded land; being land identified by an environmental planning instrument as being within an area of:-

HERITAGE ITEM UNDER THE MUSWELLBROOK LOCAL ENVIRONMENTAL PLAN 2009

Part 7 Demolition Code

NO. Complying development specified in the Demolition Code may NOT be carried out on this land pursuant to Clause 1.19 of State Environmental Planning Policy (Exempt and Complying Development Codes) 2008.

The land is excluded land; being land identified by an environmental planning instrument as being within an area of:-

HERITAGE ITEM UNDER THE MUSWELLBROOK LOCAL ENVIRONMENTAL PLAN 2009

Part 8 Fire Safety Code

YES. Complying development specified in the Fire Safety Code may be carried out on this land in certain circumstances pursuant to Clause 1.19 of State Environmental Planning Policy (Exempt and Complying Development Codes) 2008.

STATE ENVIRONMENTAL PLANNING POLICIES

The following State Environmental Planning Policies apply to land within the Muswellbrook Shire LGA:-

No. 21. Caravan Parks - Ensures that where caravan parks or camping grounds are permitted under an environmental planning instrument, movable dwellings, as defined in the Local Government Act 1993, are also permitted. The policy ensures that development consent is required for new caravan parks and camping grounds and for additional long-term sites in existing caravan parks.

No. 30. Intensive Agriculture - Requires development consent for cattle feedlots having a capacity of 50 or more cattle or piggeries having a capacity of 200 or more pigs. The policy sets out information and public notification requirements to ensure there are effective planning control over this export-driven rural industry. The policy does not alter if, and where, such development is permitted, or the functions of the consent authority.

No. 33. Hazardous and Offensive Development - Provides new definitions for 'hazardous industry', 'hazardous storage establishment', 'offensive industry' and 'offensive storage establishment'. The definitions apply to all planning instruments, existing and future. The new definitions enable decisions to approve or refuse a development to be based on the merit of proposal. The consent authority must carefully consider the specifics the case, the location and the way in which the proposed activity is to be carried out. The policy also requires specified matters to be considered for proposals that are 'potentially hazardous' or 'potentially offensive' as defined in the policy. For example, any application to carry out a potentially hazardous or potentially offensive development is to be advertised for public comment, and applications to carry out potentially hazardous development must be supported by a preliminary hazard analysis (PHA).

Date: 3 October 2017

Cert No: 21253

No. 36. Manufactured Home Estates - Helps establish well-designed and properly serviced manufactured home estates (MHEs) in suitable locations. Affordability and security of tenure for residents are important aspects. To enable the immediate development of estates, the policy allows MHEs to be located on certain land where caravan parks are permitted. There are however, criteria that a proposal must satisfy before the local council can approved development.

No. 44. Koala Habitat Protection - Encourages the proper conservation and management of areas of natural vegetation that provide habitat for koalas to ensure a permanent free-living population over their present range and reverse the current trend of koala population decline.

No. 55. Remediation of Land - Introduces state-wide planning controls for the remediation of contaminated land. The policy states that land must not be developed if it is unsuitable for a proposed use because it is contaminated. If the land is unsuitable, remediation must take place before the land is developed. The policy makes remediation permissible across the State, defines when consent is required, requires all remediation to comply with standards, ensures land is investigated if contamination is suspected, and requires councils to be notified of all remediation proposals.

No. 62. Sustainable Aquaculture - The policy implements the regional strategies already developed by creating a simple approach to identify and categorise aquaculture development on the basis of its potential environmental impact. The SEPP also identifies aquaculture development as a designated development only where there are potential environmental risks.

No. 64. Advertising and Signage - Aims to improve the amenity of urban and natural settings by managing the impact of outdoor advertising. The policy responds to growing concerns from the community, the advertising industry and local government that existing controls and guidelines were not effective. SEPP No. 64 offers the comprehensive provisions and consistent approach needed. SEPP 64 – Advertising and Signage: Explanatory Information should be read in conjunction with the policy.

No. 65. Design Quality of Residential Flat Development - Raises the design quality of residential flat development across the state through the application of a series of design principles. The policy provides for the establishment of Design Review Panels to provide independent expert advice to councils on the merit of residential flat development. The accompanying regulation requires the involvement of a qualified designer throughout the design, approval and construction stages.

SEPP (Housing for Seniors or People with a Disability) 2004 - Encourage the development of high quality accommodation for our ageing population and for people who have disabilities - housing that is in keeping with the local neighbourhood

SEPP (Building Sustainability Index: BASIX) 2004 - This SEPP operates in conjunction with Environmental Planning and Assessment Amendment (Building Sustainability Index: BASIX) Regulation 2004 to ensure the effective introduction of BASIX in NSW. The SEPP ensures consistency in the implementation of BASIX throughout the State by overriding competing provisions in other environmental planning instruments and development control plans, and specifying that SEPP 1 does not apply in relation to any development standard arising under BASIX.

SEPP (Infrastructure) 2007 - Provides a consistent planning regime for infrastructure and the provision of services across NSW, along with providing for consultation with relevant public authorities during the assessment process. The SEPP supports greater flexibility in the location of infrastructure and service facilities along with improved regulatory certainty and efficiency.

SEPP (Mining, Petroleum Production and Extractive Industries) 2007 - This Policy aims to provide for the proper management and development of mineral, petroleum and extractive material resources for the social and economic welfare of the State. The Policy establishes appropriate planning controls to encourage ecologically sustainable development.

Date: 3 October 2017

Cert No: 21253

SEPP (Miscellaneous Consent Provisions) 2007 - Provides for the erection of temporary structures and the use of places of public entertainment while protecting public safety and local amenity. The SEPP supports the transfer of the regulation of places of public entertainment and temporary structures (such as tents, marquees and booths) from the Local Government Act 1993 to the Environmental Planning and Assessment Act 1979.

SEPP (Rural Lands) 2008 - The aim of this policy is to facilitate the orderly and economic use and development of rural lands for rural and related purposes.

SEPP (Exempt and Complying Development Codes) 2008 – This policy streamlines assessment processes for development that complies with specified development standards. The policy provides exempt codes that have State-wide application, identifying, in the General Exempt Development Code, types of development that are of minimal environmental impact that may be carried out without the need for development consent.

SEPP (Affordable Rental Housing) 2009 – The aims of this policy are to provide a consistent planning regime for the provision of affordable rental housing; facilitate the effective delivery of new affordable rental housing by providing incentives by way of expanding zoning permissibility, floor space ratio bonuses and non-discretionary development standards; facilitate the retention and mitigate the loss of existing affordable rental housing; employ a balanced approach between obligations for retaining and mitigating the loss of existing affordable rental housing, and incentives for the development of new affordable rental housing; facilitate an expanding role for not-for-profit-providers of affordable rental housing; support local business centres by providing affordable rental housing for workers close to places of work; and facilitate the development of housing for the homeless and other disadvantaged people who may require support services, including group homes and supportive accommodation.

SEPP (State and Regional Development) 2011 – The aims of this policy are to identify development that is State significant development; identify development that is State significant infrastructure and critical State significant infrastructure; and confer functions on joint regional planning panels to determine development applications.

Further details regarding these State Environmental Planning Policies and the circumstances in which they may apply to the subject and can be found on the Department of Planning's website.

REGIONAL PLANNING INSTRUMENTS

There are no Regional Environmental Plans applying within the Muswellbrook Shire Council area.

DEVELOPMENT CONTROL PLANS

This land is affected by the following Development Control Plans:
Muswellbrook Shire Development Control Plan 2009

COASTAL PROTECTION

The land IS NOT affected by the operations of Sections 38 and 39 of the *Coastal Protection Act* 1979.

MINE SUBSIDENCE

The land IS NOT WITHIN a Mine Subsidence District proclaimed under section 15 of the Mine Subsidence Compensation Act, 1961.

Date: 3 October 2017

Cert No: 21253

ROAD WIDENING AND ROAD REALIGNMENT

The subject land IS NOT 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.

COUNCIL AND OTHER PUBLIC AUTHORITY POLICIES ON HAZARD RISK RESTRICTIONS

The land IS NOT affected by a policy adopted by the council, or 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).

FLOOD RELATED DEVELOPMENT CONTROLS INFORMATION

The Hunter River Flood Study 2014 shows the land to be affected by flooding.

LAND RESERVED FOR ACQUISITION

There are NOT any environmental planning instruments; deemed environmental planning instruments or draft environmental planning instruments applying to the land that provide for the acquisition of the land by a public authority, as referred to in section 27 of the Environmental Planning and Assessment Act 1979.

CONTRIBUTIONS PLANS

The Muswellbrook Section 94 Contributions Plan 2001 and Muswellbrook Section 94A Contributions Plan 2009 apply to all land within the Muswellbrook Shire Local Government Area.

BIODIVERSITY CERTIFIED LAND

The land IS NOT biodiversity certified land (within the meaning of Part 7AA of the Threatened Species Conservation Act 1995)

BIOBANKING AGREEMENTS

The land IS NOT affected by a biobanking agreement under Part 7A of the *Threatened Species Conservation Act 1995*.

MATTERS RELATING TO THE MANAGEMENT OF CONTAMINATED LAND

- (a) The land to which this certificate relates is NOT within land declared to be significantly contaminated land under the Contaminated Land Management Act 2008 at the date when the certificate is issued.
- (b) The land to which this certificate relates is NOT subject to a management order under the Contaminated Land Management Act 2008 at the date when the certificate is issued.
- (c) The land to which this certificate relates is NOT the subject of approved voluntary management proposal the subject of the Environment Protection Authority's agreement under the Contaminated Land Management Act 2008 at the date when the certificate is issued.

Date: 3 October 2017

Cert No: 21253

- (d) The land to which this certificate relates is NOT the subject to an ongoing maintenance order under the Contaminated Land Management Act 2008 at the date when the certificate is issued.
- (e) The land to which this certificate relates has NOT been the subject of a site audit statement provided to Muswellbrook Shire Council.

BUSH FIRE PRONE LAND

Rural Fire and Environmental Assessment Legislation Amendment Act 2002. This land is designated as bush fire prone land and any development of the land will require appropriate fire protection assessment prior to such development of the land. For further information concerning the bush fire status of the land, please contact Council on (02) 6549 3700.

PROPERTY VEGETATION PLANS

Council has NOT been notified of the existence of such a plan or if the land is land to which a property vegetation plan under the Native Vegetation Act 2003 applies.

ORDERS UNDER TREES (DISPUTES BETWEEN NEIGHBOURS) ACT 2006

Council has NOT been notified of any order made under the Trees (Disputes Between Neighbours) Act 2006 to carry out work in relation to a tree on the land.

DIRECTIONS UNDER PART 3A

There is NOT a direction by the Minister in force under section 75P (2) (c1) of the Act in relation to prohibiting or restricting the carrying out of a project or a stage of a project on the land under Part 4 of the Act.

SITE COMPATIBILITY CERTIFICATES AND CONDITIONS FOR SENIORS HOUSING

There is NOT a current site compatibility certificate (of which the council is aware), issued under clause 25 of State Environmental Planning Policy (Housing for Seniors or People with a Disability) 2004 in respect of proposed development on the land.

SITE COMPATIBILITY CERTIFICATES FOR INFRASTRUCTURE

There is NOT a valid site compatibility certificate (of which the council is aware), issued under clause 19 of State Environmental Planning Policy (Infrastructure) 2007 in respect of proposed development on the land.

SITE COMPATIBILITY CERTIFICATES AND CONDITIONS FOR AFFORDABLE RENTAL HOUSING

There is NOT a current site compatibility certificate for affordable rental housing (of which the council is aware), issued under clause 37 of State Environmental Planning Policy (Affordable Rental Housing) 2007 in respect of proposed development on the land.

PAPER SUBDIVISION INFORMATION

There is NOT an adopted development plan or subdivision order that applies to the land.

Date: 3 October 2017

Cert No: 21253

SITE VERIFICATION CERTIFICATE

There is NOT a current site verification certificate (of which the council is aware), issued under clause 17C of State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007, in relation to the land.

LOOSE-FILL ASBESTOS INSULATION

There are NO residential premises located on this land that are listed on the register that are required to be maintained under Division 1A of Part 8 of the *Home Building Act 1989*.

The accuracy and currency of the details provided by agencies external to Council have not be verified by Muswellbrook Shire Council and should be verified by the applicant.

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|---|
| ADDITIONAL INFORMATION PURSUANT TO SECTION 149(5) OF THE ACT |
|---|

Council is unaware of any other relevant matters that may affect the land.

For further information, please contact the
Environmental Services Department.

S J McDonald
General Manager

Per: _____

DJ Watson

**PLANNING CERTIFICATE UNDER
SECTION 149 ENVIRONMENTAL PLANNING
AND ASSESSMENT ACT 1979**

Enquiries Environmental Services
Contact 02 6549 3700
Invoice no. 43721
Your reference Application

Date: 30 September 2017

Assessment: 127985

Cert No: 21256

MACH Energy Australia Pty Ltd
GPO Box 94
BRISBANE QLD 4001

Owner (as recorded by Council)

**Wesfarmers Bengalla Limited & Taipower Bengalla
Pty Limited & others**

Property Description: OVERTON ROAD MUSWELLBROOK 2333
LOT: 7 DP: 1170997

Land to which the certificate relates

The land to which this certificate relates, being the lot or lots described on the application form, is shown in the Council's records as being situated at the street address described above. The information contained in this certificate relates only to the lot or lots described on this certificate. Separate planning certificates can be obtained upon application for the other lots, those certificates may contain different information than is contained in this certificate.

CERTIFICATE UNDER SECTION 149(2) ENVIRONMENTAL PLANNING & ASSESSMENT ACT

LOCAL ENVIRONMENTAL PLANS

PLANNING INSTRUMENT

Muswellbrook Local Environmental Plan 2009

LAND USE ZONING

RU1 Primary Production

PERMITTED WITHOUT CONSENT

Extensive agriculture; Home occupations; Intensive plant agriculture

PERMITTED WITH CONSENT

Air transport facilities; Airstrips; Animal boarding or training establishments; Aquaculture; Camping grounds; Caravan parks; Cellar door premises; Cemeteries; Community facilities; Crematoria; Depots; Dwelling houses; Educational establishments; Environmental facilities; Environmental protection works; Extractive industries; Farm buildings; Flood mitigation works; Forestry; Function centres; Group homes; Hazardous industries; Health consulting rooms; Heavy industrial storage establishments; Helipads; Highway service centres; Home-based child care; Home businesses; Home industries; Industrial retail outlets; Information and education facilities; Intensive livestock agriculture; Intensive plant agriculture; Kiosks; Landscaping material supplies; Open cut mining; Places of public worship; Plant nurseries; Recreation areas; Recreation facilities (indoor); Recreation facilities (major); Recreation facilities (outdoor); Research stations; Restaurants or cafes; Roads; Roadside stalls; Rural industries; Rural supplies; Rural worker's dwellings; Secondary dwellings; Service stations; Sewerage systems; Signage; Storage premises; Take away food and drink premises; Tourist and visitor accommodation; Transport depots; Truck depots; Turf farming; Veterinary hospitals; Waste disposal facilities; Water supply systems.

Date: 3 October 2017

Cert No: 21256

PROHIBITED

Any development not specified above.

MINIMUM LAND DIMENSIONS FOR THE ERECTION OF A DWELLING

Under the provisions of the Muswellbrook Local Environmental Plan 2009, the minimum subdivision lot size is 80ha and is also subject to the provisions detailed below.

Land zoned RU1 Primary Production may, with the consent of Council, be subdivided for the purpose of primary production to create a lot less than the minimum lot size. However, such a lot cannot be created if an existing dwelling would, as the result of the subdivision, be situated on the lot. A dwelling cannot be erected on such a lot created.

Development consent must not be granted to the subdivision of a lot in a strata plan or community title scheme on land zoned RU1 Primary Production that is used, or proposed to be used, for residential accommodation or tourist and visitor accommodation.

Only one dwelling house may be erected on land zoned RU1 Primary Production only if the land is:

- (a) a lot created in accordance with clause 4.1 of the LEP 2009, or
- (b) a lot created before the LEP 2009 commenced and on which the erection of a dwelling house was permissible immediately before that commencement, or
- (c) a lot created before the LEP 2009 commenced that is at least the minimum lot size specified for that lot by the Lot Size Map, or
- (d) a lot for which subdivision approval was granted before the LEP 2009 commenced and on which the erection of a dwelling house would have been permissible immediately before that commencement, or
- (e) an existing holding.

NOTE: EXISTING HOLDING means all adjoining land, even if separated by a road or railway, held in the same ownership:

- (a) on 11 April 1974, and
- (b) at the time of lodging a development application for the erection of a dwelling house under this clause.

and includes any other land adjoining that land acquired by the owner since 11 April 1974.

NOTE: The owner in whose ownership all the land is at the time the application is lodged need not be the same person as the owner in whose ownership all the land was on the stated date.

WHETHER THE LAND INCLUDES OR COMPRISES CRITICAL HABITAT

The subject land has not been declared as critical habitat.

WHETHER THE LAND IS IN A CONSERVATION AREA

The subject land is not known to be in a conservation area.

Date: 3 October 2017

Cert No: 21256

WHETHER AN ITEM OF ENVIRONMENTAL HERITAGE IS SITUATED ON THE LAND

The subject property is listed as an item of heritage under schedule 5 of the Muswellbrook Local Environmental Plan 2009.

STATE ENVIRONMENTAL PLANNING POLICIES (EXEMPT & COMPLYING DEVELOPMENT CODES 2008)

CERTIFICATE UNDER SECTION 149(2) IDENTIFYING THE INFORMATION SET OUT IN CLAUSE 3 OF SCHEDULE 4 OF THE ENVIRONMENTAL PLANNING & ASSESSMENT REGULATIONS

Part 3 General Housing Code

Not applicable to the land to which this certificate relates.

Part 3A Rural Housing Code

NO. Complying development specified in the Rural Housing Code may NOT be carried out on this land pursuant to Clause 1.19 of State Environmental Planning Policy (Exempt and Complying Development Codes) 2008.

The land is excluded land; being land identified by an environmental planning instrument as being within an area of:-

HERITAGE ITEM UNDER THE MUSWELLBROOK LOCAL ENVIRONMENTAL PLAN 2009

Part 4 Housing Alterations Code

NO. Complying development specified in the Housing Alterations Code may NOT be carried out on this land pursuant to Clause 1.19 of State Environmental Planning Policy (Exempt and Complying Development Codes) 2008.

The land is excluded land; being land identified by an environmental planning instrument as being within an area of:-

HERITAGE ITEM UNDER THE MUSWELLBROOK LOCAL ENVIRONMENTAL PLAN 2009

Part 4A General Development Code

NO. Complying development specified in the General Development Code may NOT be carried out on this land pursuant to Clause 1.19 of State Environmental Planning Policy (Exempt and Complying Development Codes) 2008.

The land is excluded land; being land identified by an environmental planning instrument as being within an area of:-

HERITAGE ITEM UNDER THE MUSWELLBROOK LOCAL ENVIRONMENTAL PLAN 2009

Part 5 Commercial and Industrial Alterations Code

Not applicable to the land to which this certificate relates.

Part 5A Commercial and Industrial (New Buildings and Additions) Code

Not applicable to the land to which this certificate relates.

Date: 3 October 2017

Cert No: 21256

Part 6 Subdivision Code

NO. Complying development specified in the Subdivision Code may NOT be carried out on this land pursuant to Clause 1.19 of State Environmental Planning Policy (Exempt and Complying Development Codes) 2008.

The land is excluded land; being land identified by an environmental planning instrument as being within an area of:-

HERITAGE ITEM UNDER THE MUSWELLBROOK LOCAL ENVIRONMENTAL PLAN 2009

Part 7 Demolition Code

NO. Complying development specified in the Demolition Code may NOT be carried out on this land pursuant to Clause 1.19 of State Environmental Planning Policy (Exempt and Complying Development Codes) 2008.

The land is excluded land; being land identified by an environmental planning instrument as being within an area of:-

HERITAGE ITEM UNDER THE MUSWELLBROOK LOCAL ENVIRONMENTAL PLAN 2009

Part 8 Fire Safety Code

YES. Complying development specified in the Fire Safety Code may be carried out on this land in certain circumstances pursuant to Clause 1.19 of State Environmental Planning Policy (Exempt and Complying Development Codes) 2008.

STATE ENVIRONMENTAL PLANNING POLICIES

The following State Environmental Planning Policies apply to land within the Muswellbrook Shire LGA:-

No. 21. Caravan Parks - Ensures that where caravan parks or camping grounds are permitted under an environmental planning instrument, movable dwellings, as defined in the Local Government Act 1993, are also permitted. The policy ensures that development consent is required for new caravan parks and camping grounds and for additional long-term sites in existing caravan parks.

No. 30. Intensive Agriculture - Requires development consent for cattle feedlots having a capacity of 50 or more cattle or piggeries having a capacity of 200 or more pigs. The policy sets out information and public notification requirements to ensure there are effective planning control over this export-driven rural industry. The policy does not alter if, and where, such development is permitted, or the functions of the consent authority.

No. 33. Hazardous and Offensive Development - Provides new definitions for 'hazardous industry', 'hazardous storage establishment', 'offensive industry' and 'offensive storage establishment'. The definitions apply to all planning instruments, existing and future. The new definitions enable decisions to approve or refuse a development to be based on the merit of proposal. The consent authority must carefully consider the specifics the case, the location and the way in which the proposed activity is to be carried out. The policy also requires specified matters to be considered for proposals that are 'potentially hazardous' or 'potentially offensive' as defined in the policy. For example, any application to carry out a potentially hazardous or potentially offensive development is to be advertised for public comment, and applications to carry out potentially hazardous development must be supported by a preliminary hazard analysis (PHA).

Date: 3 October 2017

Cert No: 21256

No. 36. Manufactured Home Estates - Helps establish well-designed and properly serviced manufactured home estates (MHEs) in suitable locations. Affordability and security of tenure for residents are important aspects. To enable the immediate development of estates, the policy allows MHEs to be located on certain land where caravan parks are permitted. There are however, criteria that a proposal must satisfy before the local council can approved development.

No. 44. Koala Habitat Protection - Encourages the proper conservation and management of areas of natural vegetation that provide habitat for koalas to ensure a permanent free-living population over their present range and reverse the current trend of koala population decline.

No. 55. Remediation of Land - Introduces state-wide planning controls for the remediation of contaminated land. The policy states that land must not be developed if it is unsuitable for a proposed use because it is contaminated. If the land is unsuitable, remediation must take place before the land is developed. The policy makes remediation permissible across the State, defines when consent is required, requires all remediation to comply with standards, ensures land is investigated if contamination is suspected, and requires councils to be notified of all remediation proposals.

No. 62. Sustainable Aquaculture - The policy implements the regional strategies already developed by creating a simple approach to identify and categorise aquaculture development on the basis of its potential environmental impact. The SEPP also identifies aquaculture development as a designated development only where there are potential environmental risks.

No. 64. Advertising and Signage - Aims to improve the amenity of urban and natural settings by managing the impact of outdoor advertising. The policy responds to growing concerns from the community, the advertising industry and local government that existing controls and guidelines were not effective. SEPP No. 64 offers the comprehensive provisions and consistent approach needed. SEPP 64 – Advertising and Signage: Explanatory Information should be read in conjunction with the policy.

No. 65. Design Quality of Residential Flat Development - Raises the design quality of residential flat development across the state through the application of a series of design principles. The policy provides for the establishment of Design Review Panels to provide independent expert advice to councils on the merit of residential flat development. The accompanying regulation requires the involvement of a qualified designer throughout the design, approval and construction stages.

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Date: 3 October 2017

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Further details regarding these State Environmental Planning Policies and the circumstances in which they may apply to the subject and can be found on the Department of Planning's website.

REGIONAL PLANNING INSTRUMENTS

There are no Regional Environmental Plans applying within the Muswellbrook Shire Council area.

DEVELOPMENT CONTROL PLANS

This land is affected by the following Development Control Plans:
Muswellbrook Shire Development Control Plan 2009

COASTAL PROTECTION

The land IS NOT affected by the operations of Sections 38 and 39 of the *Coastal Protection Act* 1979.

MINE SUBSIDENCE

The land IS WITHIN a proclaimed Mine Subsidence District under the Mine Subsidence Compensation Act 1961. The approval of the Mine Subsidence Board is required for all subdivision and building, except for certain minor structures. Surface development controls are in place to prevent damage from old, current or future mining. It is strongly recommended prospective purchasers consult with the Mine Subsidence Board regarding mine subsidence and any surface development guidelines.

Date: 3 October 2017

Cert No: 21256

The Board can assist with information about mine subsidence and advise whether existing structures comply with the requirements of the Act.

The Department of Mineral Resources has identified the lands may be subject to coal mining (either open cut mining or underground mining). Further enquiries should be directed to the Department of Mineral Resources.

ROAD WIDENING AND ROAD REALIGNMENT

The subject land IS NOT 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.

COUNCIL AND OTHER PUBLIC AUTHORITY POLICIES ON HAZARD RISK RESTRICTIONS

The land IS NOT affected by a policy adopted by the council, or 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).

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The Hunter River Flood Study 2014 shows the land to be affected by flooding.

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The land IS NOT biodiversity certified land (within the meaning of Part 7AA of the Threatened Species Conservation Act 1995)

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The land IS NOT affected by a biobanking agreement under Part 7A of the *Threatened Species Conservation Act 1995*.

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- (a) The land to which this certificate relates is NOT within land declared to be significantly contaminated land under the Contaminated Land Management Act 2008 at the date when the certificate is issued.

Date: 3 October 2017

Cert No: 21256

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Rural Fire and Environmental Assessment Legislation Amendment Act 2002. This land is designated as bush fire prone land and any development of the land will require appropriate fire protection assessment prior to such development of the land. For further information concerning the bush fire status of the land, please contact Council on (02) 6549 3700.

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Council has NOT been notified of the existence of such a plan or if the land is land to which a property vegetation plan under the Native Vegetation Act 2003 applies.

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Council has NOT been notified of any order made under the Trees (Disputes Between Neighbours) Act 2006 to carry out work in relation to a tree on the land.

DIRECTIONS UNDER PART 3A

There is NOT a direction by the Minister in force under section 75P (2) (c1) of the Act in relation to prohibiting or restricting the carrying out of a project or a stage of a project on the land under Part 4 of the Act.

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There is NOT a current site compatibility certificate (of which the council is aware), issued under clause 25 of State Environmental Planning Policy (Housing for Seniors or People with a Disability) 2004 in respect of proposed development on the land.

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Date: 3 October 2017

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There is NOT an adopted development plan or subdivision order that applies to the land.

SITE VERIFICATION CERTIFICATE

There is NOT a current site verification certificate (of which the council is aware), issued under clause 17C of State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007, in relation to the land.

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There are NO residential premises located on this land that are listed on the register that are required to be maintained under Division 1A of Part 8 of the *Home Building Act 1989*.

The accuracy and currency of the details provided by agencies external to Council have not be verified by Muswellbrook Shire Council and should be verified by the applicant.

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| ADDITIONAL INFORMATION PURSUANT TO SECTION 149(5) OF THE ACT |
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Council is unaware of any other relevant matters that may affect the land.

For further information, please contact the
Environmental Services Department.

S J McDonald
General Manager

Per: _____

DL Watson

**PLANNING CERTIFICATE UNDER
SECTION 149 ENVIRONMENTAL PLANNING
AND ASSESSMENT ACT 1979**

Enquiries Environmental Services
Contact 02 6549 3700
Invoice no. 43721
Your reference Application

Date: 30 September 2017

Assessment: 127977

Cert No: 21258

MACH Energy Australia Pty Ltd
GPO Box 94
BRISBANE QLD 4001

Owner (as recorded by Council)

**Wesfarmers Bengalla Limited & Taipower Bengalla
Pty Limited & others**

Property Description: OVERTON ROAD MUSWELLBROOK 2333
LOT: 8 DP: 1170997

Land to which the certificate relates

The land to which this certificate relates, being the lot or lots described on the application form, is shown in the Council's records as being situated at the street address described above. The information contained in this certificate relates only to the lot or lots described on this certificate. Separate planning certificates can be obtained upon application for the other lots, those certificates may contain different information than is contained in this certificate.

CERTIFICATE UNDER SECTION 149(2) ENVIRONMENTAL PLANNING & ASSESSMENT ACT

LOCAL ENVIRONMENTAL PLANS

PLANNING INSTRUMENT

Muswellbrook Local Environmental Plan 2009

LAND USE ZONING

RU1 Primary Production

PERMITTED WITHOUT CONSENT

Extensive agriculture; Home occupations; Intensive plant agriculture

PERMITTED WITH CONSENT

Air transport facilities; Airstrips; Animal boarding or training establishments; Aquaculture; Camping grounds; Caravan parks; Cellar door premises; Cemeteries; Community facilities; Crematoria; Depots; Dwelling houses; Educational establishments; Environmental facilities; Environmental protection works; Extractive industries; Farm buildings; Flood mitigation works; Forestry; Function centres; Group homes; Hazardous industries; Health consulting rooms; Heavy industrial storage establishments; Helipads; Highway service centres; Home-based child care; Home businesses; Home industries; Industrial retail outlets; Information and education facilities; Intensive livestock agriculture; Intensive plant agriculture; Kiosks; Landscaping material supplies; Open cut mining; Places of public worship; Plant nurseries; Recreation areas; Recreation facilities (indoor); Recreation facilities (major); Recreation facilities (outdoor); Research stations; Restaurants or cafes; Roads; Roadside stalls; Rural industries; Rural supplies; Rural worker's dwellings; Secondary dwellings; Service stations; Sewerage systems; Signage; Storage premises; Take away food and drink premises; Tourist and visitor accommodation; Transport depots; Truck depots; Turf farming; Veterinary hospitals; Waste disposal facilities; Water supply systems.

Date: 3 October 2017

Cert No: 21258

PROHIBITED

Any development not specified above.

MINIMUM LAND DIMENSIONS FOR THE ERECTION OF A DWELLING

Under the provisions of the Muswellbrook Local Environmental Plan 2009, the minimum subdivision lot size is 80ha and is also subject to the provisions detailed below.

Land zoned RU1 Primary Production may, with the consent of Council, be subdivided for the purpose of primary production to create a lot less than the minimum lot size. However, such a lot cannot be created if an existing dwelling would, as the result of the subdivision, be situated on the lot. A dwelling cannot be erected on such a lot created.

Development consent must not be granted to the subdivision of a lot in a strata plan or community title scheme on land zoned RU1 Primary Production that is used, or proposed to be used, for residential accommodation or tourist and visitor accommodation.

Only one dwelling house may be erected on land zoned RU1 Primary Production only if the land is:

- (a) a lot created in accordance with clause 4.1 of the LEP 2009, or
- (b) a lot created before the LEP 2009 commenced and on which the erection of a dwelling house was permissible immediately before that commencement, or
- (c) a lot created before the LEP 2009 commenced that is at least the minimum lot size specified for that lot by the Lot Size Map, or
- (d) a lot for which subdivision approval was granted before the LEP 2009 commenced and on which the erection of a dwelling house would have been permissible immediately before that commencement, or
- (e) an existing holding.

NOTE: EXISTING HOLDING means all adjoining land, even if separated by a road or railway, held in the same ownership:

- (a) on 11 April 1974, and
- (b) at the time of lodging a development application for the erection of a dwelling house under this clause.

and includes any other land adjoining that land acquired by the owner since 11 April 1974.

NOTE: The owner in whose ownership all the land is at the time the application is lodged need not be the same person as the owner in whose ownership all the land was on the stated date.

WHETHER THE LAND INCLUDES OR COMPRISES CRITICAL HABITAT

The subject land has not been declared as critical habitat.

WHETHER THE LAND IS IN A CONSERVATION AREA

The subject land is not known to be in a conservation area.

Date: 3 October 2017

Cert No: 21258

WHETHER AN ITEM OF ENVIRONMENTAL HERITAGE IS SITUATED ON THE LAND

The land is NOT affected by any known or listed heritage item.

STATE ENVIRONMENTAL PLANNING POLICIES (EXEMPT & COMPLYING DEVELOPMENT CODES 2008)

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|---|
| CERTIFICATE UNDER SECTION 149(2) IDENTIFYING THE INFORMATION SET OUT IN CLAUSE 3 OF SCHEDULE 4 OF THE ENVIRONMENTAL PLANNING & ASSESSMENT REGULATIONS |
|---|

Part 3 General Housing Code

Not applicable to the land to which this certificate relates.

Part 3A Rural Housing Code

YES. Complying development specified in the Rural Housing Code may be carried out on this land in certain circumstances pursuant to Clause 1.19 of State Environmental Planning Policy (Exempt and Complying Development Codes) 2008.

Part 4 Housing Alterations Code

YES. Complying development specified in the Housing Alterations Code may be carried out on this land in certain circumstances pursuant to Clause 1.19 of State Environmental Planning Policy (Exempt and Complying Development Codes) 2008.

Part 4A General Development Code

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Part 5 Commercial and Industrial Alterations Code

Not applicable to the land to which this certificate relates.

Part 5A Commercial and Industrial (New Buildings and Additions) Code

Not applicable to the land to which this certificate relates.

Part 6 Subdivision Code

YES. Complying development specified in the Subdivision Code may be carried out on this land in certain circumstances pursuant to Clause 1.19 of State Environmental Planning Policy (Exempt and Complying Development Codes) 2008.

Part 7 Demolition Code

YES. Complying development specified in the Demolition Code may be carried out on this land in certain circumstances pursuant to Clause 1.19 of State Environmental Planning Policy (Exempt and Complying Development Codes) 2008.

Date: 3 October 2017

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Part 8 Fire Safety Code

YES. Complying development specified in the Fire Safety Code may be carried out on this land in certain circumstances pursuant to Clause 1.19 of State Environmental Planning Policy (Exempt and Complying Development Codes) 2008.

STATE ENVIRONMENTAL PLANNING POLICIES

The following State Environmental Planning Policies apply to land within the Muswellbrook Shire LGA:-

No. 21. Caravan Parks - Ensures that where caravan parks or camping grounds are permitted under an environmental planning instrument, movable dwellings, as defined in the Local Government Act 1993, are also permitted. The policy ensures that development consent is required for new caravan parks and camping grounds and for additional long-term sites in existing caravan parks.

No. 30. Intensive Agriculture - Requires development consent for cattle feedlots having a capacity of 50 or more cattle or piggeries having a capacity of 200 or more pigs. The policy sets out information and public notification requirements to ensure there are effective planning control over this export-driven rural industry. The policy does not alter if, and where, such development is permitted, or the functions of the consent authority.

No. 33. Hazardous and Offensive Development - Provides new definitions for 'hazardous industry', 'hazardous storage establishment', 'offensive industry' and 'offensive storage establishment'. The definitions apply to all planning instruments, existing and future. The new definitions enable decisions to approve or refuse a development to be based on the merit of proposal. The consent authority must carefully consider the specifics of the case, the location and the way in which the proposed activity is to be carried out. The policy also requires specified matters to be considered for proposals that are 'potentially hazardous' or 'potentially offensive' as defined in the policy. For example, any application to carry out a potentially hazardous or potentially offensive development is to be advertised for public comment, and applications to carry out potentially hazardous development must be supported by a preliminary hazard analysis (PHA).

No. 36. Manufactured Home Estates - Helps establish well-designed and properly serviced manufactured home estates (MHEs) in suitable locations. Affordability and security of tenure for residents are important aspects. To enable the immediate development of estates, the policy allows MHEs to be located on certain land where caravan parks are permitted. There are however, criteria that a proposal must satisfy before the local council can approve development.

No. 44. Koala Habitat Protection - Encourages the proper conservation and management of areas of natural vegetation that provide habitat for koalas to ensure a permanent free-living population over their present range and reverse the current trend of koala population decline.

No. 55. Remediation of Land - Introduces state-wide planning controls for the remediation of contaminated land. The policy states that land must not be developed if it is unsuitable for a proposed use because it is contaminated. If the land is unsuitable, remediation must take place before the land is developed. The policy makes remediation permissible across the State, defines when consent is required, requires all remediation to comply with standards, ensures land is investigated if contamination is suspected, and requires councils to be notified of all remediation proposals.

No. 62. Sustainable Aquaculture - The policy implements the regional strategies already developed by creating a simple approach to identify and categorise aquaculture development on the basis of its potential environmental impact. The SEPP also identifies aquaculture development as a designated development only where there are potential environmental risks.

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No. 64. Advertising and Signage - Aims to improve the amenity of urban and natural settings by managing the impact of outdoor advertising. The policy responds to growing concerns from the community, the advertising industry and local government that existing controls and guidelines were not effective. SEPP No. 64 offers the comprehensive provisions and consistent approach needed. SEPP 64 – Advertising and Signage: Explanatory Information should be read in conjunction with the policy.

No. 65. Design Quality of Residential Flat Development - Raises the design quality of residential flat development across the state through the application of a series of design principles. The policy provides for the establishment of Design Review Panels to provide independent expert advice to councils on the merit of residential flat development. The accompanying regulation requires the involvement of a qualified designer throughout the design, approval and construction stages.

SEPP (Housing for Seniors or People with a Disability) 2004 - Encourage the development of high quality accommodation for our ageing population and for people who have disabilities - housing that is in keeping with the local neighbourhood

SEPP (Building Sustainability Index: BASIX) 2004 - This SEPP operates in conjunction with Environmental Planning and Assessment Amendment (Building Sustainability Index: BASIX) Regulation 2004 to ensure the effective introduction of BASIX in NSW. The SEPP ensures consistency in the implementation of BASIX throughout the State by overriding competing provisions in other environmental planning instruments and development control plans, and specifying that SEPP 1 does not apply in relation to any development standard arising under BASIX.

SEPP (Infrastructure) 2007 - Provides a consistent planning regime for infrastructure and the provision of services across NSW, along with providing for consultation with relevant public authorities during the assessment process. The SEPP supports greater flexibility in the location of infrastructure and service facilities along with improved regulatory certainty and efficiency.

SEPP (Mining, Petroleum Production and Extractive Industries) 2007 - This Policy aims to provide for the proper management and development of mineral, petroleum and extractive material resources for the social and economic welfare of the State. The Policy establishes appropriate planning controls to encourage ecologically sustainable development.

SEPP (Miscellaneous Consent Provisions) 2007 - Provides for the erection of temporary structures and the use of places of public entertainment while protecting public safety and local amenity. The SEPP supports the transfer of the regulation of places of public entertainment and temporary structures (such as tents, marquees and booths) from the Local Government Act 1993 to the Environmental Planning and Assessment Act 1979.

SEPP (Rural Lands) 2008 - The aim of this policy is to facilitate the orderly and economic use and development of rural lands for rural and related purposes.

SEPP (Exempt and Complying Development Codes) 2008 – This policy streamlines assessment processes for development that complies with specified development standards. The policy provides exempt codes that have State-wide application, identifying, in the General Exempt Development Code, types of development that are of minimal environmental impact that may be carried out without the need for development consent.

SEPP (Affordable Rental Housing) 2009 – The aims of this policy are to provide a consistent planning regime for the provision of affordable rental housing; facilitate the effective delivery of new affordable rental housing by providing incentives by way of expanding zoning permissibility, floor space ratio bonuses and non-discretionary development standards; facilitate the retention and mitigate the loss of existing affordable rental housing; employ a balanced approach between obligations for retaining and mitigating the loss of existing affordable rental housing, and incentives for the development of new

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affordable rental housing; facilitate an expanding role for not-for-profit-providers of affordable rental housing; support local business centres by providing affordable rental housing for workers close to places of work; and facilitate the development of housing for the homeless and other disadvantaged people who may require support services, including group homes and supportive accommodation.

SEPP (State and Regional Development) 2011 – The aims of this policy are to identify development that is State significant development; identify development that is State significant infrastructure and critical State significant infrastructure; and confer functions on joint regional planning panels to determine development applications.

Further details regarding these State Environmental Planning Policies and the circumstances in which they may apply to the subject and can be found on the Department of Planning's website.

REGIONAL PLANNING INSTRUMENTS

There are no Regional Environmental Plans applying within the Muswellbrook Shire Council area.

DEVELOPMENT CONTROL PLANS

This land is affected by the following Development Control Plans:
Muswellbrook Shire Development Control Plan 2009

COASTAL PROTECTION

The land IS NOT affected by the operations of Sections 38 and 39 of the *Coastal Protection Act* 1979.

MINE SUBSIDENCE

The land IS NOT WITHIN a Mine Subsidence District proclaimed under section 15 of the Mine Subsidence Compensation Act, 1961.

ROAD WIDENING AND ROAD REALIGNMENT

The subject land IS NOT 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.

COUNCIL AND OTHER PUBLIC AUTHORITY POLICIES ON HAZARD RISK RESTRICTIONS

The land IS NOT affected by a policy adopted by the council, or 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).

FLOOD RELATED DEVELOPMENT CONTROLS INFORMATION

The Hunter River Flood Study 2014 shows the land to be affected by flooding.

LAND RESERVED FOR ACQUISITION

There are NOT any environmental planning instruments; deemed environmental planning instruments or draft environmental planning instruments applying to the land that provide for the acquisition of the

Date: 3 October 2017

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land by a public authority, as referred to in section 27 of the Environmental Planning and Assessment Act 1979.

CONTRIBUTIONS PLANS

The Muswellbrook Section 94 Contributions Plan 2001 and Muswellbrook Section 94A Contributions Plan 2009 apply to all land within the Muswellbrook Shire Local Government Area.

BIODIVERSITY CERTIFIED LAND

The land IS NOT biodiversity certified land (within the meaning of Part 7AA of the Threatened Species Conservation Act 1995)

BIOBANKING AGREEMENTS

The land IS NOT affected by a biobanking agreement under Part 7A of the *Threatened Species Conservation Act 1995*.

MATTERS RELATING TO THE MANAGEMENT OF CONTAMINATED LAND

- (a) The land to which this certificate relates is NOT within land declared to be significantly contaminated land under the Contaminated Land Management Act 2008 at the date when the certificate is issued.
- (b) The land to which this certificate relates is NOT subject to a management order under the Contaminated Land Management Act 2008 at the date when the certificate is issued.
- (c) The land to which this certificate relates is NOT the subject of approved voluntary management proposal the subject of the Environment Protection Authority's agreement under the Contaminated Land Management Act 2008 at the date when the certificate is issued.
- (d) The land to which this certificate relates is NOT the subject to an ongoing maintenance order under the Contaminated Land Management Act 2008 at the date when the certificate is issued.
- (e) The land to which this certificate relates has NOT been the subject of a site audit statement provided to Muswellbrook Shire Council.

BUSH FIRE PRONE LAND

The land IS NOT bushfire prone land.

PROPERTY VEGETATION PLANS

Council has NOT been notified of the existence of such a plan or if the land is land to which a property vegetation plan under the Native Vegetation Act 2003 applies.

ORDERS UNDER TREES (DISPUTES BETWEEN NEIGHBOURS) ACT 2006

Council has NOT been notified of any order made under the Trees (Disputes Between Neighbours) Act 2006 to carry out work in relation to a tree on the land.

Date: 3 October 2017

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DIRECTIONS UNDER PART 3A

There is NOT a direction by the Minister in force under section 75P (2) (c1) of the Act in relation to prohibiting or restricting the carrying out of a project or a stage of a project on the land under Part 4 of the Act.

SITE COMPATIBILITY CERTIFICATES AND CONDITIONS FOR SENIORS HOUSING

There is NOT a current site compatibility certificate (of which the council is aware), issued under clause 25 of State Environmental Planning Policy (Housing for Seniors or People with a Disability) 2004 in respect of proposed development on the land.

SITE COMPATIBILITY CERTIFICATES FOR INFRASTRUCTURE

There is NOT a valid site compatibility certificate (of which the council is aware), issued under clause 19 of State Environmental Planning Policy (Infrastructure) 2007 in respect of proposed development on the land.

SITE COMPATIBILITY CERTIFICATES AND CONDITIONS FOR AFFORDABLE RENTAL HOUSING

There is NOT a current site compatibility certificate for affordable rental housing (of which the council is aware), issued under clause 37 of State Environmental Planning Policy (Affordable Rental Housing) 2007 in respect of proposed development on the land.

PAPER SUBDIVISION INFORMATION

There is NOT an adopted development plan or subdivision order that applies to the land.

SITE VERIFICATION CERTIFICATE

There is NOT a current site verification certificate (of which the council is aware), issued under clause 17C of State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007, in relation to the land.

LOOSE-FILL ASBESTOS INSULATION

There are NO residential premises located on this land that are listed on the register that are required to be maintained under Division 1A of Part 8 of the *Home Building Act 1989*.

The accuracy and currency of the details provided by agencies external to Council have not be verified by Muswellbrook Shire Council and should be verified by the applicant.

ADDITIONAL INFORMATION PURSUANT TO SECTION 149(5) OF THE ACT

Council is unaware of any other relevant matters that may affect the land.

For further information, please contact the
Environmental Services Department.

S J McDonald
General Manager

Per: _____

DJ Watson

**PLANNING CERTIFICATE UNDER
SECTION 149 ENVIRONMENTAL PLANNING
AND ASSESSMENT ACT 1979**

Enquiries Environmental Services
Contact 02 6549 3700
Invoice no. 43721
Your reference Application

Date: 29 September 2017

Assessment: 63719

Cert No: 21235

MACH Energy Australia Pty Ltd
GPO Box 94
BRISBANE QLD 4001

Owner (as recorded by Council)

MACH Energy Australia Pty Ltd

Property Description: WYBONG ROAD MUSWELLBROOK 2333
LOT: 2 DP: 780673

Land to which the certificate relates

The land to which this certificate relates, being the lot or lots described on the application form, is shown in the Council's records as being situated at the street address described above. The information contained in this certificate relates only to the lot or lots described on this certificate. Separate planning certificates can be obtained upon application for the other lots, those certificates may contain different information than is contained in this certificate.

CERTIFICATE UNDER SECTION 149(2) ENVIRONMENTAL PLANNING & ASSESSMENT ACT

LOCAL ENVIRONMENTAL PLANS

PLANNING INSTRUMENT Muswellbrook Local Environmental Plan 2009

LAND USE ZONING RU1 Primary Production

PERMITTED WITHOUT CONSENT

Extensive agriculture; Home occupations; Intensive plant agriculture

PERMITTED WITH CONSENT

Air transport facilities; Airstrips; Animal boarding or training establishments; Aquaculture; Camping grounds; Caravan parks; Cellar door premises; Cemeteries; Community facilities; Crematoria; Depots; Dwelling houses; Educational establishments; Environmental facilities; Environmental protection works; Extractive industries; Farm buildings; Flood mitigation works; Forestry; Function centres; Group homes; Hazardous industries; Health consulting rooms; Heavy industrial storage establishments; Helipads; Highway service centres; Home-based child care; Home businesses; Home industries; Industrial retail outlets; Information and education facilities; Intensive livestock agriculture; Intensive plant agriculture; Kiosks; Landscaping material supplies; Open cut mining; Places of public worship; Plant nurseries; Recreation areas; Recreation facilities (indoor); Recreation facilities (major); Recreation facilities (outdoor); Research stations; Restaurants or cafes; Roads; Roadside stalls; Rural industries; Rural supplies; Rural worker's dwellings; Secondary dwellings; Service stations; Sewerage systems; Signage; Storage premises; Take away food and drink premises; Tourist and visitor accommodation; Transport depots; Truck depots; Turf farming; Veterinary hospitals; Waste disposal facilities; Water supply systems.

Date: 29 September 2017

Cert No: 21235

PROHIBITED

Any development not specified above.

MINIMUM LAND DIMENSIONS FOR THE ERECTION OF A DWELLING

Under the provisions of the Muswellbrook Local Environmental Plan 2009, the minimum subdivision lot size is 80ha and is also subject to the provisions detailed below.

Land zoned RU1 Primary Production may, with the consent of Council, be subdivided for the purpose of primary production to create a lot less than the minimum lot size. However, such a lot cannot be created if an existing dwelling would, as the result of the subdivision, be situated on the lot. A dwelling cannot be erected on such a lot created.

Development consent must not be granted to the subdivision of a lot in a strata plan or community title scheme on land zoned RU1 Primary Production that is used, or proposed to be used, for residential accommodation or tourist and visitor accommodation.

Only one dwelling house may be erected on land zoned RU1 Primary Production only if the land is:

- (a) a lot created in accordance with clause 4.1 of the LEP 2009, or
- (b) a lot created before the LEP 2009 commenced and on which the erection of a dwelling house was permissible immediately before that commencement, or
- (c) a lot created before the LEP 2009 commenced that is at least the minimum lot size specified for that lot by the Lot Size Map, or
- (d) a lot for which subdivision approval was granted before the LEP 2009 commenced and on which the erection of a dwelling house would have been permissible immediately before that commencement, or
- (e) an existing holding.

NOTE: EXISTING HOLDING means all adjoining land, even if separated by a road or railway, held in the same ownership:

- (a) on 11 April 1974, and
- (b) at the time of lodging a development application for the erection of a dwelling house under this clause.

and includes any other land adjoining that land acquired by the owner since 11 April 1974.

NOTE: The owner in whose ownership all the land is at the time the application is lodged need not be the same person as the owner in whose ownership all the land was on the stated date.

WHETHER THE LAND INCLUDES OR COMPRISES CRITICAL HABITAT

The subject land has not been declared as critical habitat.

WHETHER THE LAND IS IN A CONSERVATION AREA

The subject land is not known to be in a conservation area.

Date: 29 September 2017

Cert No: 21235

WHETHER AN ITEM OF ENVIRONMENTAL HERITAGE IS SITUATED ON THE LAND

The land is NOT affected by any known or listed heritage item.

STATE ENVIRONMENTAL PLANNING POLICIES (EXEMPT & COMPLYING DEVELOPMENT CODES 2008)

CERTIFICATE UNDER SECTION 149(2) IDENTIFYING THE INFORMATION SET OUT IN CLAUSE 3 OF SCHEDULE 4 OF THE ENVIRONMENTAL PLANNING & ASSESSMENT REGULATIONS

Part 3 General Housing Code

Not applicable to the land to which this certificate relates.

Part 3A Rural Housing Code

YES. Complying development specified in the Rural Housing Code may be carried out on this land in certain circumstances pursuant to Clause 1.19 of State Environmental Planning Policy (Exempt and Complying Development Codes) 2008.

Part 4 Housing Alterations Code

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Part 4A General Development Code

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Part 5 Commercial and Industrial Alterations Code

Not applicable to the land to which this certificate relates.

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Not applicable to the land to which this certificate relates.

Part 6 Subdivision Code

YES. Complying development specified in the Subdivision Code may be carried out on this land in certain circumstances pursuant to Clause 1.19 of State Environmental Planning Policy (Exempt and Complying Development Codes) 2008.

Part 7 Demolition Code

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Date: 29 September 2017

Cert No: 21235

Part 8 Fire Safety Code

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The following State Environmental Planning Policies apply to land within the Muswellbrook Shire LGA:-

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The land IS NOT affected by a policy adopted by the council, or 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).

FLOOD RELATED DEVELOPMENT CONTROLS INFORMATION

The Hunter River Flood Study 2014 shows the land to be affected by flooding.

LAND RESERVED FOR ACQUISITION

There are NOT any environmental planning instruments; deemed environmental planning instruments or draft environmental planning instruments applying to the land that provide for the acquisition of the

Date: 29 September 2017

Cert No: 21235

land by a public authority, as referred to in section 27 of the Environmental Planning and Assessment Act 1979.

CONTRIBUTIONS PLANS

The Muswellbrook Section 94 Contributions Plan 2001 and Muswellbrook Section 94A Contributions Plan 2009 apply to all land within the Muswellbrook Shire Local Government Area.

BIODIVERSITY CERTIFIED LAND

The land IS NOT biodiversity certified land (within the meaning of Part 7AA of the Threatened Species Conservation Act 1995)

BIOBANKING AGREEMENTS

The land IS NOT affected by a biobanking agreement under Part 7A of the *Threatened Species Conservation Act 1995*.

MATTERS RELATING TO THE MANAGEMENT OF CONTAMINATED LAND

- (a) The land to which this certificate relates is NOT within land declared to be significantly contaminated land under the Contaminated Land Management Act 2008 at the date when the certificate is issued.
- (b) The land to which this certificate relates is NOT subject to a management order under the Contaminated Land Management Act 2008 at the date when the certificate is issued.
- (c) The land to which this certificate relates is NOT the subject of approved voluntary management proposal the subject of the Environment Protection Authority's agreement under the Contaminated Land Management Act 2008 at the date when the certificate is issued.
- (d) The land to which this certificate relates is NOT the subject to an ongoing maintenance order under the Contaminated Land Management Act 2008 at the date when the certificate is issued.
- (e) The land to which this certificate relates has NOT been the subject of a site audit statement provided to Muswellbrook Shire Council.

BUSH FIRE PRONE LAND

The land IS NOT bushfire prone land.

PROPERTY VEGETATION PLANS

Council has NOT been notified of the existence of such a plan or if the land is land to which a property vegetation plan under the Native Vegetation Act 2003 applies.

ORDERS UNDER TREES (DISPUTES BETWEEN NEIGHBOURS) ACT 2006

Council has NOT been notified of any order made under the Trees (Disputes Between Neighbours) Act 2006 to carry out work in relation to a tree on the land.

Date: 29 September 2017

Cert No: 21235

DIRECTIONS UNDER PART 3A

There is NOT a direction by the Minister in force under section 75P (2) (c1) of the Act in relation to prohibiting or restricting the carrying out of a project or a stage of a project on the land under Part 4 of the Act.

SITE COMPATIBILITY CERTIFICATES AND CONDITIONS FOR SENIORS HOUSING

There is NOT a current site compatibility certificate (of which the council is aware), issued under clause 25 of State Environmental Planning Policy (Housing for Seniors or People with a Disability) 2004 in respect of proposed development on the land.

SITE COMPATIBILITY CERTIFICATES FOR INFRASTRUCTURE

There is NOT a valid site compatibility certificate (of which the council is aware), issued under clause 19 of State Environmental Planning Policy (Infrastructure) 2007 in respect of proposed development on the land.

SITE COMPATIBILITY CERTIFICATES AND CONDITIONS FOR AFFORDABLE RENTAL HOUSING

There is NOT a current site compatibility certificate for affordable rental housing (of which the council is aware), issued under clause 37 of State Environmental Planning Policy (Affordable Rental Housing) 2007 in respect of proposed development on the land.

PAPER SUBDIVISION INFORMATION

There is NOT an adopted development plan or subdivision order that applies to the land.

SITE VERIFICATION CERTIFICATE

There is NOT a current site verification certificate (of which the council is aware), issued under clause 17C of State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007, in relation to the land.

LOOSE-FILL ASBESTOS INSULATION

There are NO residential premises located on this land that are listed on the register that are required to be maintained under Division 1A of Part 8 of the *Home Building Act 1989*.

The accuracy and currency of the details provided by agencies external to Council have not be verified by Muswellbrook Shire Council and should be verified by the applicant.

ADDITIONAL INFORMATION PURSUANT TO SECTION 149(5) OF THE ACT

Council is unaware of any other relevant matters that may affect the land.

For further information, please contact the
Environmental Services Department.

S J McDonald
General Manager

Per: 

**PLANNING CERTIFICATE UNDER
SECTION 149 ENVIRONMENTAL PLANNING
AND ASSESSMENT ACT 1979**

Enquiries Environmental Services
Contact 02 6549 3700
Invoice no. 43721
Your reference Application

Date: 30 September 2017

Assessment: 61481

Cert No: 21257

MACH Energy Australia Pty Ltd
GPO Box 94
BRISBANE QLD 4001

Owner (as recorded by Council)

Mr R K & Mrs N V Googe

Property Description: ELLIS PARISH COUNTY BRISBANE 2333
LOT: 8 DP: 770911

Land to which the certificate relates

The land to which this certificate relates, being the lot or lots described on the application form, is shown in the Council's records as being situated at the street address described above. The information contained in this certificate relates only to the lot or lots described on this certificate. Separate planning certificates can be obtained upon application for the other lots, those certificates may contain different information than is contained in this certificate.

CERTIFICATE UNDER SECTION 149(2) ENVIRONMENTAL PLANNING & ASSESSMENT ACT

LOCAL ENVIRONMENTAL PLANS

PLANNING INSTRUMENT

Muswellbrook Local Environmental Plan 2009

LAND USE ZONING

RU1 Primary Production

PERMITTED WITHOUT CONSENT

Extensive agriculture; Home occupations; Intensive plant agriculture

PERMITTED WITH CONSENT

Air transport facilities; Airstrips; Animal boarding or training establishments; Aquaculture; Camping grounds; Caravan parks; Cellar door premises; Cemeteries; Community facilities; Crematoria; Depots; Dwelling houses; Educational establishments; Environmental facilities; Environmental protection works; Extractive industries; Farm buildings; Flood mitigation works; Forestry; Function centres; Group homes; Hazardous industries; Health consulting rooms; Heavy industrial storage establishments; Helipads; Highway service centres; Home-based child care; Home businesses; Home industries; Industrial retail outlets; Information and education facilities; Intensive livestock agriculture; Intensive plant agriculture; Kiosks; Landscaping material supplies; Open cut mining; Places of public worship; Plant nurseries; Recreation areas; Recreation facilities (indoor); Recreation facilities (major); Recreation facilities (outdoor); Research stations; Restaurants or cafes; Roads; Roadside stalls; Rural industries; Rural supplies; Rural worker's dwellings; Secondary dwellings; Service stations; Sewerage systems; Signage; Storage premises; Take away food and drink premises; Tourist and visitor accommodation; Transport depots; Truck depots; Turf farming; Veterinary hospitals; Waste disposal facilities; Water supply systems.

Date: 3 October 2017

Cert No: 21257

PROHIBITED

Any development not specified above.

MINIMUM LAND DIMENSIONS FOR THE ERECTION OF A DWELLING

Under the provisions of the Muswellbrook Local Environmental Plan 2009, the minimum subdivision lot size is 80ha and is also subject to the provisions detailed below.

Land zoned RU1 Primary Production may, with the consent of Council, be subdivided for the purpose of primary production to create a lot less than the minimum lot size. However, such a lot cannot be created if an existing dwelling would, as the result of the subdivision, be situated on the lot. A dwelling cannot be erected on such a lot created.

Development consent must not be granted to the subdivision of a lot in a strata plan or community title scheme on land zoned RU1 Primary Production that is used, or proposed to be used, for residential accommodation or tourist and visitor accommodation.

Only one dwelling house may be erected on land zoned RU1 Primary Production only if the land is:

- (a) a lot created in accordance with clause 4.1 of the LEP 2009, or
- (b) a lot created before the LEP 2009 commenced and on which the erection of a dwelling house was permissible immediately before that commencement, or
- (c) a lot created before the LEP 2009 commenced that is at least the minimum lot size specified for that lot by the Lot Size Map, or
- (d) a lot for which subdivision approval was granted before the LEP 2009 commenced and on which the erection of a dwelling house would have been permissible immediately before that commencement, or
- (e) an existing holding.

NOTE: EXISTING HOLDING means all adjoining land, even if separated by a road or railway, held in the same ownership:

- (a) on 11 April 1974, and
- (b) at the time of lodging a development application for the erection of a dwelling house under this clause.

and includes any other land adjoining that land acquired by the owner since 11 April 1974.

NOTE: The owner in whose ownership all the land is at the time the application is lodged need not be the same person as the owner in whose ownership all the land was on the stated date.

WHETHER THE LAND INCLUDES OR COMPRISES CRITICAL HABITAT

The subject land has not been declared as critical habitat.

WHETHER THE LAND IS IN A CONSERVATION AREA

The subject land is not known to be in a conservation area.

Date: 3 October 2017

Cert No: 21257

WHETHER AN ITEM OF ENVIRONMENTAL HERITAGE IS SITUATED ON THE LAND

The land is NOT affected by any known or listed heritage item.

STATE ENVIRONMENTAL PLANNING POLICIES (EXEMPT & COMPLYING DEVELOPMENT CODES 2008)

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|---|
| CERTIFICATE UNDER SECTION 149(2) IDENTIFYING THE INFORMATION SET OUT IN CLAUSE 3 OF SCHEDULE 4 OF THE ENVIRONMENTAL PLANNING & ASSESSMENT REGULATIONS |
|---|

Part 3 General Housing Code

Not applicable to the land to which this certificate relates.

Part 3A Rural Housing Code

YES. Complying development specified in the Rural Housing Code may be carried out on this land in certain circumstances pursuant to Clause 1.19 of State Environmental Planning Policy (Exempt and Complying Development Codes) 2008.

Part 4 Housing Alterations Code

YES. Complying development specified in the Housing Alterations Code may be carried out on this land in certain circumstances pursuant to Clause 1.19 of State Environmental Planning Policy (Exempt and Complying Development Codes) 2008.

Part 4A General Development Code

YES. Complying development specified in the General Development Code may be carried out on this land in certain circumstances pursuant to Clause 1.19 of State Environmental Planning Policy (Exempt and Complying Development Codes) 2008.

Part 5 Commercial and Industrial Alterations Code

Not applicable to the land to which this certificate relates.

Part 5A Commercial and Industrial (New Buildings and Additions) Code

Not applicable to the land to which this certificate relates.

Part 6 Subdivision Code

YES. Complying development specified in the Subdivision Code may be carried out on this land in certain circumstances pursuant to Clause 1.19 of State Environmental Planning Policy (Exempt and Complying Development Codes) 2008.

Part 7 Demolition Code

YES. Complying development specified in the Demolition Code may be carried out on this land in certain circumstances pursuant to Clause 1.19 of State Environmental Planning Policy (Exempt and Complying Development Codes) 2008.

Date: 3 October 2017

Cert No: 21257

Part 8 Fire Safety Code

YES. Complying development specified in the Fire Safety Code may be carried out on this land in certain circumstances pursuant to Clause 1.19 of State Environmental Planning Policy (Exempt and Complying Development Codes) 2008.

STATE ENVIRONMENTAL PLANNING POLICIES

The following State Environmental Planning Policies apply to land within the Muswellbrook Shire LGA:-

No. 21. Caravan Parks - Ensures that where caravan parks or camping grounds are permitted under an environmental planning instrument, movable dwellings, as defined in the Local Government Act 1993, are also permitted. The policy ensures that development consent is required for new caravan parks and camping grounds and for additional long-term sites in existing caravan parks.

No. 30. Intensive Agriculture - Requires development consent for cattle feedlots having a capacity of 50 or more cattle or piggeries having a capacity of 200 or more pigs. The policy sets out information and public notification requirements to ensure there are effective planning control over this export-driven rural industry. The policy does not alter if, and where, such development is permitted, or the functions of the consent authority.

No. 33. Hazardous and Offensive Development - Provides new definitions for 'hazardous industry', 'hazardous storage establishment', 'offensive industry' and 'offensive storage establishment'. The definitions apply to all planning instruments, existing and future. The new definitions enable decisions to approve or refuse a development to be based on the merit of proposal. The consent authority must carefully consider the specifics of the case, the location and the way in which the proposed activity is to be carried out. The policy also requires specified matters to be considered for proposals that are 'potentially hazardous' or 'potentially offensive' as defined in the policy. For example, any application to carry out a potentially hazardous or potentially offensive development is to be advertised for public comment, and applications to carry out potentially hazardous development must be supported by a preliminary hazard analysis (PHA).

No. 36. Manufactured Home Estates - Helps establish well-designed and properly serviced manufactured home estates (MHEs) in suitable locations. Affordability and security of tenure for residents are important aspects. To enable the immediate development of estates, the policy allows MHEs to be located on certain land where caravan parks are permitted. There are however, criteria that a proposal must satisfy before the local council can approve development.

No. 44. Koala Habitat Protection - Encourages the proper conservation and management of areas of natural vegetation that provide habitat for koalas to ensure a permanent free-living population over their present range and reverse the current trend of koala population decline.

No. 55. Remediation of Land - Introduces state-wide planning controls for the remediation of contaminated land. The policy states that land must not be developed if it is unsuitable for a proposed use because it is contaminated. If the land is unsuitable, remediation must take place before the land is developed. The policy makes remediation permissible across the State, defines when consent is required, requires all remediation to comply with standards, ensures land is investigated if contamination is suspected, and requires councils to be notified of all remediation proposals.

No. 62. Sustainable Aquaculture - The policy implements the regional strategies already developed by creating a simple approach to identify and categorise aquaculture development on the basis of its potential environmental impact. The SEPP also identifies aquaculture development as a designated development only where there are potential environmental risks.

Date: 3 October 2017

Cert No: 21257

No. 64. Advertising and Signage - Aims to improve the amenity of urban and natural settings by managing the impact of outdoor advertising. The policy responds to growing concerns from the community, the advertising industry and local government that existing controls and guidelines were not effective. SEPP No. 64 offers the comprehensive provisions and consistent approach needed. SEPP 64 – Advertising and Signage: Explanatory Information should be read in conjunction with the policy.

No. 65. Design Quality of Residential Flat Development - Raises the design quality of residential flat development across the state through the application of a series of design principles. The policy provides for the establishment of Design Review Panels to provide independent expert advice to councils on the merit of residential flat development. The accompanying regulation requires the involvement of a qualified designer throughout the design, approval and construction stages.

SEPP (Housing for Seniors or People with a Disability) 2004 - Encourage the development of high quality accommodation for our ageing population and for people who have disabilities - housing that is in keeping with the local neighbourhood

SEPP (Building Sustainability Index: BASIX) 2004 - This SEPP operates in conjunction with Environmental Planning and Assessment Amendment (Building Sustainability Index: BASIX) Regulation 2004 to ensure the effective introduction of BASIX in NSW. The SEPP ensures consistency in the implementation of BASIX throughout the State by overriding competing provisions in other environmental planning instruments and development control plans, and specifying that SEPP 1 does not apply in relation to any development standard arising under BASIX.

SEPP (Infrastructure) 2007 - Provides a consistent planning regime for infrastructure and the provision of services across NSW, along with providing for consultation with relevant public authorities during the assessment process. The SEPP supports greater flexibility in the location of infrastructure and service facilities along with improved regulatory certainty and efficiency.

SEPP (Mining, Petroleum Production and Extractive Industries) 2007 - This Policy aims to provide for the proper management and development of mineral, petroleum and extractive material resources for the social and economic welfare of the State. The Policy establishes appropriate planning controls to encourage ecologically sustainable development.

SEPP (Miscellaneous Consent Provisions) 2007 - Provides for the erection of temporary structures and the use of places of public entertainment while protecting public safety and local amenity. The SEPP supports the transfer of the regulation of places of public entertainment and temporary structures (such as tents, marquees and booths) from the Local Government Act 1993 to the Environmental Planning and Assessment Act 1979.

SEPP (Rural Lands) 2008 - The aim of this policy is to facilitate the orderly and economic use and development of rural lands for rural and related purposes.

SEPP (Exempt and Complying Development Codes) 2008 – This policy streamlines assessment processes for development that complies with specified development standards. The policy provides exempt codes that have State-wide application, identifying, in the General Exempt Development Code, types of development that are of minimal environmental impact that may be carried out without the need for development consent.

SEPP (Affordable Rental Housing) 2009 – The aims of this policy are to provide a consistent planning regime for the provision of affordable rental housing; facilitate the effective delivery of new affordable rental housing by providing incentives by way of expanding zoning permissibility, floor space ratio bonuses and non-discretionary development standards; facilitate the retention and mitigate the loss of existing affordable rental housing; employ a balanced approach between obligations for retaining and mitigating the loss of existing affordable rental housing, and incentives for the development of new

Date: 3 October 2017

Cert No: 21257

affordable rental housing; facilitate an expanding role for not-for-profit-providers of affordable rental housing; support local business centres by providing affordable rental housing for workers close to places of work; and facilitate the development of housing for the homeless and other disadvantaged people who may require support services, including group homes and supportive accommodation.

SEPP (State and Regional Development) 2011 – The aims of this policy are to identify development that is State significant development; identify development that is State significant infrastructure and critical State significant infrastructure; and confer functions on joint regional planning panels to determine development applications.

Further details regarding these State Environmental Planning Policies and the circumstances in which they may apply to the subject and can be found on the Department of Planning's website.

REGIONAL PLANNING INSTRUMENTS

There are no Regional Environmental Plans applying within the Muswellbrook Shire Council area.

DEVELOPMENT CONTROL PLANS

This land is affected by the following Development Control Plans:
Muswellbrook Shire Development Control Plan 2009

COASTAL PROTECTION

The land IS NOT affected by the operations of Sections 38 and 39 of the *Coastal Protection Act* 1979.

MINE SUBSIDENCE

The land IS NOT WITHIN a Mine Subsidence District proclaimed under section 15 of the Mine Subsidence Compensation Act, 1961.

ROAD WIDENING AND ROAD REALIGNMENT

The subject land IS NOT 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.

COUNCIL AND OTHER PUBLIC AUTHORITY POLICIES ON HAZARD RISK RESTRICTIONS

The land IS NOT affected by a policy adopted by the council, or 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).

FLOOD RELATED DEVELOPMENT CONTROLS INFORMATION

The Hunter River Flood Study 2014 shows the land to be affected by flooding.

LAND RESERVED FOR ACQUISITION

There are NOT any environmental planning instruments; deemed environmental planning instruments or draft environmental planning instruments applying to the land that provide for the acquisition of the

Date: 3 October 2017

Cert No: 21257

land by a public authority, as referred to in section 27 of the Environmental Planning and Assessment Act 1979.

CONTRIBUTIONS PLANS

The Muswellbrook Section 94 Contributions Plan 2001 and Muswellbrook Section 94A Contributions Plan 2009 apply to all land within the Muswellbrook Shire Local Government Area.

BIODIVERSITY CERTIFIED LAND

The land IS NOT biodiversity certified land (within the meaning of Part 7AA of the Threatened Species Conservation Act 1995)

BIOBANKING AGREEMENTS

The land IS NOT affected by a biobanking agreement under Part 7A of the *Threatened Species Conservation Act 1995*.

MATTERS RELATING TO THE MANAGEMENT OF CONTAMINATED LAND

- (a) The land to which this certificate relates is NOT within land declared to be significantly contaminated land under the Contaminated Land Management Act 2008 at the date when the certificate is issued.
- (b) The land to which this certificate relates is NOT subject to a management order under the Contaminated Land Management Act 2008 at the date when the certificate is issued.
- (c) The land to which this certificate relates is NOT the subject of approved voluntary management proposal the subject of the Environment Protection Authority's agreement under the Contaminated Land Management Act 2008 at the date when the certificate is issued.
- (d) The land to which this certificate relates is NOT the subject to an ongoing maintenance order under the Contaminated Land Management Act 2008 at the date when the certificate is issued.
- (e) The land to which this certificate relates has NOT been the subject of a site audit statement provided to Muswellbrook Shire Council.

BUSH FIRE PRONE LAND

The land IS NOT bushfire prone land.

PROPERTY VEGETATION PLANS

Council has NOT been notified of the existence of such a plan or if the land is land to which a property vegetation plan under the Native Vegetation Act 2003 applies.

ORDERS UNDER TREES (DISPUTES BETWEEN NEIGHBOURS) ACT 2006

Council has NOT been notified of any order made under the Trees (Disputes Between Neighbours) Act 2006 to carry out work in relation to a tree on the land.

Date: 3 October 2017

Cert No: 21257

DIRECTIONS UNDER PART 3A

There is NOT a direction by the Minister in force under section 75P (2) (c1) of the Act in relation to prohibiting or restricting the carrying out of a project or a stage of a project on the land under Part 4 of the Act.

SITE COMPATIBILITY CERTIFICATES AND CONDITIONS FOR SENIORS HOUSING

There is NOT a current site compatibility certificate (of which the council is aware), issued under clause 25 of State Environmental Planning Policy (Housing for Seniors or People with a Disability) 2004 in respect of proposed development on the land.

SITE COMPATIBILITY CERTIFICATES FOR INFRASTRUCTURE

There is NOT a valid site compatibility certificate (of which the council is aware), issued under clause 19 of State Environmental Planning Policy (Infrastructure) 2007 in respect of proposed development on the land.

SITE COMPATIBILITY CERTIFICATES AND CONDITIONS FOR AFFORDABLE RENTAL HOUSING

There is NOT a current site compatibility certificate for affordable rental housing (of which the council is aware), issued under clause 37 of State Environmental Planning Policy (Affordable Rental Housing) 2007 in respect of proposed development on the land.

PAPER SUBDIVISION INFORMATION

There is NOT an adopted development plan or subdivision order that applies to the land.

SITE VERIFICATION CERTIFICATE

There is NOT a current site verification certificate (of which the council is aware), issued under clause 17C of State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007, in relation to the land.

LOOSE-FILL ASBESTOS INSULATION

There are NO residential premises located on this land that are listed on the register that are required to be maintained under Division 1A of Part 8 of the *Home Building Act 1989*.

The accuracy and currency of the details provided by agencies external to Council have not be verified by Muswellbrook Shire Council and should be verified by the applicant.

ADDITIONAL INFORMATION PURSUANT TO SECTION 149(5) OF THE ACT

Council is unaware of any other relevant matters that may affect the land.

For further information, please contact the
Environmental Services Department.

S J McDonald
General Manager

Per: _____

DJ Watson

**PLANNING CERTIFICATE UNDER
SECTION 149 ENVIRONMENTAL PLANNING
AND ASSESSMENT ACT 1979**

Enquiries Environmental Services
Contact 02 6549 3700
Invoice no. 43721
Your reference Application

Date: 27 September 2017

Assessment: 63719

Cert No: 21223

MACH Energy Australia Pty Ltd
GPO Box 94
BRISBANE QLD 4001

Owner (as recorded by Council)

MACH Energy Australia Pty Ltd

Property Description: 380 WYBONG ROAD MUSWELLBROOK 2333
LOT: 1 DP: 780673

Land to which the certificate relates

The land to which this certificate relates, being the lot or lots described on the application form, is shown in the Council's records as being situated at the street address described above. The information contained in this certificate relates only to the lot or lots described on this certificate. Separate planning certificates can be obtained upon application for the other lots, those certificates may contain different information than is contained in this certificate.

CERTIFICATE UNDER SECTION 149(2) ENVIRONMENTAL PLANNING & ASSESSMENT ACT

LOCAL ENVIRONMENTAL PLANS

PLANNING INSTRUMENT Muswellbrook Local Environmental Plan 2009

LAND USE ZONING RU1 Primary Production

PERMITTED WITHOUT CONSENT

Extensive agriculture; Home occupations; Intensive plant agriculture

PERMITTED WITH CONSENT

Air transport facilities; Airstrips; Animal boarding or training establishments; Aquaculture; Camping grounds; Caravan parks; Cellar door premises; Cemeteries; Community facilities; Crematoria; Depots; Dwelling houses; Educational establishments; Environmental facilities; Environmental protection works; Extractive industries; Farm buildings; Flood mitigation works; Forestry; Function centres; Group homes; Hazardous industries; Health consulting rooms; Heavy industrial storage establishments; Helipads; Highway service centres; Home-based child care; Home businesses; Home industries; Industrial retail outlets; Information and education facilities; Intensive livestock agriculture; Intensive plant agriculture; Kiosks; Landscaping material supplies; Open cut mining; Places of public worship; Plant nurseries; Recreation areas; Recreation facilities (indoor); Recreation facilities (major); Recreation facilities (outdoor); Research stations; Restaurants or cafes; Roads; Roadside stalls; Rural industries; Rural supplies; Rural worker's dwellings; Secondary dwellings; Service stations; Sewerage systems; Signage; Storage premises; Take away food and drink premises; Tourist and visitor accommodation; Transport depots; Truck depots; Turf farming; Veterinary hospitals; Waste disposal facilities; Water supply systems.

Date: 28 September 2017

Cert No: 21223

PROHIBITED

Any development not specified above.

MINIMUM LAND DIMENSIONS FOR THE ERECTION OF A DWELLING

Under the provisions of the Muswellbrook Local Environmental Plan 2009, the minimum subdivision lot size is 80ha and is also subject to the provisions detailed below.

Land zoned RU1 Primary Production may, with the consent of Council, be subdivided for the purpose of primary production to create a lot less than the minimum lot size. However, such a lot cannot be created if an existing dwelling would, as the result of the subdivision, be situated on the lot. A dwelling cannot be erected on such a lot created.

Development consent must not be granted to the subdivision of a lot in a strata plan or community title scheme on land zoned RU1 Primary Production that is used, or proposed to be used, for residential accommodation or tourist and visitor accommodation.

Only one dwelling house may be erected on land zoned RU1 Primary Production only if the land is:

- (a) a lot created in accordance with clause 4.1 of the LEP 2009, or
- (b) a lot created before the LEP 2009 commenced and on which the erection of a dwelling house was permissible immediately before that commencement, or
- (c) a lot created before the LEP 2009 commenced that is at least the minimum lot size specified for that lot by the Lot Size Map, or
- (d) a lot for which subdivision approval was granted before the LEP 2009 commenced and on which the erection of a dwelling house would have been permissible immediately before that commencement, or
- (e) an existing holding.

NOTE: EXISTING HOLDING means all adjoining land, even if separated by a road or railway, held in the same ownership:

- (a) on 11 April 1974, and
- (b) at the time of lodging a development application for the erection of a dwelling house under this clause.

and includes any other land adjoining that land acquired by the owner since 11 April 1974.

NOTE: The owner in whose ownership all the land is at the time the application is lodged need not be the same person as the owner in whose ownership all the land was on the stated date.

WHETHER THE LAND INCLUDES OR COMPRISES CRITICAL HABITAT

The subject land has not been declared as critical habitat.

WHETHER THE LAND IS IN A CONSERVATION AREA

The subject land is not known to be in a conservation area.

Date: 28 September 2017

Cert No: 21223

WHETHER AN ITEM OF ENVIRONMENTAL HERITAGE IS SITUATED ON THE LAND

The land is NOT affected by any known or listed heritage item.

STATE ENVIRONMENTAL PLANNING POLICIES (EXEMPT & COMPLYING DEVELOPMENT CODES 2008)

CERTIFICATE UNDER SECTION 149(2) IDENTIFYING THE INFORMATION SET OUT IN CLAUSE 3 OF SCHEDULE 4 OF THE ENVIRONMENTAL PLANNING & ASSESSMENT REGULATIONS

Part 3 General Housing Code

Not applicable to the land to which this certificate relates.

Part 3A Rural Housing Code

YES. Complying development specified in the Rural Housing Code may be carried out on this land in certain circumstances pursuant to Clause 1.19 of State Environmental Planning Policy (Exempt and Complying Development Codes) 2008.

Part 4 Housing Alterations Code

YES. Complying development specified in the Housing Alterations Code may be carried out on this land in certain circumstances pursuant to Clause 1.19 of State Environmental Planning Policy (Exempt and Complying Development Codes) 2008.

Part 4A General Development Code

YES. Complying development specified in the General Development Code may be carried out on this land in certain circumstances pursuant to Clause 1.19 of State Environmental Planning Policy (Exempt and Complying Development Codes) 2008.

Part 5 Commercial and Industrial Alterations Code

Not applicable to the land to which this certificate relates.

Part 5A Commercial and Industrial (New Buildings and Additions) Code

Not applicable to the land to which this certificate relates.

Part 6 Subdivision Code

YES. Complying development specified in the Subdivision Code may be carried out on this land in certain circumstances pursuant to Clause 1.19 of State Environmental Planning Policy (Exempt and Complying Development Codes) 2008.

Part 7 Demolition Code

YES. Complying development specified in the Demolition Code may be carried out on this land in certain circumstances pursuant to Clause 1.19 of State Environmental Planning Policy (Exempt and Complying Development Codes) 2008.

Date: 28 September 2017

Cert No: 21223

Part 8 Fire Safety Code

YES. Complying development specified in the Fire Safety Code may be carried out on this land in certain circumstances pursuant to Clause 1.19 of State Environmental Planning Policy (Exempt and Complying Development Codes) 2008.

STATE ENVIRONMENTAL PLANNING POLICIES

The following State Environmental Planning Policies apply to land within the Muswellbrook Shire LGA:-

No. 21. Caravan Parks - Ensures that where caravan parks or camping grounds are permitted under an environmental planning instrument, movable dwellings, as defined in the Local Government Act 1993, are also permitted. The policy ensures that development consent is required for new caravan parks and camping grounds and for additional long-term sites in existing caravan parks.

No. 30. Intensive Agriculture - Requires development consent for cattle feedlots having a capacity of 50 or more cattle or piggeries having a capacity of 200 or more pigs. The policy sets out information and public notification requirements to ensure there are effective planning control over this export-driven rural industry. The policy does not alter if, and where, such development is permitted, or the functions of the consent authority.

No. 33. Hazardous and Offensive Development - Provides new definitions for 'hazardous industry', 'hazardous storage establishment', 'offensive industry' and 'offensive storage establishment'. The definitions apply to all planning instruments, existing and future. The new definitions enable decisions to approve or refuse a development to be based on the merit of proposal. The consent authority must carefully consider the specifics the case, the location and the way in which the proposed activity is to be carried out. The policy also requires specified matters to be considered for proposals that are 'potentially hazardous' or 'potentially offensive' as defined in the policy. For example, any application to carry out a potentially hazardous or potentially offensive development is to be advertised for public comment, and applications to carry out potentially hazardous development must be supported by a preliminary hazard analysis (PHA).

No. 36. Manufactured Home Estates - Helps establish well-designed and properly serviced manufactured home estates (MHEs) in suitable locations. Affordability and security of tenure for residents are important aspects. To enable the immediate development of estates, the policy allows MHEs to be located on certain land where caravan parks are permitted. There are however, criteria that a proposal must satisfy before the local council can approved development.

No. 44. Koala Habitat Protection - Encourages the proper conservation and management of areas of natural vegetation that provide habitat for koalas to ensure a permanent free-living population over their present range and reverse the current trend of koala population decline.

No. 55. Remediation of Land - Introduces state-wide planning controls for the remediation of contaminated land. The policy states that land must not be developed if it is unsuitable for a proposed use because it is contaminated. If the land is unsuitable, remediation must take place before the land is developed. The policy makes remediation permissible across the State, defines when consent is required, requires all remediation to comply with standards, ensures land is investigated if contamination is suspected, and requires councils to be notified of all remediation proposals.

No. 62. Sustainable Aquaculture - The policy implements the regional strategies already developed by creating a simple approach to identify and categorise aquaculture development on the basis of its potential environmental impact. The SEPP also identifies aquaculture development as a designated development only where there are potential environmental risks.

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No. 65. Design Quality of Residential Flat Development - Raises the design quality of residential flat development across the state through the application of a series of design principles. The policy provides for the establishment of Design Review Panels to provide independent expert advice to councils on the merit of residential flat development. The accompanying regulation requires the involvement of a qualified designer throughout the design, approval and construction stages.

SEPP (Housing for Seniors or People with a Disability) 2004 - Encourage the development of high quality accommodation for our ageing population and for people who have disabilities - housing that is in keeping with the local neighbourhood

SEPP (Building Sustainability Index: BASIX) 2004 - This SEPP operates in conjunction with Environmental Planning and Assessment Amendment (Building Sustainability Index: BASIX) Regulation 2004 to ensure the effective introduction of BASIX in NSW. The SEPP ensures consistency in the implementation of BASIX throughout the State by overriding competing provisions in other environmental planning instruments and development control plans, and specifying that SEPP 1 does not apply in relation to any development standard arising under BASIX.

SEPP (Infrastructure) 2007 - Provides a consistent planning regime for infrastructure and the provision of services across NSW, along with providing for consultation with relevant public authorities during the assessment process. The SEPP supports greater flexibility in the location of infrastructure and service facilities along with improved regulatory certainty and efficiency.

SEPP (Mining, Petroleum Production and Extractive Industries) 2007 - This Policy aims to provide for the proper management and development of mineral, petroleum and extractive material resources for the social and economic welfare of the State. The Policy establishes appropriate planning controls to encourage ecologically sustainable development.

SEPP (Miscellaneous Consent Provisions) 2007 - Provides for the erection of temporary structures and the use of places of public entertainment while protecting public safety and local amenity. The SEPP supports the transfer of the regulation of places of public entertainment and temporary structures (such as tents, marquees and booths) from the Local Government Act 1993 to the Environmental Planning and Assessment Act 1979.

SEPP (Rural Lands) 2008 - The aim of this policy is to facilitate the orderly and economic use and development of rural lands for rural and related purposes.

SEPP (Exempt and Complying Development Codes) 2008 – This policy streamlines assessment processes for development that complies with specified development standards. The policy provides exempt codes that have State-wide application, identifying, in the General Exempt Development Code, types of development that are of minimal environmental impact that may be carried out without the need for development consent.

SEPP (Affordable Rental Housing) 2009 – The aims of this policy are to provide a consistent planning regime for the provision of affordable rental housing; facilitate the effective delivery of new affordable rental housing by providing incentives by way of expanding zoning permissibility, floor space ratio bonuses and non-discretionary development standards; facilitate the retention and mitigate the loss of existing affordable rental housing; employ a balanced approach between obligations for retaining and mitigating the loss of existing affordable rental housing, and incentives for the development of new

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affordable rental housing; facilitate an expanding role for not-for-profit-providers of affordable rental housing; support local business centres by providing affordable rental housing for workers close to places of work; and facilitate the development of housing for the homeless and other disadvantaged people who may require support services, including group homes and supportive accommodation.

SEPP (State and Regional Development) 2011 – The aims of this policy are to identify development that is State significant development; identify development that is State significant infrastructure and critical State significant infrastructure; and confer functions on joint regional planning panels to determine development applications.

Further details regarding these State Environmental Planning Policies and the circumstances in which they may apply to the subject and can be found on the Department of Planning's website.

REGIONAL PLANNING INSTRUMENTS

There are no Regional Environmental Plans applying within the Muswellbrook Shire Council area.

DEVELOPMENT CONTROL PLANS

This land is affected by the following Development Control Plans:
Muswellbrook Shire Development Control Plan 2009

COASTAL PROTECTION

The land IS NOT affected by the operations of Sections 38 and 39 of the *Coastal Protection Act* 1979.

MINE SUBSIDENCE

The land IS NOT WITHIN a Mine Subsidence District proclaimed under section 15 of the Mine Subsidence Compensation Act, 1961.

ROAD WIDENING AND ROAD REALIGNMENT

The subject land IS NOT 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.

COUNCIL AND OTHER PUBLIC AUTHORITY POLICIES ON HAZARD RISK RESTRICTIONS

The land IS NOT affected by a policy adopted by the council, or 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).

FLOOD RELATED DEVELOPMENT CONTROLS INFORMATION

The Hunter River Flood Study 2014 shows the land to be affected by flooding.

Date: 28 September 2017

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LAND RESERVED FOR ACQUISITION

There are NOT any environmental planning instruments; deemed environmental planning instruments or draft environmental planning instruments applying to the land that provide for the acquisition of the land by a public authority, as referred to in section 27 of the Environmental Planning and Assessment Act 1979.

CONTRIBUTIONS PLANS

The Muswellbrook Section 94 Contributions Plan 2001 and Muswellbrook Section 94A Contributions Plan 2009 apply to all land within the Muswellbrook Shire Local Government Area.

BIODIVERSITY CERTIFIED LAND

The land IS NOT biodiversity certified land (within the meaning of Part 7AA of the Threatened Species Conservation Act 1995)

BIOBANKING AGREEMENTS

The land IS NOT affected by a biobanking agreement under Part 7A of the *Threatened Species Conservation Act 1995*.

MATTERS RELATING TO THE MANAGEMENT OF CONTAMINATED LAND

- (a) The land to which this certificate relates is NOT within land declared to be significantly contaminated land under the Contaminated Land Management Act 2008 at the date when the certificate is issued.
- (b) The land to which this certificate relates is NOT subject to a management order under the Contaminated Land Management Act 2008 at the date when the certificate is issued.
- (c) The land to which this certificate relates is NOT the subject of approved voluntary management proposal the subject of the Environment Protection Authority's agreement under the Contaminated Land Management Act 2008 at the date when the certificate is issued.
- (d) The land to which this certificate relates is NOT the subject to an ongoing maintenance order under the Contaminated Land Management Act 2008 at the date when the certificate is issued.
- (e) The land to which this certificate relates has NOT been the subject of a site audit statement provided to Muswellbrook Shire Council.

BUSH FIRE PRONE LAND

The land IS NOT bushfire prone land.

PROPERTY VEGETATION PLANS

Council has NOT been notified of the existence of such a plan or if the land is land to which a property vegetation plan under the Native Vegetation Act 2003 applies.

ORDERS UNDER TREES (DISPUTES BETWEEN NEIGHBOURS) ACT 2006

Council has NOT been notified of any order made under the Trees (Disputes Between Neighbours) Act 2006 to carry out work in relation to a tree on the land.

Date: 28 September 2017

Cert No: 21223

DIRECTIONS UNDER PART 3A

There is NOT a direction by the Minister in force under section 75P (2) (c1) of the Act in relation to prohibiting or restricting the carrying out of a project or a stage of a project on the land under Part 4 of the Act.

SITE COMPATIBILITY CERTIFICATES AND CONDITIONS FOR SENIORS HOUSING

There is NOT a current site compatibility certificate (of which the council is aware), issued under clause 25 of State Environmental Planning Policy (Housing for Seniors or People with a Disability) 2004 in respect of proposed development on the land.

SITE COMPATIBILITY CERTIFICATES FOR INFRASTRUCTURE

There is NOT a valid site compatibility certificate (of which the council is aware), issued under clause 19 of State Environmental Planning Policy (Infrastructure) 2007 in respect of proposed development on the land.

SITE COMPATIBILITY CERTIFICATES AND CONDITIONS FOR AFFORDABLE RENTAL HOUSING

There is NOT a current site compatibility certificate for affordable rental housing (of which the council is aware), issued under clause 37 of State Environmental Planning Policy (Affordable Rental Housing) 2007 in respect of proposed development on the land.

PAPER SUBDIVISION INFORMATION

There is NOT an adopted development plan or subdivision order that applies to the land.

SITE VERIFICATION CERTIFICATE

There is NOT a current site verification certificate (of which the council is aware), issued under clause 17C of State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007, in relation to the land.

LOOSE-FILL ASBESTOS INSULATION

There are NO residential premises located on this land that are listed on the register that are required to be maintained under Division 1A of Part 8 of the *Home Building Act 1989*.

The accuracy and currency of the details provided by agencies external to Council have not be verified by Muswellbrook Shire Council and should be verified by the applicant.

ADDITIONAL INFORMATION PURSUANT TO SECTION 149(5) OF THE ACT

Council is unaware of any other relevant matters that may affect the land.

For further information, please contact the
Environmental Services Department.

S J McDonald
General Manager

Per: 

**PLANNING CERTIFICATE UNDER
SECTION 149 ENVIRONMENTAL PLANNING
AND ASSESSMENT ACT 1979**

Enquiries Environmental Services
Contact 02 6549 3700
Invoice no. 43721
Your reference Application

Date: 27 September 2017

Assessment: 11635

Cert No: 21222

**MACH Energy Australia Pty Ltd
GPO Box 94
BRISBANE QLD 4001**

Owner (as recorded by Council)

MACH Energy Australia Pty Ltd

Property Description: 401 WYBONG ROAD MUSWELLBROOK 2333
LOT: 1 DP: 745369

Land to which the certificate relates

The land to which this certificate relates, being the lot or lots described on the application form, is shown in the Council's records as being situated at the street address described above. The information contained in this certificate relates only to the lot or lots described on this certificate. Separate planning certificates can be obtained upon application for the other lots, those certificates may contain different information than is contained in this certificate.

CERTIFICATE UNDER SECTION 149(2) ENVIRONMENTAL PLANNING & ASSESSMENT ACT

LOCAL ENVIRONMENTAL PLANS

PLANNING INSTRUMENT Muswellbrook Local Environmental Plan 2009

LAND USE ZONING RU1 Primary Production

PERMITTED WITHOUT CONSENT

Extensive agriculture; Home occupations; Intensive plant agriculture

PERMITTED WITH CONSENT

Air transport facilities; Airstrips; Animal boarding or training establishments; Aquaculture; Camping grounds; Caravan parks; Cellar door premises; Cemeteries; Community facilities; Crematoria; Depots; Dwelling houses; Educational establishments; Environmental facilities; Environmental protection works; Extractive industries; Farm buildings; Flood mitigation works; Forestry; Function centres; Group homes; Hazardous industries; Health consulting rooms; Heavy industrial storage establishments; Helipads; Highway service centres; Home-based child care; Home businesses; Home industries; Industrial retail outlets; Information and education facilities; Intensive livestock agriculture; Intensive plant agriculture; Kiosks; Landscaping material supplies; Open cut mining; Places of public worship; Plant nurseries; Recreation areas; Recreation facilities (indoor); Recreation facilities (major); Recreation facilities (outdoor); Research stations; Restaurants or cafes; Roads; Roadside stalls; Rural industries; Rural supplies; Rural worker's dwellings; Secondary dwellings; Service stations; Sewerage systems; Signage; Storage premises; Take away food and drink premises; Tourist and visitor accommodation; Transport depots; Truck depots; Turf farming; Veterinary hospitals; Waste disposal facilities; Water supply systems.

Date: 28 September 2017

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PROHIBITED

Any development not specified above.

MINIMUM LAND DIMENSIONS FOR THE ERECTION OF A DWELLING

Under the provisions of the Muswellbrook Local Environmental Plan 2009, the minimum subdivision lot size is 80ha and is also subject to the provisions detailed below.

Land zoned RU1 Primary Production may, with the consent of Council, be subdivided for the purpose of primary production to create a lot less than the minimum lot size. However, such a lot cannot be created if an existing dwelling would, as the result of the subdivision, be situated on the lot. A dwelling cannot be erected on such a lot created.

Development consent must not be granted to the subdivision of a lot in a strata plan or community title scheme on land zoned RU1 Primary Production that is used, or proposed to be used, for residential accommodation or tourist and visitor accommodation.

Only one dwelling house may be erected on land zoned RU1 Primary Production only if the land is:

- (a) a lot created in accordance with clause 4.1 of the LEP 2009, or
- (b) a lot created before the LEP 2009 commenced and on which the erection of a dwelling house was permissible immediately before that commencement, or
- (c) a lot created before the LEP 2009 commenced that is at least the minimum lot size specified for that lot by the Lot Size Map, or
- (d) a lot for which subdivision approval was granted before the LEP 2009 commenced and on which the erection of a dwelling house would have been permissible immediately before that commencement, or
- (e) an existing holding.

NOTE: EXISTING HOLDING means all adjoining land, even if separated by a road or railway, held in the same ownership:

- (a) on 11 April 1974, and
- (b) at the time of lodging a development application for the erection of a dwelling house under this clause.

and includes any other land adjoining that land acquired by the owner since 11 April 1974.

NOTE: The owner in whose ownership all the land is at the time the application is lodged need not be the same person as the owner in whose ownership all the land was on the stated date.

WHETHER THE LAND INCLUDES OR COMPRISES CRITICAL HABITAT

The subject land has not been declared as critical habitat.

WHETHER THE LAND IS IN A CONSERVATION AREA

The subject land is not known to be in a conservation area.

Date: 28 September 2017

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WHETHER AN ITEM OF ENVIRONMENTAL HERITAGE IS SITUATED ON THE LAND

The land is NOT affected by any known or listed heritage item.

STATE ENVIRONMENTAL PLANNING POLICIES (EXEMPT & COMPLYING DEVELOPMENT CODES 2008)

CERTIFICATE UNDER SECTION 149(2) IDENTIFYING THE INFORMATION SET OUT IN CLAUSE 3 OF SCHEDULE 4 OF THE ENVIRONMENTAL PLANNING & ASSESSMENT REGULATIONS

Part 3 General Housing Code

Not applicable to the land to which this certificate relates.

Part 3A Rural Housing Code

YES. Complying development specified in the Rural Housing Code may be carried out on this land in certain circumstances pursuant to Clause 1.19 of State Environmental Planning Policy (Exempt and Complying Development Codes) 2008.

Part 4 Housing Alterations Code

YES. Complying development specified in the Housing Alterations Code may be carried out on this land in certain circumstances pursuant to Clause 1.19 of State Environmental Planning Policy (Exempt and Complying Development Codes) 2008.

Part 4A General Development Code

YES. Complying development specified in the General Development Code may be carried out on this land in certain circumstances pursuant to Clause 1.19 of State Environmental Planning Policy (Exempt and Complying Development Codes) 2008.

Part 5 Commercial and Industrial Alterations Code

Not applicable to the land to which this certificate relates.

Part 5A Commercial and Industrial (New Buildings and Additions) Code

Not applicable to the land to which this certificate relates.

Part 6 Subdivision Code

YES. Complying development specified in the Subdivision Code may be carried out on this land in certain circumstances pursuant to Clause 1.19 of State Environmental Planning Policy (Exempt and Complying Development Codes) 2008.

Part 7 Demolition Code

YES. Complying development specified in the Demolition Code may be carried out on this land in certain circumstances pursuant to Clause 1.19 of State Environmental Planning Policy (Exempt and Complying Development Codes) 2008.

Date: 28 September 2017

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Part 8 Fire Safety Code

YES. Complying development specified in the Fire Safety Code may be carried out on this land in certain circumstances pursuant to Clause 1.19 of State Environmental Planning Policy (Exempt and Complying Development Codes) 2008.

STATE ENVIRONMENTAL PLANNING POLICIES

The following State Environmental Planning Policies apply to land within the Muswellbrook Shire LGA:-

No. 21. Caravan Parks - Ensures that where caravan parks or camping grounds are permitted under an environmental planning instrument, movable dwellings, as defined in the Local Government Act 1993, are also permitted. The policy ensures that development consent is required for new caravan parks and camping grounds and for additional long-term sites in existing caravan parks.

No. 30. Intensive Agriculture - Requires development consent for cattle feedlots having a capacity of 50 or more cattle or piggeries having a capacity of 200 or more pigs. The policy sets out information and public notification requirements to ensure there are effective planning control over this export-driven rural industry. The policy does not alter if, and where, such development is permitted, or the functions of the consent authority.

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Date: 28 September 2017

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SEPP (Exempt and Complying Development Codes) 2008 – This policy streamlines assessment processes for development that complies with specified development standards. The policy provides exempt codes that have State-wide application, identifying, in the General Exempt Development Code, types of development that are of minimal environmental impact that may be carried out without the need for development consent.

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Date: 28 September 2017

Cert No: 21222

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Further details regarding these State Environmental Planning Policies and the circumstances in which they may apply to the subject and can be found on the Department of Planning's website.

REGIONAL PLANNING INSTRUMENTS

There are no Regional Environmental Plans applying within the Muswellbrook Shire Council area.

DEVELOPMENT CONTROL PLANS

This land is affected by the following Development Control Plans:
Muswellbrook Shire Development Control Plan 2009

COASTAL PROTECTION

The land IS NOT affected by the operations of Sections 38 and 39 of the *Coastal Protection Act* 1979.

MINE SUBSIDENCE

The land IS NOT WITHIN a Mine Subsidence District proclaimed under section 15 of the Mine Subsidence Compensation Act, 1961.

ROAD WIDENING AND ROAD REALIGNMENT

The subject land IS NOT 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.

COUNCIL AND OTHER PUBLIC AUTHORITY POLICIES ON HAZARD RISK RESTRICTIONS

The land IS NOT affected by a policy adopted by the council, or 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).

FLOOD RELATED DEVELOPMENT CONTROLS INFORMATION

The Hunter River Flood Study 2014 shows the land to be affected by flooding.

Date: 28 September 2017

Cert No: 21222

LAND RESERVED FOR ACQUISITION

There are NOT any environmental planning instruments; deemed environmental planning instruments or draft environmental planning instruments applying to the land that provide for the acquisition of the land by a public authority, as referred to in section 27 of the Environmental Planning and Assessment Act 1979.

CONTRIBUTIONS PLANS

The Muswellbrook Section 94 Contributions Plan 2001 and Muswellbrook Section 94A Contributions Plan 2009 apply to all land within the Muswellbrook Shire Local Government Area.

BIODIVERSITY CERTIFIED LAND

The land IS NOT biodiversity certified land (within the meaning of Part 7AA of the Threatened Species Conservation Act 1995)

BIOBANKING AGREEMENTS

The land IS NOT affected by a biobanking agreement under Part 7A of the *Threatened Species Conservation Act 1995*.

MATTERS RELATING TO THE MANAGEMENT OF CONTAMINATED LAND

- (a) The land to which this certificate relates is NOT within land declared to be significantly contaminated land under the Contaminated Land Management Act 2008 at the date when the certificate is issued.
- (b) The land to which this certificate relates is NOT subject to a management order under the Contaminated Land Management Act 2008 at the date when the certificate is issued.
- (c) The land to which this certificate relates is NOT the subject of approved voluntary management proposal the subject of the Environment Protection Authority's agreement under the Contaminated Land Management Act 2008 at the date when the certificate is issued.
- (d) The land to which this certificate relates is NOT the subject to an ongoing maintenance order under the Contaminated Land Management Act 2008 at the date when the certificate is issued.
- (e) The land to which this certificate relates has NOT been the subject of a site audit statement provided to Muswellbrook Shire Council.

BUSH FIRE PRONE LAND

The land IS NOT bushfire prone land.

PROPERTY VEGETATION PLANS

Council has NOT been notified of the existence of such a plan or if the land is land to which a property vegetation plan under the Native Vegetation Act 2003 applies.

ORDERS UNDER TREES (DISPUTES BETWEEN NEIGHBOURS) ACT 2006

Council has NOT been notified of any order made under the Trees (Disputes Between Neighbours) Act 2006 to carry out work in relation to a tree on the land.

Date: 28 September 2017

Cert No: 21222

DIRECTIONS UNDER PART 3A

There is NOT a direction by the Minister in force under section 75P (2) (c1) of the Act in relation to prohibiting or restricting the carrying out of a project or a stage of a project on the land under Part 4 of the Act.

SITE COMPATIBILITY CERTIFICATES AND CONDITIONS FOR SENIORS HOUSING

There is NOT a current site compatibility certificate (of which the council is aware), issued under clause 25 of State Environmental Planning Policy (Housing for Seniors or People with a Disability) 2004 in respect of proposed development on the land.

SITE COMPATIBILITY CERTIFICATES FOR INFRASTRUCTURE

There is NOT a valid site compatibility certificate (of which the council is aware), issued under clause 19 of State Environmental Planning Policy (Infrastructure) 2007 in respect of proposed development on the land.

SITE COMPATIBILITY CERTIFICATES AND CONDITIONS FOR AFFORDABLE RENTAL HOUSING

There is NOT a current site compatibility certificate for affordable rental housing (of which the council is aware), issued under clause 37 of State Environmental Planning Policy (Affordable Rental Housing) 2007 in respect of proposed development on the land.

PAPER SUBDIVISION INFORMATION

There is NOT an adopted development plan or subdivision order that applies to the land.

SITE VERIFICATION CERTIFICATE

There is NOT a current site verification certificate (of which the council is aware), issued under clause 17C of State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007, in relation to the land.

LOOSE-FILL ASBESTOS INSULATION

There are NO residential premises located on this land that are listed on the register that are required to be maintained under Division 1A of Part 8 of the *Home Building Act 1989*.

The accuracy and currency of the details provided by agencies external to Council have not be verified by Muswellbrook Shire Council and should be verified by the applicant.

ADDITIONAL INFORMATION PURSUANT TO SECTION 149(5) OF THE ACT

Council is unaware of any other relevant matters that may affect the land.

For further information, please contact the
Environmental Services Department.

S J McDonald
General Manager

Per: 

**PLANNING CERTIFICATE UNDER
SECTION 149 ENVIRONMENTAL PLANNING
AND ASSESSMENT ACT 1979**

Enquiries Environmental Services
Contact 02 6549 3700
Invoice no. 43721
Your reference APPLICATION

Date: 27 September 2017

Assessment: 127654

Cert No: 21220

MACH Energy Australia Pty Ltd
GPO Box 94
BRISBANE QLD 4001

Owner (as recorded by Council)

MACH Energy Australia Pty Ltd

Property Description: 520 WYBONG ROAD MUSWELLBROOK 2333
PT: 1 DP: 544039

Land to which the certificate relates

The land to which this certificate relates, being the lot or lots described on the application form, is shown in the Council's records as being situated at the street address described above. The information contained in this certificate relates only to the lot or lots described on this certificate. Separate planning certificates can be obtained upon application for the other lots, those certificates may contain different information than is contained in this certificate.

CERTIFICATE UNDER SECTION 149(2) ENVIRONMENTAL PLANNING & ASSESSMENT ACT

LOCAL ENVIRONMENTAL PLANS

PLANNING INSTRUMENT Muswellbrook Local Environmental Plan 2009

LAND USE ZONING RU1 Primary Production

PERMITTED WITHOUT CONSENT

Extensive agriculture; Home occupations; Intensive plant agriculture

PERMITTED WITH CONSENT

Air transport facilities; Airstrips; Animal boarding or training establishments; Aquaculture; Camping grounds; Caravan parks; Cellar door premises; Cemeteries; Community facilities; Crematoria; Depots; Dwelling houses; Educational establishments; Environmental facilities; Environmental protection works; Extractive industries; Farm buildings; Flood mitigation works; Forestry; Function centres; Group homes; Hazardous industries; Health consulting rooms; Heavy industrial storage establishments; Helipads; Highway service centres; Home-based child care; Home businesses; Home industries; Industrial retail outlets; Information and education facilities; Intensive livestock agriculture; Intensive plant agriculture; Kiosks; Landscaping material supplies; Open cut mining; Places of public worship; Plant nurseries; Recreation areas; Recreation facilities (indoor); Recreation facilities (major); Recreation facilities (outdoor); Research stations; Restaurants or cafes; Roads; Roadside stalls; Rural industries; Rural supplies; Rural worker's dwellings; Secondary dwellings; Service stations; Sewerage systems; Signage; Storage premises; Take away food and drink premises; Tourist and visitor accommodation; Transport depots; Truck depots; Turf farming; Veterinary hospitals; Waste disposal facilities; Water supply systems.

Date: 28 September 2017

Cert No: 21220

PROHIBITED

Any development not specified above.

MINIMUM LAND DIMENSIONS FOR THE ERECTION OF A DWELLING

Under the provisions of the Muswellbrook Local Environmental Plan 2009, the minimum subdivision lot size is 80ha and is also subject to the provisions detailed below.

Land zoned RU1 Primary Production may, with the consent of Council, be subdivided for the purpose of primary production to create a lot less than the minimum lot size. However, such a lot cannot be created if an existing dwelling would, as the result of the subdivision, be situated on the lot. A dwelling cannot be erected on such a lot created.

Development consent must not be granted to the subdivision of a lot in a strata plan or community title scheme on land zoned RU1 Primary Production that is used, or proposed to be used, for residential accommodation or tourist and visitor accommodation.

Only one dwelling house may be erected on land zoned RU1 Primary Production only if the land is:

- (a) a lot created in accordance with clause 4.1 of the LEP 2009, or
- (b) a lot created before the LEP 2009 commenced and on which the erection of a dwelling house was permissible immediately before that commencement, or
- (c) a lot created before the LEP 2009 commenced that is at least the minimum lot size specified for that lot by the Lot Size Map, or
- (d) a lot for which subdivision approval was granted before the LEP 2009 commenced and on which the erection of a dwelling house would have been permissible immediately before that commencement, or
- (e) an existing holding.

NOTE: EXISTING HOLDING means all adjoining land, even if separated by a road or railway, held in the same ownership:

- (a) on 11 April 1974, and
- (b) at the time of lodging a development application for the erection of a dwelling house under this clause.

and includes any other land adjoining that land acquired by the owner since 11 April 1974.

NOTE: The owner in whose ownership all the land is at the time the application is lodged need not be the same person as the owner in whose ownership all the land was on the stated date.

WHETHER THE LAND INCLUDES OR COMPRISES CRITICAL HABITAT

The subject land has not been declared as critical habitat.

WHETHER THE LAND IS IN A CONSERVATION AREA

The subject land is not known to be in a conservation area.

Date: 28 September 2017

Cert No: 21220

WHETHER AN ITEM OF ENVIRONMENTAL HERITAGE IS SITUATED ON THE LAND

The land is NOT affected by any known or listed heritage item.

STATE ENVIRONMENTAL PLANNING POLICIES (EXEMPT & COMPLYING DEVELOPMENT CODES 2008)

CERTIFICATE UNDER SECTION 149(2) IDENTIFYING THE INFORMATION SET OUT IN CLAUSE 3 OF SCHEDULE 4 OF THE ENVIRONMENTAL PLANNING & ASSESSMENT REGULATIONS

Part 3 General Housing Code

Not applicable to the land to which this certificate relates.

Part 3A Rural Housing Code

YES. Complying development specified in the Rural Housing Code may be carried out on this land in certain circumstances pursuant to Clause 1.19 of State Environmental Planning Policy (Exempt and Complying Development Codes) 2008.

Part 4 Housing Alterations Code

YES. Complying development specified in the Housing Alterations Code may be carried out on this land in certain circumstances pursuant to Clause 1.19 of State Environmental Planning Policy (Exempt and Complying Development Codes) 2008.

Part 4A General Development Code

YES. Complying development specified in the General Development Code may be carried out on this land in certain circumstances pursuant to Clause 1.19 of State Environmental Planning Policy (Exempt and Complying Development Codes) 2008.

Part 5 Commercial and Industrial Alterations Code

Not applicable to the land to which this certificate relates.

Part 5A Commercial and Industrial (New Buildings and Additions) Code

Not applicable to the land to which this certificate relates.

Part 6 Subdivision Code

YES. Complying development specified in the Subdivision Code may be carried out on this land in certain circumstances pursuant to Clause 1.19 of State Environmental Planning Policy (Exempt and Complying Development Codes) 2008.

Part 7 Demolition Code

YES. Complying development specified in the Demolition Code may be carried out on this land in certain circumstances pursuant to Clause 1.19 of State Environmental Planning Policy (Exempt and Complying Development Codes) 2008.

Date: 28 September 2017

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Part 8 Fire Safety Code

YES. Complying development specified in the Fire Safety Code may be carried out on this land in certain circumstances pursuant to Clause 1.19 of State Environmental Planning Policy (Exempt and Complying Development Codes) 2008.

STATE ENVIRONMENTAL PLANNING POLICIES

The following State Environmental Planning Policies apply to land within the Muswellbrook Shire LGA:-

No. 21. Caravan Parks - Ensures that where caravan parks or camping grounds are permitted under an environmental planning instrument, movable dwellings, as defined in the Local Government Act 1993, are also permitted. The policy ensures that development consent is required for new caravan parks and camping grounds and for additional long-term sites in existing caravan parks.

No. 30. Intensive Agriculture - Requires development consent for cattle feedlots having a capacity of 50 or more cattle or piggeries having a capacity of 200 or more pigs. The policy sets out information and public notification requirements to ensure there are effective planning control over this export-driven rural industry. The policy does not alter if, and where, such development is permitted, or the functions of the consent authority.

No. 33. Hazardous and Offensive Development - Provides new definitions for 'hazardous industry', 'hazardous storage establishment', 'offensive industry' and 'offensive storage establishment'. The definitions apply to all planning instruments, existing and future. The new definitions enable decisions to approve or refuse a development to be based on the merit of proposal. The consent authority must carefully consider the specifics the case, the location and the way in which the proposed activity is to be carried out. The policy also requires specified matters to be considered for proposals that are 'potentially hazardous' or 'potentially offensive' as defined in the policy. For example, any application to carry out a potentially hazardous or potentially offensive development is to be advertised for public comment, and applications to carry out potentially hazardous development must be supported by a preliminary hazard analysis (PHA).

No. 36. Manufactured Home Estates - Helps establish well-designed and properly serviced manufactured home estates (MHEs) in suitable locations. Affordability and security of tenure for residents are important aspects. To enable the immediate development of estates, the policy allows MHEs to be located on certain land where caravan parks are permitted. There are however, criteria that a proposal must satisfy before the local council can approved development.

No. 44. Koala Habitat Protection - Encourages the proper conservation and management of areas of natural vegetation that provide habitat for koalas to ensure a permanent free-living population over their present range and reverse the current trend of koala population decline.

No. 55. Remediation of Land - Introduces state-wide planning controls for the remediation of contaminated land. The policy states that land must not be developed if it is unsuitable for a proposed use because it is contaminated. If the land is unsuitable, remediation must take place before the land is developed. The policy makes remediation permissible across the State, defines when consent is required, requires all remediation to comply with standards, ensures land is investigated if contamination is suspected, and requires councils to be notified of all remediation proposals.

No. 62. Sustainable Aquaculture - The policy implements the regional strategies already developed by creating a simple approach to identify and categorise aquaculture development on the basis of its potential environmental impact. The SEPP also identifies aquaculture development as a designated development only where there are potential environmental risks.

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No. 64. Advertising and Signage - Aims to improve the amenity of urban and natural settings by managing the impact of outdoor advertising. The policy responds to growing concerns from the community, the advertising industry and local government that existing controls and guidelines were not effective. SEPP No. 64 offers the comprehensive provisions and consistent approach needed. SEPP 64 – Advertising and Signage: Explanatory Information should be read in conjunction with the policy.

No. 65. Design Quality of Residential Flat Development - Raises the design quality of residential flat development across the state through the application of a series of design principles. The policy provides for the establishment of Design Review Panels to provide independent expert advice to councils on the merit of residential flat development. The accompanying regulation requires the involvement of a qualified designer throughout the design, approval and construction stages.

SEPP (Housing for Seniors or People with a Disability) 2004 - Encourage the development of high quality accommodation for our ageing population and for people who have disabilities - housing that is in keeping with the local neighbourhood

SEPP (Building Sustainability Index: BASIX) 2004 - This SEPP operates in conjunction with Environmental Planning and Assessment Amendment (Building Sustainability Index: BASIX) Regulation 2004 to ensure the effective introduction of BASIX in NSW. The SEPP ensures consistency in the implementation of BASIX throughout the State by overriding competing provisions in other environmental planning instruments and development control plans, and specifying that SEPP 1 does not apply in relation to any development standard arising under BASIX.

SEPP (Infrastructure) 2007 - Provides a consistent planning regime for infrastructure and the provision of services across NSW, along with providing for consultation with relevant public authorities during the assessment process. The SEPP supports greater flexibility in the location of infrastructure and service facilities along with improved regulatory certainty and efficiency.

SEPP (Mining, Petroleum Production and Extractive Industries) 2007 - This Policy aims to provide for the proper management and development of mineral, petroleum and extractive material resources for the social and economic welfare of the State. The Policy establishes appropriate planning controls to encourage ecologically sustainable development.

SEPP (Miscellaneous Consent Provisions) 2007 - Provides for the erection of temporary structures and the use of places of public entertainment while protecting public safety and local amenity. The SEPP supports the transfer of the regulation of places of public entertainment and temporary structures (such as tents, marquees and booths) from the Local Government Act 1993 to the Environmental Planning and Assessment Act 1979.

SEPP (Rural Lands) 2008 - The aim of this policy is to facilitate the orderly and economic use and development of rural lands for rural and related purposes.

SEPP (Exempt and Complying Development Codes) 2008 – This policy streamlines assessment processes for development that complies with specified development standards. The policy provides exempt codes that have State-wide application, identifying, in the General Exempt Development Code, types of development that are of minimal environmental impact that may be carried out without the need for development consent.

SEPP (Affordable Rental Housing) 2009 – The aims of this policy are to provide a consistent planning regime for the provision of affordable rental housing; facilitate the effective delivery of new affordable rental housing by providing incentives by way of expanding zoning permissibility, floor space ratio bonuses and non-discretionary development standards; facilitate the retention and mitigate the loss of existing affordable rental housing; employ a balanced approach between obligations for retaining and mitigating the loss of existing affordable rental housing, and incentives for the development of new

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affordable rental housing; facilitate an expanding role for not-for-profit-providers of affordable rental housing; support local business centres by providing affordable rental housing for workers close to places of work; and facilitate the development of housing for the homeless and other disadvantaged people who may require support services, including group homes and supportive accommodation.

SEPP (State and Regional Development) 2011 – The aims of this policy are to identify development that is State significant development; identify development that is State significant infrastructure and critical State significant infrastructure; and confer functions on joint regional planning panels to determine development applications.

Further details regarding these State Environmental Planning Policies and the circumstances in which they may apply to the subject and can be found on the Department of Planning's website.

REGIONAL PLANNING INSTRUMENTS

There are no Regional Environmental Plans applying within the Muswellbrook Shire Council area.

DEVELOPMENT CONTROL PLANS

This land is affected by the following Development Control Plans:
Muswellbrook Shire Development Control Plan 2009

COASTAL PROTECTION

The land IS NOT affected by the operations of Sections 38 and 39 of the *Coastal Protection Act* 1979.

MINE SUBSIDENCE

The land IS NOT WITHIN a Mine Subsidence District proclaimed under section 15 of the Mine Subsidence Compensation Act, 1961.

ROAD WIDENING AND ROAD REALIGNMENT

The subject land IS NOT 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.

COUNCIL AND OTHER PUBLIC AUTHORITY POLICIES ON HAZARD RISK RESTRICTIONS

The land IS NOT affected by a policy adopted by the council, or 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).

FLOOD RELATED DEVELOPMENT CONTROLS INFORMATION

The Hunter River Flood Study 2014 shows the land to be affected by flooding.

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LAND RESERVED FOR ACQUISITION

There are NOT any environmental planning instruments; deemed environmental planning instruments or draft environmental planning instruments applying to the land that provide for the acquisition of the land by a public authority, as referred to in section 27 of the Environmental Planning and Assessment Act 1979.

CONTRIBUTIONS PLANS

The Muswellbrook Section 94 Contributions Plan 2001 and Muswellbrook Section 94A Contributions Plan 2009 apply to all land within the Muswellbrook Shire Local Government Area.

BIODIVERSITY CERTIFIED LAND

The land IS NOT biodiversity certified land (within the meaning of Part 7AA of the Threatened Species Conservation Act 1995)

BIOBANKING AGREEMENTS

The land IS NOT affected by a biobanking agreement under Part 7A of the *Threatened Species Conservation Act 1995*.

MATTERS RELATING TO THE MANAGEMENT OF CONTAMINATED LAND

- (a) The land to which this certificate relates is NOT within land declared to be significantly contaminated land under the Contaminated Land Management Act 2008 at the date when the certificate is issued.
- (b) The land to which this certificate relates is NOT subject to a management order under the Contaminated Land Management Act 2008 at the date when the certificate is issued.
- (c) The land to which this certificate relates is NOT the subject of approved voluntary management proposal the subject of the Environment Protection Authority's agreement under the Contaminated Land Management Act 2008 at the date when the certificate is issued.
- (d) The land to which this certificate relates is NOT the subject to an ongoing maintenance order under the Contaminated Land Management Act 2008 at the date when the certificate is issued.
- (e) The land to which this certificate relates has NOT been the subject of a site audit statement provided to Muswellbrook Shire Council.

BUSH FIRE PRONE LAND

The land IS NOT bushfire prone land.

PROPERTY VEGETATION PLANS

Council has NOT been notified of the existence of such a plan or if the land is land to which a property vegetation plan under the Native Vegetation Act 2003 applies.

ORDERS UNDER TREES (DISPUTES BETWEEN NEIGHBOURS) ACT 2006

Council has NOT been notified of any order made under the Trees (Disputes Between Neighbours) Act 2006 to carry out work in relation to a tree on the land.

Date: 28 September 2017

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DIRECTIONS UNDER PART 3A

There is NOT a direction by the Minister in force under section 75P (2) (c1) of the Act in relation to prohibiting or restricting the carrying out of a project or a stage of a project on the land under Part 4 of the Act.

SITE COMPATIBILITY CERTIFICATES AND CONDITIONS FOR SENIORS HOUSING

There is NOT a current site compatibility certificate (of which the council is aware), issued under clause 25 of State Environmental Planning Policy (Housing for Seniors or People with a Disability) 2004 in respect of proposed development on the land.

SITE COMPATIBILITY CERTIFICATES FOR INFRASTRUCTURE

There is NOT a valid site compatibility certificate (of which the council is aware), issued under clause 19 of State Environmental Planning Policy (Infrastructure) 2007 in respect of proposed development on the land.

SITE COMPATIBILITY CERTIFICATES AND CONDITIONS FOR AFFORDABLE RENTAL HOUSING

There is NOT a current site compatibility certificate for affordable rental housing (of which the council is aware), issued under clause 37 of State Environmental Planning Policy (Affordable Rental Housing) 2007 in respect of proposed development on the land.

PAPER SUBDIVISION INFORMATION

There is NOT an adopted development plan or subdivision order that applies to the land.

SITE VERIFICATION CERTIFICATE

There is NOT a current site verification certificate (of which the council is aware), issued under clause 17C of State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007, in relation to the land.

LOOSE-FILL ASBESTOS INSULATION

There are NO residential premises located on this land that are listed on the register that are required to be maintained under Division 1A of Part 8 of the *Home Building Act 1989*.

The accuracy and currency of the details provided by agencies external to Council have not be verified by Muswellbrook Shire Council and should be verified by the applicant.

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| ADDITIONAL INFORMATION PURSUANT TO SECTION 149(5) OF THE ACT |
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Council is unaware of any other relevant matters that may affect the land.

For further information, please contact the
Environmental Services Department.

S J McDonald
General Manager

Per: 

**PLANNING CERTIFICATE UNDER
SECTION 149 ENVIRONMENTAL PLANNING
AND ASSESSMENT ACT 1979**

Enquiries Environmental Services
Contact 02 6549 3700
Invoice no. 43721
Your reference Application

Date: 30 September 2017

Assessment: 127647

Cert No: 21267

MACH Energy Australia Pty Ltd
GPO Box 94
BRISBANE QLD 4001

Owner (as recorded by Council)

MACH Energy Australia Pty Ltd

Property Description: 522 WYBONG ROAD MUSWELLBROOK 2333
LOT: 22 DP: 554140

Land to which the certificate relates

The land to which this certificate relates, being the lot or lots described on the application form, is shown in the Council's records as being situated at the street address described above. The information contained in this certificate relates only to the lot or lots described on this certificate. Separate planning certificates can be obtained upon application for the other lots, those certificates may contain different information than is contained in this certificate.

CERTIFICATE UNDER SECTION 149(2) ENVIRONMENTAL PLANNING & ASSESSMENT ACT

LOCAL ENVIRONMENTAL PLANS

PLANNING INSTRUMENT

Muswellbrook Local Environmental Plan 2009

LAND USE ZONING

RU1 Primary Production

PERMITTED WITHOUT CONSENT

Extensive agriculture; Home occupations; Intensive plant agriculture

PERMITTED WITH CONSENT

Air transport facilities; Airstrips; Animal boarding or training establishments; Aquaculture; Camping grounds; Caravan parks; Cellar door premises; Cemeteries; Community facilities; Crematoria; Depots; Dwelling houses; Educational establishments; Environmental facilities; Environmental protection works; Extractive industries; Farm buildings; Flood mitigation works; Forestry; Function centres; Group homes; Hazardous industries; Health consulting rooms; Heavy industrial storage establishments; Helipads; Highway service centres; Home-based child care; Home businesses; Home industries; Industrial retail outlets; Information and education facilities; Intensive livestock agriculture; Intensive plant agriculture; Kiosks; Landscaping material supplies; Open cut mining; Places of public worship; Plant nurseries; Recreation areas; Recreation facilities (indoor); Recreation facilities (major); Recreation facilities (outdoor); Research stations; Restaurants or cafes; Roads; Roadside stalls; Rural industries; Rural supplies; Rural worker's dwellings; Secondary dwellings; Service stations; Sewerage systems; Signage; Storage premises; Take away food and drink premises; Tourist and visitor accommodation; Transport depots; Truck depots; Turf farming; Veterinary hospitals; Waste disposal facilities; Water supply systems.

Date: 3 October 2017

Cert No: 21267

PROHIBITED

Any development not specified above.

MINIMUM LAND DIMENSIONS FOR THE ERECTION OF A DWELLING

Under the provisions of the Muswellbrook Local Environmental Plan 2009, the minimum subdivision lot size is 80ha and is also subject to the provisions detailed below.

Land zoned RU1 Primary Production may, with the consent of Council, be subdivided for the purpose of primary production to create a lot less than the minimum lot size. However, such a lot cannot be created if an existing dwelling would, as the result of the subdivision, be situated on the lot. A dwelling cannot be erected on such a lot created.

Development consent must not be granted to the subdivision of a lot in a strata plan or community title scheme on land zoned RU1 Primary Production that is used, or proposed to be used, for residential accommodation or tourist and visitor accommodation.

Only one dwelling house may be erected on land zoned RU1 Primary Production only if the land is:

- (a) a lot created in accordance with clause 4.1 of the LEP 2009, or
- (b) a lot created before the LEP 2009 commenced and on which the erection of a dwelling house was permissible immediately before that commencement, or
- (c) a lot created before the LEP 2009 commenced that is at least the minimum lot size specified for that lot by the Lot Size Map, or
- (d) a lot for which subdivision approval was granted before the LEP 2009 commenced and on which the erection of a dwelling house would have been permissible immediately before that commencement, or
- (e) an existing holding.

NOTE: EXISTING HOLDING means all adjoining land, even if separated by a road or railway, held in the same ownership:

- (a) on 11 April 1974, and
- (b) at the time of lodging a development application for the erection of a dwelling house under this clause.

and includes any other land adjoining that land acquired by the owner since 11 April 1974.

NOTE: The owner in whose ownership all the land is at the time the application is lodged need not be the same person as the owner in whose ownership all the land was on the stated date.

WHETHER THE LAND INCLUDES OR COMPRISES CRITICAL HABITAT

The subject land has not been declared as critical habitat.

WHETHER THE LAND IS IN A CONSERVATION AREA

The subject land is not known to be in a conservation area.

Date: 3 October 2017

Cert No: 21267

WHETHER AN ITEM OF ENVIRONMENTAL HERITAGE IS SITUATED ON THE LAND

The land is NOT affected by any known or listed heritage item.

STATE ENVIRONMENTAL PLANNING POLICIES (EXEMPT & COMPLYING DEVELOPMENT CODES 2008)

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| CERTIFICATE UNDER SECTION 149(2) IDENTIFYING THE INFORMATION SET OUT IN CLAUSE 3 OF SCHEDULE 4 OF THE ENVIRONMENTAL PLANNING & ASSESSMENT REGULATIONS |
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Part 3 General Housing Code

Not applicable to the land to which this certificate relates.

Part 3A Rural Housing Code

YES. Complying development specified in the Rural Housing Code may be carried out on this land in certain circumstances pursuant to Clause 1.19 of State Environmental Planning Policy (Exempt and Complying Development Codes) 2008.

Part 4 Housing Alterations Code

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Part 4A General Development Code

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Part 5 Commercial and Industrial Alterations Code

Not applicable to the land to which this certificate relates.

Part 5A Commercial and Industrial (New Buildings and Additions) Code

Not applicable to the land to which this certificate relates.

Part 6 Subdivision Code

YES. Complying development specified in the Subdivision Code may be carried out on this land in certain circumstances pursuant to Clause 1.19 of State Environmental Planning Policy (Exempt and Complying Development Codes) 2008.

Part 7 Demolition Code

YES. Complying development specified in the Demolition Code may be carried out on this land in certain circumstances pursuant to Clause 1.19 of State Environmental Planning Policy (Exempt and Complying Development Codes) 2008.

Date: 3 October 2017

Cert No: 21267

Part 8 Fire Safety Code

YES. Complying development specified in the Fire Safety Code may be carried out on this land in certain circumstances pursuant to Clause 1.19 of State Environmental Planning Policy (Exempt and Complying Development Codes) 2008.

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The following State Environmental Planning Policies apply to land within the Muswellbrook Shire LGA:-

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COUNCIL AND OTHER PUBLIC AUTHORITY POLICIES ON HAZARD RISK RESTRICTIONS

The land IS NOT affected by a policy adopted by the council, or 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).

FLOOD RELATED DEVELOPMENT CONTROLS INFORMATION

The Hunter River Flood Study 2014 shows the land to be affected by flooding.

LAND RESERVED FOR ACQUISITION

There are NOT any environmental planning instruments; deemed environmental planning instruments or draft environmental planning instruments applying to the land that provide for the acquisition of the

Date: 3 October 2017

Cert No: 21267

land by a public authority, as referred to in section 27 of the Environmental Planning and Assessment Act 1979.

CONTRIBUTIONS PLANS

The Muswellbrook Section 94 Contributions Plan 2001 and Muswellbrook Section 94A Contributions Plan 2009 apply to all land within the Muswellbrook Shire Local Government Area.

BIODIVERSITY CERTIFIED LAND

The land IS NOT biodiversity certified land (within the meaning of Part 7AA of the Threatened Species Conservation Act 1995)

BIOBANKING AGREEMENTS

The land IS NOT affected by a biobanking agreement under Part 7A of the *Threatened Species Conservation Act 1995*.

MATTERS RELATING TO THE MANAGEMENT OF CONTAMINATED LAND

- (a) The land to which this certificate relates is NOT within land declared to be significantly contaminated land under the Contaminated Land Management Act 2008 at the date when the certificate is issued.
- (b) The land to which this certificate relates is NOT subject to a management order under the Contaminated Land Management Act 2008 at the date when the certificate is issued.
- (c) The land to which this certificate relates is NOT the subject of approved voluntary management proposal the subject of the Environment Protection Authority's agreement under the Contaminated Land Management Act 2008 at the date when the certificate is issued.
- (d) The land to which this certificate relates is NOT the subject to an ongoing maintenance order under the Contaminated Land Management Act 2008 at the date when the certificate is issued.
- (e) The land to which this certificate relates has NOT been the subject of a site audit statement provided to Muswellbrook Shire Council.

BUSH FIRE PRONE LAND

The land IS NOT bushfire prone land.

PROPERTY VEGETATION PLANS

Council has NOT been notified of the existence of such a plan or if the land is land to which a property vegetation plan under the Native Vegetation Act 2003 applies.

ORDERS UNDER TREES (DISPUTES BETWEEN NEIGHBOURS) ACT 2006

Council has NOT been notified of any order made under the Trees (Disputes Between Neighbours) Act 2006 to carry out work in relation to a tree on the land.

Date: 3 October 2017

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DIRECTIONS UNDER PART 3A

There is NOT a direction by the Minister in force under section 75P (2) (c1) of the Act in relation to prohibiting or restricting the carrying out of a project or a stage of a project on the land under Part 4 of the Act.

SITE COMPATIBILITY CERTIFICATES AND CONDITIONS FOR SENIORS HOUSING

There is NOT a current site compatibility certificate (of which the council is aware), issued under clause 25 of State Environmental Planning Policy (Housing for Seniors or People with a Disability) 2004 in respect of proposed development on the land.

SITE COMPATIBILITY CERTIFICATES FOR INFRASTRUCTURE

There is NOT a valid site compatibility certificate (of which the council is aware), issued under clause 19 of State Environmental Planning Policy (Infrastructure) 2007 in respect of proposed development on the land.

SITE COMPATIBILITY CERTIFICATES AND CONDITIONS FOR AFFORDABLE RENTAL HOUSING

There is NOT a current site compatibility certificate for affordable rental housing (of which the council is aware), issued under clause 37 of State Environmental Planning Policy (Affordable Rental Housing) 2007 in respect of proposed development on the land.

PAPER SUBDIVISION INFORMATION

There is NOT an adopted development plan or subdivision order that applies to the land.

SITE VERIFICATION CERTIFICATE

There is NOT a current site verification certificate (of which the council is aware), issued under clause 17C of State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007, in relation to the land.

LOOSE-FILL ASBESTOS INSULATION

There are NO residential premises located on this land that are listed on the register that are required to be maintained under Division 1A of Part 8 of the *Home Building Act 1989*.

The accuracy and currency of the details provided by agencies external to Council have not be verified by Muswellbrook Shire Council and should be verified by the applicant.

ADDITIONAL INFORMATION PURSUANT TO SECTION 149(5) OF THE ACT

Council is unaware of any other relevant matters that may affect the land.

For further information, please contact the
Environmental Services Department.

S J McDonald
General Manager

Per: _____

DJ Watson

**PLANNING CERTIFICATE UNDER
SECTION 149 ENVIRONMENTAL PLANNING
AND ASSESSMENT ACT 1979**

Enquiries Environmental Services
Contact 02 6549 3700
Invoice no. 43721
Your reference Application

Date: 30 September 2017

Assessment: 127647

Cert No: 21266

MACH Energy Australia Pty Ltd
GPO Box 94
BRISBANE QLD 4001

Owner (as recorded by Council)

MACH Energy Australia Pty Ltd

Property Description: 524 WYBONG ROAD MUSWELLBROOK 2333
LOT: 21 DP: 554140

Land to which the certificate relates

The land to which this certificate relates, being the lot or lots described on the application form, is shown in the Council's records as being situated at the street address described above. The information contained in this certificate relates only to the lot or lots described on this certificate. Separate planning certificates can be obtained upon application for the other lots, those certificates may contain different information than is contained in this certificate.

CERTIFICATE UNDER SECTION 149(2) ENVIRONMENTAL PLANNING & ASSESSMENT ACT

LOCAL ENVIRONMENTAL PLANS

PLANNING INSTRUMENT

Muswellbrook Local Environmental Plan 2009

LAND USE ZONING

RU1 Primary Production

PERMITTED WITHOUT CONSENT

Extensive agriculture; Home occupations; Intensive plant agriculture

PERMITTED WITH CONSENT

Air transport facilities; Airstrips; Animal boarding or training establishments; Aquaculture; Camping grounds; Caravan parks; Cellar door premises; Cemeteries; Community facilities; Crematoria; Depots; Dwelling houses; Educational establishments; Environmental facilities; Environmental protection works; Extractive industries; Farm buildings; Flood mitigation works; Forestry; Function centres; Group homes; Hazardous industries; Health consulting rooms; Heavy industrial storage establishments; Helipads; Highway service centres; Home-based child care; Home businesses; Home industries; Industrial retail outlets; Information and education facilities; Intensive livestock agriculture; Intensive plant agriculture; Kiosks; Landscaping material supplies; Open cut mining; Places of public worship; Plant nurseries; Recreation areas; Recreation facilities (indoor); Recreation facilities (major); Recreation facilities (outdoor); Research stations; Restaurants or cafes; Roads; Roadside stalls; Rural industries; Rural supplies; Rural worker's dwellings; Secondary dwellings; Service stations; Sewerage systems; Signage; Storage premises; Take away food and drink premises; Tourist and visitor accommodation; Transport depots; Truck depots; Turf farming; Veterinary hospitals; Waste disposal facilities; Water supply systems.

Date: 3 October 2017

Cert No: 21266

PROHIBITED

Any development not specified above.

MINIMUM LAND DIMENSIONS FOR THE ERECTION OF A DWELLING

Under the provisions of the Muswellbrook Local Environmental Plan 2009, the minimum subdivision lot size is 80ha and is also subject to the provisions detailed below.

Land zoned RU1 Primary Production may, with the consent of Council, be subdivided for the purpose of primary production to create a lot less than the minimum lot size. However, such a lot cannot be created if an existing dwelling would, as the result of the subdivision, be situated on the lot. A dwelling cannot be erected on such a lot created.

Development consent must not be granted to the subdivision of a lot in a strata plan or community title scheme on land zoned RU1 Primary Production that is used, or proposed to be used, for residential accommodation or tourist and visitor accommodation.

Only one dwelling house may be erected on land zoned RU1 Primary Production only if the land is:

- (a) a lot created in accordance with clause 4.1 of the LEP 2009, or
- (b) a lot created before the LEP 2009 commenced and on which the erection of a dwelling house was permissible immediately before that commencement, or
- (c) a lot created before the LEP 2009 commenced that is at least the minimum lot size specified for that lot by the Lot Size Map, or
- (d) a lot for which subdivision approval was granted before the LEP 2009 commenced and on which the erection of a dwelling house would have been permissible immediately before that commencement, or
- (e) an existing holding.

NOTE: EXISTING HOLDING means all adjoining land, even if separated by a road or railway, held in the same ownership:

- (a) on 11 April 1974, and
- (b) at the time of lodging a development application for the erection of a dwelling house under this clause.

and includes any other land adjoining that land acquired by the owner since 11 April 1974.

NOTE: The owner in whose ownership all the land is at the time the application is lodged need not be the same person as the owner in whose ownership all the land was on the stated date.

WHETHER THE LAND INCLUDES OR COMPRISES CRITICAL HABITAT

The subject land has not been declared as critical habitat.

WHETHER THE LAND IS IN A CONSERVATION AREA

The subject land is not known to be in a conservation area.

Date: 3 October 2017

Cert No: 21266

WHETHER AN ITEM OF ENVIRONMENTAL HERITAGE IS SITUATED ON THE LAND

The land is NOT affected by any known or listed heritage item.

STATE ENVIRONMENTAL PLANNING POLICIES (EXEMPT & COMPLYING DEVELOPMENT CODES 2008)

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|---|
| CERTIFICATE UNDER SECTION 149(2) IDENTIFYING THE INFORMATION SET OUT IN CLAUSE 3 OF SCHEDULE 4 OF THE ENVIRONMENTAL PLANNING & ASSESSMENT REGULATIONS |
|---|

Part 3 General Housing Code

Not applicable to the land to which this certificate relates.

Part 3A Rural Housing Code

YES. Complying development specified in the Rural Housing Code may be carried out on this land in certain circumstances pursuant to Clause 1.19 of State Environmental Planning Policy (Exempt and Complying Development Codes) 2008.

Part 4 Housing Alterations Code

YES. Complying development specified in the Housing Alterations Code may be carried out on this land in certain circumstances pursuant to Clause 1.19 of State Environmental Planning Policy (Exempt and Complying Development Codes) 2008.

Part 4A General Development Code

YES. Complying development specified in the General Development Code may be carried out on this land in certain circumstances pursuant to Clause 1.19 of State Environmental Planning Policy (Exempt and Complying Development Codes) 2008.

Part 5 Commercial and Industrial Alterations Code

Not applicable to the land to which this certificate relates.

Part 5A Commercial and Industrial (New Buildings and Additions) Code

Not applicable to the land to which this certificate relates.

Part 6 Subdivision Code

YES. Complying development specified in the Subdivision Code may be carried out on this land in certain circumstances pursuant to Clause 1.19 of State Environmental Planning Policy (Exempt and Complying Development Codes) 2008.

Part 7 Demolition Code

YES. Complying development specified in the Demolition Code may be carried out on this land in certain circumstances pursuant to Clause 1.19 of State Environmental Planning Policy (Exempt and Complying Development Codes) 2008.

Date: 3 October 2017

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Part 8 Fire Safety Code

YES. Complying development specified in the Fire Safety Code may be carried out on this land in certain circumstances pursuant to Clause 1.19 of State Environmental Planning Policy (Exempt and Complying Development Codes) 2008.

STATE ENVIRONMENTAL PLANNING POLICIES

The following State Environmental Planning Policies apply to land within the Muswellbrook Shire LGA:-

No. 21. Caravan Parks - Ensures that where caravan parks or camping grounds are permitted under an environmental planning instrument, movable dwellings, as defined in the Local Government Act 1993, are also permitted. The policy ensures that development consent is required for new caravan parks and camping grounds and for additional long-term sites in existing caravan parks.

No. 30. Intensive Agriculture - Requires development consent for cattle feedlots having a capacity of 50 or more cattle or piggeries having a capacity of 200 or more pigs. The policy sets out information and public notification requirements to ensure there are effective planning control over this export-driven rural industry. The policy does not alter if, and where, such development is permitted, or the functions of the consent authority.

No. 33. Hazardous and Offensive Development - Provides new definitions for 'hazardous industry', 'hazardous storage establishment', 'offensive industry' and 'offensive storage establishment'. The definitions apply to all planning instruments, existing and future. The new definitions enable decisions to approve or refuse a development to be based on the merit of proposal. The consent authority must carefully consider the specifics of the case, the location and the way in which the proposed activity is to be carried out. The policy also requires specified matters to be considered for proposals that are 'potentially hazardous' or 'potentially offensive' as defined in the policy. For example, any application to carry out a potentially hazardous or potentially offensive development is to be advertised for public comment, and applications to carry out potentially hazardous development must be supported by a preliminary hazard analysis (PHA).

No. 36. Manufactured Home Estates - Helps establish well-designed and properly serviced manufactured home estates (MHEs) in suitable locations. Affordability and security of tenure for residents are important aspects. To enable the immediate development of estates, the policy allows MHEs to be located on certain land where caravan parks are permitted. There are however, criteria that a proposal must satisfy before the local council can approve development.

No. 44. Koala Habitat Protection - Encourages the proper conservation and management of areas of natural vegetation that provide habitat for koalas to ensure a permanent free-living population over their present range and reverse the current trend of koala population decline.

No. 55. Remediation of Land - Introduces state-wide planning controls for the remediation of contaminated land. The policy states that land must not be developed if it is unsuitable for a proposed use because it is contaminated. If the land is unsuitable, remediation must take place before the land is developed. The policy makes remediation permissible across the State, defines when consent is required, requires all remediation to comply with standards, ensures land is investigated if contamination is suspected, and requires councils to be notified of all remediation proposals.

No. 62. Sustainable Aquaculture - The policy implements the regional strategies already developed by creating a simple approach to identify and categorise aquaculture development on the basis of its potential environmental impact. The SEPP also identifies aquaculture development as a designated development only where there are potential environmental risks.

Date: 3 October 2017

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No. 64. Advertising and Signage - Aims to improve the amenity of urban and natural settings by managing the impact of outdoor advertising. The policy responds to growing concerns from the community, the advertising industry and local government that existing controls and guidelines were not effective. SEPP No. 64 offers the comprehensive provisions and consistent approach needed. SEPP 64 – Advertising and Signage: Explanatory Information should be read in conjunction with the policy.

No. 65. Design Quality of Residential Flat Development - Raises the design quality of residential flat development across the state through the application of a series of design principles. The policy provides for the establishment of Design Review Panels to provide independent expert advice to councils on the merit of residential flat development. The accompanying regulation requires the involvement of a qualified designer throughout the design, approval and construction stages.

SEPP (Housing for Seniors or People with a Disability) 2004 - Encourage the development of high quality accommodation for our ageing population and for people who have disabilities - housing that is in keeping with the local neighbourhood

SEPP (Building Sustainability Index: BASIX) 2004 - This SEPP operates in conjunction with Environmental Planning and Assessment Amendment (Building Sustainability Index: BASIX) Regulation 2004 to ensure the effective introduction of BASIX in NSW. The SEPP ensures consistency in the implementation of BASIX throughout the State by overriding competing provisions in other environmental planning instruments and development control plans, and specifying that SEPP 1 does not apply in relation to any development standard arising under BASIX.

SEPP (Infrastructure) 2007 - Provides a consistent planning regime for infrastructure and the provision of services across NSW, along with providing for consultation with relevant public authorities during the assessment process. The SEPP supports greater flexibility in the location of infrastructure and service facilities along with improved regulatory certainty and efficiency.

SEPP (Mining, Petroleum Production and Extractive Industries) 2007 - This Policy aims to provide for the proper management and development of mineral, petroleum and extractive material resources for the social and economic welfare of the State. The Policy establishes appropriate planning controls to encourage ecologically sustainable development.

SEPP (Miscellaneous Consent Provisions) 2007 - Provides for the erection of temporary structures and the use of places of public entertainment while protecting public safety and local amenity. The SEPP supports the transfer of the regulation of places of public entertainment and temporary structures (such as tents, marquees and booths) from the Local Government Act 1993 to the Environmental Planning and Assessment Act 1979.

SEPP (Rural Lands) 2008 - The aim of this policy is to facilitate the orderly and economic use and development of rural lands for rural and related purposes.

SEPP (Exempt and Complying Development Codes) 2008 – This policy streamlines assessment processes for development that complies with specified development standards. The policy provides exempt codes that have State-wide application, identifying, in the General Exempt Development Code, types of development that are of minimal environmental impact that may be carried out without the need for development consent.

SEPP (Affordable Rental Housing) 2009 – The aims of this policy are to provide a consistent planning regime for the provision of affordable rental housing; facilitate the effective delivery of new affordable rental housing by providing incentives by way of expanding zoning permissibility, floor space ratio bonuses and non-discretionary development standards; facilitate the retention and mitigate the loss of existing affordable rental housing; employ a balanced approach between obligations for retaining and mitigating the loss of existing affordable rental housing, and incentives for the development of new

Date: 3 October 2017

Cert No: 21266

affordable rental housing; facilitate an expanding role for not-for-profit-providers of affordable rental housing; support local business centres by providing affordable rental housing for workers close to places of work; and facilitate the development of housing for the homeless and other disadvantaged people who may require support services, including group homes and supportive accommodation.

SEPP (State and Regional Development) 2011 – The aims of this policy are to identify development that is State significant development; identify development that is State significant infrastructure and critical State significant infrastructure; and confer functions on joint regional planning panels to determine development applications.

Further details regarding these State Environmental Planning Policies and the circumstances in which they may apply to the subject and can be found on the Department of Planning's website.

REGIONAL PLANNING INSTRUMENTS

There are no Regional Environmental Plans applying within the Muswellbrook Shire Council area.

DEVELOPMENT CONTROL PLANS

This land is affected by the following Development Control Plans:
Muswellbrook Shire Development Control Plan 2009

COASTAL PROTECTION

The land IS NOT affected by the operations of Sections 38 and 39 of the *Coastal Protection Act* 1979.

MINE SUBSIDENCE

The land IS NOT WITHIN a Mine Subsidence District proclaimed under section 15 of the Mine Subsidence Compensation Act, 1961.

ROAD WIDENING AND ROAD REALIGNMENT

The subject land IS NOT 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.

COUNCIL AND OTHER PUBLIC AUTHORITY POLICIES ON HAZARD RISK RESTRICTIONS

The land IS NOT affected by a policy adopted by the council, or 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).

FLOOD RELATED DEVELOPMENT CONTROLS INFORMATION

The Hunter River Flood Study 2014 shows the land to be affected by flooding.

LAND RESERVED FOR ACQUISITION

There are NOT any environmental planning instruments; deemed environmental planning instruments or draft environmental planning instruments applying to the land that provide for the acquisition of the

Date: 3 October 2017

Cert No: 21266

land by a public authority, as referred to in section 27 of the Environmental Planning and Assessment Act 1979.

CONTRIBUTIONS PLANS

The Muswellbrook Section 94 Contributions Plan 2001 and Muswellbrook Section 94A Contributions Plan 2009 apply to all land within the Muswellbrook Shire Local Government Area.

BIODIVERSITY CERTIFIED LAND

The land IS NOT biodiversity certified land (within the meaning of Part 7AA of the Threatened Species Conservation Act 1995)

BIOBANKING AGREEMENTS

The land IS NOT affected by a biobanking agreement under Part 7A of the *Threatened Species Conservation Act 1995*.

MATTERS RELATING TO THE MANAGEMENT OF CONTAMINATED LAND

- (a) The land to which this certificate relates is NOT within land declared to be significantly contaminated land under the Contaminated Land Management Act 2008 at the date when the certificate is issued.
- (b) The land to which this certificate relates is NOT subject to a management order under the Contaminated Land Management Act 2008 at the date when the certificate is issued.
- (c) The land to which this certificate relates is NOT the subject of approved voluntary management proposal the subject of the Environment Protection Authority's agreement under the Contaminated Land Management Act 2008 at the date when the certificate is issued.
- (d) The land to which this certificate relates is NOT the subject to an ongoing maintenance order under the Contaminated Land Management Act 2008 at the date when the certificate is issued.
- (e) The land to which this certificate relates has NOT been the subject of a site audit statement provided to Muswellbrook Shire Council.

BUSH FIRE PRONE LAND

The land IS NOT bushfire prone land.

PROPERTY VEGETATION PLANS

Council has NOT been notified of the existence of such a plan or if the land is land to which a property vegetation plan under the Native Vegetation Act 2003 applies.

ORDERS UNDER TREES (DISPUTES BETWEEN NEIGHBOURS) ACT 2006

Council has NOT been notified of any order made under the Trees (Disputes Between Neighbours) Act 2006 to carry out work in relation to a tree on the land.

Date: 3 October 2017

Cert No: 21266

DIRECTIONS UNDER PART 3A

There is NOT a direction by the Minister in force under section 75P (2) (c1) of the Act in relation to prohibiting or restricting the carrying out of a project or a stage of a project on the land under Part 4 of the Act.

SITE COMPATIBILITY CERTIFICATES AND CONDITIONS FOR SENIORS HOUSING

There is NOT a current site compatibility certificate (of which the council is aware), issued under clause 25 of State Environmental Planning Policy (Housing for Seniors or People with a Disability) 2004 in respect of proposed development on the land.

SITE COMPATIBILITY CERTIFICATES FOR INFRASTRUCTURE

There is NOT a valid site compatibility certificate (of which the council is aware), issued under clause 19 of State Environmental Planning Policy (Infrastructure) 2007 in respect of proposed development on the land.

SITE COMPATIBILITY CERTIFICATES AND CONDITIONS FOR AFFORDABLE RENTAL HOUSING

There is NOT a current site compatibility certificate for affordable rental housing (of which the council is aware), issued under clause 37 of State Environmental Planning Policy (Affordable Rental Housing) 2007 in respect of proposed development on the land.

PAPER SUBDIVISION INFORMATION

There is NOT an adopted development plan or subdivision order that applies to the land.

SITE VERIFICATION CERTIFICATE

There is NOT a current site verification certificate (of which the council is aware), issued under clause 17C of State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007, in relation to the land.

LOOSE-FILL ASBESTOS INSULATION

There are NO residential premises located on this land that are listed on the register that are required to be maintained under Division 1A of Part 8 of the *Home Building Act 1989*.

The accuracy and currency of the details provided by agencies external to Council have not be verified by Muswellbrook Shire Council and should be verified by the applicant.

ADDITIONAL INFORMATION PURSUANT TO SECTION 149(5) OF THE ACT

Council is unaware of any other relevant matters that may affect the land.

For further information, please contact the
Environmental Services Department.

S J McDonald
General Manager

Per: _____

DJ Watson

**PLANNING CERTIFICATE UNDER
SECTION 149 ENVIRONMENTAL PLANNING
AND ASSESSMENT ACT 1979**

Enquiries Environmental Services
Contact 02 6549 3700
Invoice no. 43721
Your reference Application

Date: 30 September 2017

Assessment: 127647

Cert No: 21271

MACH Energy Australia Pty Ltd
GPO Box 94
BRISBANE QLD 4001

Owner (as recorded by Council)

MACH Energy Australia Pty Ltd

Property Description: 570 WYBONG ROAD MUSWELLBROOK 2333
LOT: 25 DP: 1053537

Land to which the certificate relates

The land to which this certificate relates, being the lot or lots described on the application form, is shown in the Council's records as being situated at the street address described above. The information contained in this certificate relates only to the lot or lots described on this certificate. Separate planning certificates can be obtained upon application for the other lots, those certificates may contain different information than is contained in this certificate.

CERTIFICATE UNDER SECTION 149(2) ENVIRONMENTAL PLANNING & ASSESSMENT ACT

LOCAL ENVIRONMENTAL PLANS

PLANNING INSTRUMENT

Muswellbrook Local Environmental Plan 2009

LAND USE ZONING

RU1 Primary Production

PERMITTED WITHOUT CONSENT

Extensive agriculture; Home occupations; Intensive plant agriculture

PERMITTED WITH CONSENT

Air transport facilities; Airstrips; Animal boarding or training establishments; Aquaculture; Camping grounds; Caravan parks; Cellar door premises; Cemeteries; Community facilities; Crematoria; Depots; Dwelling houses; Educational establishments; Environmental facilities; Environmental protection works; Extractive industries; Farm buildings; Flood mitigation works; Forestry; Function centres; Group homes; Hazardous industries; Health consulting rooms; Heavy industrial storage establishments; Helipads; Highway service centres; Home-based child care; Home businesses; Home industries; Industrial retail outlets; Information and education facilities; Intensive livestock agriculture; Intensive plant agriculture; Kiosks; Landscaping material supplies; Open cut mining; Places of public worship; Plant nurseries; Recreation areas; Recreation facilities (indoor); Recreation facilities (major); Recreation facilities (outdoor); Research stations; Restaurants or cafes; Roads; Roadside stalls; Rural industries; Rural supplies; Rural worker's dwellings; Secondary dwellings; Service stations; Sewerage systems; Signage; Storage premises; Take away food and drink premises; Tourist and visitor accommodation; Transport depots; Truck depots; Turf farming; Veterinary hospitals; Waste disposal facilities; Water supply systems.

Date: 3 October 2017

Cert No: 21271

PROHIBITED

Any development not specified above.

MINIMUM LAND DIMENSIONS FOR THE ERECTION OF A DWELLING

Under the provisions of the Muswellbrook Local Environmental Plan 2009, the minimum subdivision lot size is 80ha and is also subject to the provisions detailed below.

Land zoned RU1 Primary Production may, with the consent of Council, be subdivided for the purpose of primary production to create a lot less than the minimum lot size. However, such a lot cannot be created if an existing dwelling would, as the result of the subdivision, be situated on the lot. A dwelling cannot be erected on such a lot created.

Development consent must not be granted to the subdivision of a lot in a strata plan or community title scheme on land zoned RU1 Primary Production that is used, or proposed to be used, for residential accommodation or tourist and visitor accommodation.

Only one dwelling house may be erected on land zoned RU1 Primary Production only if the land is:

- (a) a lot created in accordance with clause 4.1 of the LEP 2009, or
- (b) a lot created before the LEP 2009 commenced and on which the erection of a dwelling house was permissible immediately before that commencement, or
- (c) a lot created before the LEP 2009 commenced that is at least the minimum lot size specified for that lot by the Lot Size Map, or
- (d) a lot for which subdivision approval was granted before the LEP 2009 commenced and on which the erection of a dwelling house would have been permissible immediately before that commencement, or
- (e) an existing holding.

NOTE: EXISTING HOLDING means all adjoining land, even if separated by a road or railway, held in the same ownership:

- (a) on 11 April 1974, and
- (b) at the time of lodging a development application for the erection of a dwelling house under this clause.

and includes any other land adjoining that land acquired by the owner since 11 April 1974.

NOTE: The owner in whose ownership all the land is at the time the application is lodged need not be the same person as the owner in whose ownership all the land was on the stated date.

WHETHER THE LAND INCLUDES OR COMPRISES CRITICAL HABITAT

The subject land has not been declared as critical habitat.

WHETHER THE LAND IS IN A CONSERVATION AREA

The subject land is not known to be in a conservation area.

Date: 3 October 2017

Cert No: 21271

WHETHER AN ITEM OF ENVIRONMENTAL HERITAGE IS SITUATED ON THE LAND

The land is NOT affected by any known or listed heritage item.

STATE ENVIRONMENTAL PLANNING POLICIES (EXEMPT & COMPLYING DEVELOPMENT CODES 2008)

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|---|
| CERTIFICATE UNDER SECTION 149(2) IDENTIFYING THE INFORMATION SET OUT IN CLAUSE 3 OF SCHEDULE 4 OF THE ENVIRONMENTAL PLANNING & ASSESSMENT REGULATIONS |
|---|

Part 3 General Housing Code

Not applicable to the land to which this certificate relates.

Part 3A Rural Housing Code

YES. Complying development specified in the Rural Housing Code may be carried out on this land in certain circumstances pursuant to Clause 1.19 of State Environmental Planning Policy (Exempt and Complying Development Codes) 2008.

Part 4 Housing Alterations Code

YES. Complying development specified in the Housing Alterations Code may be carried out on this land in certain circumstances pursuant to Clause 1.19 of State Environmental Planning Policy (Exempt and Complying Development Codes) 2008.

Part 4A General Development Code

YES. Complying development specified in the General Development Code may be carried out on this land in certain circumstances pursuant to Clause 1.19 of State Environmental Planning Policy (Exempt and Complying Development Codes) 2008.

Part 5 Commercial and Industrial Alterations Code

Not applicable to the land to which this certificate relates.

Part 5A Commercial and Industrial (New Buildings and Additions) Code

Not applicable to the land to which this certificate relates.

Part 6 Subdivision Code

YES. Complying development specified in the Subdivision Code may be carried out on this land in certain circumstances pursuant to Clause 1.19 of State Environmental Planning Policy (Exempt and Complying Development Codes) 2008.

Part 7 Demolition Code

YES. Complying development specified in the Demolition Code may be carried out on this land in certain circumstances pursuant to Clause 1.19 of State Environmental Planning Policy (Exempt and Complying Development Codes) 2008.

Date: 3 October 2017

Cert No: 21271

Part 8 Fire Safety Code

YES. Complying development specified in the Fire Safety Code may be carried out on this land in certain circumstances pursuant to Clause 1.19 of State Environmental Planning Policy (Exempt and Complying Development Codes) 2008.

STATE ENVIRONMENTAL PLANNING POLICIES

The following State Environmental Planning Policies apply to land within the Muswellbrook Shire LGA:-

No. 21. Caravan Parks - Ensures that where caravan parks or camping grounds are permitted under an environmental planning instrument, movable dwellings, as defined in the Local Government Act 1993, are also permitted. The policy ensures that development consent is required for new caravan parks and camping grounds and for additional long-term sites in existing caravan parks.

No. 30. Intensive Agriculture - Requires development consent for cattle feedlots having a capacity of 50 or more cattle or piggeries having a capacity of 200 or more pigs. The policy sets out information and public notification requirements to ensure there are effective planning control over this export-driven rural industry. The policy does not alter if, and where, such development is permitted, or the functions of the consent authority.

No. 33. Hazardous and Offensive Development - Provides new definitions for 'hazardous industry', 'hazardous storage establishment', 'offensive industry' and 'offensive storage establishment'. The definitions apply to all planning instruments, existing and future. The new definitions enable decisions to approve or refuse a development to be based on the merit of proposal. The consent authority must carefully consider the specifics of the case, the location and the way in which the proposed activity is to be carried out. The policy also requires specified matters to be considered for proposals that are 'potentially hazardous' or 'potentially offensive' as defined in the policy. For example, any application to carry out a potentially hazardous or potentially offensive development is to be advertised for public comment, and applications to carry out potentially hazardous development must be supported by a preliminary hazard analysis (PHA).

No. 36. Manufactured Home Estates - Helps establish well-designed and properly serviced manufactured home estates (MHEs) in suitable locations. Affordability and security of tenure for residents are important aspects. To enable the immediate development of estates, the policy allows MHEs to be located on certain land where caravan parks are permitted. There are however, criteria that a proposal must satisfy before the local council can approve development.

No. 44. Koala Habitat Protection - Encourages the proper conservation and management of areas of natural vegetation that provide habitat for koalas to ensure a permanent free-living population over their present range and reverse the current trend of koala population decline.

No. 55. Remediation of Land - Introduces state-wide planning controls for the remediation of contaminated land. The policy states that land must not be developed if it is unsuitable for a proposed use because it is contaminated. If the land is unsuitable, remediation must take place before the land is developed. The policy makes remediation permissible across the State, defines when consent is required, requires all remediation to comply with standards, ensures land is investigated if contamination is suspected, and requires councils to be notified of all remediation proposals.

No. 62. Sustainable Aquaculture - The policy implements the regional strategies already developed by creating a simple approach to identify and categorise aquaculture development on the basis of its potential environmental impact. The SEPP also identifies aquaculture development as a designated development only where there are potential environmental risks.

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No. 65. Design Quality of Residential Flat Development - Raises the design quality of residential flat development across the state through the application of a series of design principles. The policy provides for the establishment of Design Review Panels to provide independent expert advice to councils on the merit of residential flat development. The accompanying regulation requires the involvement of a qualified designer throughout the design, approval and construction stages.

SEPP (Housing for Seniors or People with a Disability) 2004 - Encourage the development of high quality accommodation for our ageing population and for people who have disabilities - housing that is in keeping with the local neighbourhood

SEPP (Building Sustainability Index: BASIX) 2004 - This SEPP operates in conjunction with Environmental Planning and Assessment Amendment (Building Sustainability Index: BASIX) Regulation 2004 to ensure the effective introduction of BASIX in NSW. The SEPP ensures consistency in the implementation of BASIX throughout the State by overriding competing provisions in other environmental planning instruments and development control plans, and specifying that SEPP 1 does not apply in relation to any development standard arising under BASIX.

SEPP (Infrastructure) 2007 - Provides a consistent planning regime for infrastructure and the provision of services across NSW, along with providing for consultation with relevant public authorities during the assessment process. The SEPP supports greater flexibility in the location of infrastructure and service facilities along with improved regulatory certainty and efficiency.

SEPP (Mining, Petroleum Production and Extractive Industries) 2007 - This Policy aims to provide for the proper management and development of mineral, petroleum and extractive material resources for the social and economic welfare of the State. The Policy establishes appropriate planning controls to encourage ecologically sustainable development.

SEPP (Miscellaneous Consent Provisions) 2007 - Provides for the erection of temporary structures and the use of places of public entertainment while protecting public safety and local amenity. The SEPP supports the transfer of the regulation of places of public entertainment and temporary structures (such as tents, marquees and booths) from the Local Government Act 1993 to the Environmental Planning and Assessment Act 1979.

SEPP (Rural Lands) 2008 - The aim of this policy is to facilitate the orderly and economic use and development of rural lands for rural and related purposes.

SEPP (Exempt and Complying Development Codes) 2008 – This policy streamlines assessment processes for development that complies with specified development standards. The policy provides exempt codes that have State-wide application, identifying, in the General Exempt Development Code, types of development that are of minimal environmental impact that may be carried out without the need for development consent.

SEPP (Affordable Rental Housing) 2009 – The aims of this policy are to provide a consistent planning regime for the provision of affordable rental housing; facilitate the effective delivery of new affordable rental housing by providing incentives by way of expanding zoning permissibility, floor space ratio bonuses and non-discretionary development standards; facilitate the retention and mitigate the loss of existing affordable rental housing; employ a balanced approach between obligations for retaining and mitigating the loss of existing affordable rental housing, and incentives for the development of new

Date: 3 October 2017

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affordable rental housing; facilitate an expanding role for not-for-profit-providers of affordable rental housing; support local business centres by providing affordable rental housing for workers close to places of work; and facilitate the development of housing for the homeless and other disadvantaged people who may require support services, including group homes and supportive accommodation.

SEPP (State and Regional Development) 2011 – The aims of this policy are to identify development that is State significant development; identify development that is State significant infrastructure and critical State significant infrastructure; and confer functions on joint regional planning panels to determine development applications.

Further details regarding these State Environmental Planning Policies and the circumstances in which they may apply to the subject and can be found on the Department of Planning's website.

REGIONAL PLANNING INSTRUMENTS

There are no Regional Environmental Plans applying within the Muswellbrook Shire Council area.

DEVELOPMENT CONTROL PLANS

This land is affected by the following Development Control Plans:
Muswellbrook Shire Development Control Plan 2009

COASTAL PROTECTION

The land IS NOT affected by the operations of Sections 38 and 39 of the *Coastal Protection Act* 1979.

MINE SUBSIDENCE

The land IS NOT WITHIN a Mine Subsidence District proclaimed under section 15 of the Mine Subsidence Compensation Act, 1961.

ROAD WIDENING AND ROAD REALIGNMENT

The subject land IS NOT 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.

COUNCIL AND OTHER PUBLIC AUTHORITY POLICIES ON HAZARD RISK RESTRICTIONS

The land IS NOT affected by a policy adopted by the council, or 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).

FLOOD RELATED DEVELOPMENT CONTROLS INFORMATION

The Hunter River Flood Study 2014 shows the land to be affected by flooding.

LAND RESERVED FOR ACQUISITION

There are NOT any environmental planning instruments; deemed environmental planning instruments or draft environmental planning instruments applying to the land that provide for the acquisition of the

Date: 3 October 2017

Cert No: 21271

land by a public authority, as referred to in section 27 of the Environmental Planning and Assessment Act 1979.

CONTRIBUTIONS PLANS

The Muswellbrook Section 94 Contributions Plan 2001 and Muswellbrook Section 94A Contributions Plan 2009 apply to all land within the Muswellbrook Shire Local Government Area.

BIODIVERSITY CERTIFIED LAND

The land IS NOT biodiversity certified land (within the meaning of Part 7AA of the Threatened Species Conservation Act 1995)

BIOBANKING AGREEMENTS

The land IS NOT affected by a biobanking agreement under Part 7A of the *Threatened Species Conservation Act 1995*.

MATTERS RELATING TO THE MANAGEMENT OF CONTAMINATED LAND

- (a) The land to which this certificate relates is NOT within land declared to be significantly contaminated land under the Contaminated Land Management Act 2008 at the date when the certificate is issued.
- (b) The land to which this certificate relates is NOT subject to a management order under the Contaminated Land Management Act 2008 at the date when the certificate is issued.
- (c) The land to which this certificate relates is NOT the subject of approved voluntary management proposal the subject of the Environment Protection Authority's agreement under the Contaminated Land Management Act 2008 at the date when the certificate is issued.
- (d) The land to which this certificate relates is NOT the subject to an ongoing maintenance order under the Contaminated Land Management Act 2008 at the date when the certificate is issued.
- (e) The land to which this certificate relates has NOT been the subject of a site audit statement provided to Muswellbrook Shire Council.

BUSH FIRE PRONE LAND

The land IS NOT bushfire prone land.

PROPERTY VEGETATION PLANS

Council has NOT been notified of the existence of such a plan or if the land is land to which a property vegetation plan under the Native Vegetation Act 2003 applies.

ORDERS UNDER TREES (DISPUTES BETWEEN NEIGHBOURS) ACT 2006

Council has NOT been notified of any order made under the Trees (Disputes Between Neighbours) Act 2006 to carry out work in relation to a tree on the land.

Date: 3 October 2017

Cert No: 21271

DIRECTIONS UNDER PART 3A

There is NOT a direction by the Minister in force under section 75P (2) (c1) of the Act in relation to prohibiting or restricting the carrying out of a project or a stage of a project on the land under Part 4 of the Act.

SITE COMPATIBILITY CERTIFICATES AND CONDITIONS FOR SENIORS HOUSING

There is NOT a current site compatibility certificate (of which the council is aware), issued under clause 25 of State Environmental Planning Policy (Housing for Seniors or People with a Disability) 2004 in respect of proposed development on the land.

SITE COMPATIBILITY CERTIFICATES FOR INFRASTRUCTURE

There is NOT a valid site compatibility certificate (of which the council is aware), issued under clause 19 of State Environmental Planning Policy (Infrastructure) 2007 in respect of proposed development on the land.

SITE COMPATIBILITY CERTIFICATES AND CONDITIONS FOR AFFORDABLE RENTAL HOUSING

There is NOT a current site compatibility certificate for affordable rental housing (of which the council is aware), issued under clause 37 of State Environmental Planning Policy (Affordable Rental Housing) 2007 in respect of proposed development on the land.

PAPER SUBDIVISION INFORMATION

There is NOT an adopted development plan or subdivision order that applies to the land.

SITE VERIFICATION CERTIFICATE

There is NOT a current site verification certificate (of which the council is aware), issued under clause 17C of State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007, in relation to the land.

LOOSE-FILL ASBESTOS INSULATION

There are NO residential premises located on this land that are listed on the register that are required to be maintained under Division 1A of Part 8 of the *Home Building Act 1989*.

The accuracy and currency of the details provided by agencies external to Council have not be verified by Muswellbrook Shire Council and should be verified by the applicant.

ADDITIONAL INFORMATION PURSUANT TO SECTION 149(5) OF THE ACT

Council is unaware of any other relevant matters that may affect the land.

For further information, please contact the
Environmental Services Department.

S J McDonald
General Manager

Per: _____

DJ Watson

**PLANNING CERTIFICATE UNDER
SECTION 149 ENVIRONMENTAL PLANNING
AND ASSESSMENT ACT 1979**

Enquiries Environmental Services
Contact 02 6549 3700
Invoice no. 43721
Your reference Application

Date: 29 September 2017

Assessment: 63719

Cert No: 21235

MACH Energy Australia Pty Ltd
GPO Box 94
BRISBANE QLD 4001

Owner (as recorded by Council)

MACH Energy Australia Pty Ltd

Property Description: WYBONG ROAD MUSWELLBROOK 2333
LOT: 2 DP: 780673

Land to which the certificate relates

The land to which this certificate relates, being the lot or lots described on the application form, is shown in the Council's records as being situated at the street address described above. The information contained in this certificate relates only to the lot or lots described on this certificate. Separate planning certificates can be obtained upon application for the other lots, those certificates may contain different information than is contained in this certificate.

CERTIFICATE UNDER SECTION 149(2) ENVIRONMENTAL PLANNING & ASSESSMENT ACT

LOCAL ENVIRONMENTAL PLANS

PLANNING INSTRUMENT Muswellbrook Local Environmental Plan 2009

LAND USE ZONING RU1 Primary Production

PERMITTED WITHOUT CONSENT

Extensive agriculture; Home occupations; Intensive plant agriculture

PERMITTED WITH CONSENT

Air transport facilities; Airstrips; Animal boarding or training establishments; Aquaculture; Camping grounds; Caravan parks; Cellar door premises; Cemeteries; Community facilities; Crematoria; Depots; Dwelling houses; Educational establishments; Environmental facilities; Environmental protection works; Extractive industries; Farm buildings; Flood mitigation works; Forestry; Function centres; Group homes; Hazardous industries; Health consulting rooms; Heavy industrial storage establishments; Helipads; Highway service centres; Home-based child care; Home businesses; Home industries; Industrial retail outlets; Information and education facilities; Intensive livestock agriculture; Intensive plant agriculture; Kiosks; Landscaping material supplies; Open cut mining; Places of public worship; Plant nurseries; Recreation areas; Recreation facilities (indoor); Recreation facilities (major); Recreation facilities (outdoor); Research stations; Restaurants or cafes; Roads; Roadside stalls; Rural industries; Rural supplies; Rural worker's dwellings; Secondary dwellings; Service stations; Sewerage systems; Signage; Storage premises; Take away food and drink premises; Tourist and visitor accommodation; Transport depots; Truck depots; Turf farming; Veterinary hospitals; Waste disposal facilities; Water supply systems.

Date: 29 September 2017

Cert No: 21235

PROHIBITED

Any development not specified above.

MINIMUM LAND DIMENSIONS FOR THE ERECTION OF A DWELLING

Under the provisions of the Muswellbrook Local Environmental Plan 2009, the minimum subdivision lot size is 80ha and is also subject to the provisions detailed below.

Land zoned RU1 Primary Production may, with the consent of Council, be subdivided for the purpose of primary production to create a lot less than the minimum lot size. However, such a lot cannot be created if an existing dwelling would, as the result of the subdivision, be situated on the lot. A dwelling cannot be erected on such a lot created.

Development consent must not be granted to the subdivision of a lot in a strata plan or community title scheme on land zoned RU1 Primary Production that is used, or proposed to be used, for residential accommodation or tourist and visitor accommodation.

Only one dwelling house may be erected on land zoned RU1 Primary Production only if the land is:

- (a) a lot created in accordance with clause 4.1 of the LEP 2009, or
- (b) a lot created before the LEP 2009 commenced and on which the erection of a dwelling house was permissible immediately before that commencement, or
- (c) a lot created before the LEP 2009 commenced that is at least the minimum lot size specified for that lot by the Lot Size Map, or
- (d) a lot for which subdivision approval was granted before the LEP 2009 commenced and on which the erection of a dwelling house would have been permissible immediately before that commencement, or
- (e) an existing holding.

NOTE: EXISTING HOLDING means all adjoining land, even if separated by a road or railway, held in the same ownership:

- (a) on 11 April 1974, and
- (b) at the time of lodging a development application for the erection of a dwelling house under this clause.

and includes any other land adjoining that land acquired by the owner since 11 April 1974.

NOTE: The owner in whose ownership all the land is at the time the application is lodged need not be the same person as the owner in whose ownership all the land was on the stated date.

WHETHER THE LAND INCLUDES OR COMPRISES CRITICAL HABITAT

The subject land has not been declared as critical habitat.

WHETHER THE LAND IS IN A CONSERVATION AREA

The subject land is not known to be in a conservation area.

Date: 29 September 2017

Cert No: 21235

WHETHER AN ITEM OF ENVIRONMENTAL HERITAGE IS SITUATED ON THE LAND

The land is NOT affected by any known or listed heritage item.

STATE ENVIRONMENTAL PLANNING POLICIES (EXEMPT & COMPLYING DEVELOPMENT CODES 2008)

CERTIFICATE UNDER SECTION 149(2) IDENTIFYING THE INFORMATION SET OUT IN CLAUSE 3 OF SCHEDULE 4 OF THE ENVIRONMENTAL PLANNING & ASSESSMENT REGULATIONS

Part 3 General Housing Code

Not applicable to the land to which this certificate relates.

Part 3A Rural Housing Code

YES. Complying development specified in the Rural Housing Code may be carried out on this land in certain circumstances pursuant to Clause 1.19 of State Environmental Planning Policy (Exempt and Complying Development Codes) 2008.

Part 4 Housing Alterations Code

YES. Complying development specified in the Housing Alterations Code may be carried out on this land in certain circumstances pursuant to Clause 1.19 of State Environmental Planning Policy (Exempt and Complying Development Codes) 2008.

Part 4A General Development Code

YES. Complying development specified in the General Development Code may be carried out on this land in certain circumstances pursuant to Clause 1.19 of State Environmental Planning Policy (Exempt and Complying Development Codes) 2008.

Part 5 Commercial and Industrial Alterations Code

Not applicable to the land to which this certificate relates.

Part 5A Commercial and Industrial (New Buildings and Additions) Code

Not applicable to the land to which this certificate relates.

Part 6 Subdivision Code

YES. Complying development specified in the Subdivision Code may be carried out on this land in certain circumstances pursuant to Clause 1.19 of State Environmental Planning Policy (Exempt and Complying Development Codes) 2008.

Part 7 Demolition Code

YES. Complying development specified in the Demolition Code may be carried out on this land in certain circumstances pursuant to Clause 1.19 of State Environmental Planning Policy (Exempt and Complying Development Codes) 2008.

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Part 8 Fire Safety Code

YES. Complying development specified in the Fire Safety Code may be carried out on this land in certain circumstances pursuant to Clause 1.19 of State Environmental Planning Policy (Exempt and Complying Development Codes) 2008.

STATE ENVIRONMENTAL PLANNING POLICIES

The following State Environmental Planning Policies apply to land within the Muswellbrook Shire LGA:-

No. 21. Caravan Parks - Ensures that where caravan parks or camping grounds are permitted under an environmental planning instrument, movable dwellings, as defined in the Local Government Act 1993, are also permitted. The policy ensures that development consent is required for new caravan parks and camping grounds and for additional long-term sites in existing caravan parks.

No. 30. Intensive Agriculture - Requires development consent for cattle feedlots having a capacity of 50 or more cattle or piggeries having a capacity of 200 or more pigs. The policy sets out information and public notification requirements to ensure there are effective planning control over this export-driven rural industry. The policy does not alter if, and where, such development is permitted, or the functions of the consent authority.

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SEPP (Miscellaneous Consent Provisions) 2007 - Provides for the erection of temporary structures and the use of places of public entertainment while protecting public safety and local amenity. The SEPP supports the transfer of the regulation of places of public entertainment and temporary structures (such as tents, marquees and booths) from the Local Government Act 1993 to the Environmental Planning and Assessment Act 1979.

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Cert No: 21235

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Further details regarding these State Environmental Planning Policies and the circumstances in which they may apply to the subject and can be found on the Department of Planning's website.

REGIONAL PLANNING INSTRUMENTS

There are no Regional Environmental Plans applying within the Muswellbrook Shire Council area.

DEVELOPMENT CONTROL PLANS

This land is affected by the following Development Control Plans:
Muswellbrook Shire Development Control Plan 2009

COASTAL PROTECTION

The land IS NOT affected by the operations of Sections 38 and 39 of the *Coastal Protection Act* 1979.

MINE SUBSIDENCE

The land IS NOT WITHIN a Mine Subsidence District proclaimed under section 15 of the Mine Subsidence Compensation Act, 1961.

ROAD WIDENING AND ROAD REALIGNMENT

The subject land IS NOT 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.

COUNCIL AND OTHER PUBLIC AUTHORITY POLICIES ON HAZARD RISK RESTRICTIONS

The land IS NOT affected by a policy adopted by the council, or 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).

FLOOD RELATED DEVELOPMENT CONTROLS INFORMATION

The Hunter River Flood Study 2014 shows the land to be affected by flooding.

LAND RESERVED FOR ACQUISITION

There are NOT any environmental planning instruments; deemed environmental planning instruments or draft environmental planning instruments applying to the land that provide for the acquisition of the

Date: 29 September 2017

Cert No: 21235

land by a public authority, as referred to in section 27 of the Environmental Planning and Assessment Act 1979.

CONTRIBUTIONS PLANS

The Muswellbrook Section 94 Contributions Plan 2001 and Muswellbrook Section 94A Contributions Plan 2009 apply to all land within the Muswellbrook Shire Local Government Area.

BIODIVERSITY CERTIFIED LAND

The land IS NOT biodiversity certified land (within the meaning of Part 7AA of the Threatened Species Conservation Act 1995)

BIOBANKING AGREEMENTS

The land IS NOT affected by a biobanking agreement under Part 7A of the *Threatened Species Conservation Act 1995*.

MATTERS RELATING TO THE MANAGEMENT OF CONTAMINATED LAND

- (a) The land to which this certificate relates is NOT within land declared to be significantly contaminated land under the Contaminated Land Management Act 2008 at the date when the certificate is issued.
- (b) The land to which this certificate relates is NOT subject to a management order under the Contaminated Land Management Act 2008 at the date when the certificate is issued.
- (c) The land to which this certificate relates is NOT the subject of approved voluntary management proposal the subject of the Environment Protection Authority's agreement under the Contaminated Land Management Act 2008 at the date when the certificate is issued.
- (d) The land to which this certificate relates is NOT the subject to an ongoing maintenance order under the Contaminated Land Management Act 2008 at the date when the certificate is issued.
- (e) The land to which this certificate relates has NOT been the subject of a site audit statement provided to Muswellbrook Shire Council.

BUSH FIRE PRONE LAND

The land IS NOT bushfire prone land.

PROPERTY VEGETATION PLANS

Council has NOT been notified of the existence of such a plan or if the land is land to which a property vegetation plan under the Native Vegetation Act 2003 applies.

ORDERS UNDER TREES (DISPUTES BETWEEN NEIGHBOURS) ACT 2006

Council has NOT been notified of any order made under the Trees (Disputes Between Neighbours) Act 2006 to carry out work in relation to a tree on the land.

Date: 29 September 2017

Cert No: 21235

DIRECTIONS UNDER PART 3A

There is NOT a direction by the Minister in force under section 75P (2) (c1) of the Act in relation to prohibiting or restricting the carrying out of a project or a stage of a project on the land under Part 4 of the Act.

SITE COMPATIBILITY CERTIFICATES AND CONDITIONS FOR SENIORS HOUSING

There is NOT a current site compatibility certificate (of which the council is aware), issued under clause 25 of State Environmental Planning Policy (Housing for Seniors or People with a Disability) 2004 in respect of proposed development on the land.

SITE COMPATIBILITY CERTIFICATES FOR INFRASTRUCTURE

There is NOT a valid site compatibility certificate (of which the council is aware), issued under clause 19 of State Environmental Planning Policy (Infrastructure) 2007 in respect of proposed development on the land.

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There is NOT a current site compatibility certificate for affordable rental housing (of which the council is aware), issued under clause 37 of State Environmental Planning Policy (Affordable Rental Housing) 2007 in respect of proposed development on the land.

PAPER SUBDIVISION INFORMATION

There is NOT an adopted development plan or subdivision order that applies to the land.

SITE VERIFICATION CERTIFICATE

There is NOT a current site verification certificate (of which the council is aware), issued under clause 17C of State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007, in relation to the land.

LOOSE-FILL ASBESTOS INSULATION

There are NO residential premises located on this land that are listed on the register that are required to be maintained under Division 1A of Part 8 of the *Home Building Act 1989*.

The accuracy and currency of the details provided by agencies external to Council have not be verified by Muswellbrook Shire Council and should be verified by the applicant.

ADDITIONAL INFORMATION PURSUANT TO SECTION 149(5) OF THE ACT

Council is unaware of any other relevant matters that may affect the land.

For further information, please contact the
Environmental Services Department.

S J McDonald
General Manager

Per: 

**PLANNING CERTIFICATE UNDER
SECTION 149 ENVIRONMENTAL PLANNING
AND ASSESSMENT ACT 1979**

Enquiries Environmental Services
Contact 02 6549 3700
Invoice no. 43721
Your reference Application

Date: 30 September 2017

Assessment: 125989

Cert No: 21269

MACH Energy Australia Pty Ltd
GPO Box 94
BRISBANE QLD 4001

Owner (as recorded by Council)

MACH Energy Australia Pty Ltd

Property Description: WYBONG ROAD MUSWELLBROOK 2333
LOT: 23 DP: 1041946

Land to which the certificate relates

The land to which this certificate relates, being the lot or lots described on the application form, is shown in the Council's records as being situated at the street address described above. The information contained in this certificate relates only to the lot or lots described on this certificate. Separate planning certificates can be obtained upon application for the other lots, those certificates may contain different information than is contained in this certificate.

CERTIFICATE UNDER SECTION 149(2) ENVIRONMENTAL PLANNING & ASSESSMENT ACT

LOCAL ENVIRONMENTAL PLANS

PLANNING INSTRUMENT

Muswellbrook Local Environmental Plan 2009

LAND USE ZONING

RU1 Primary Production

PERMITTED WITHOUT CONSENT

Extensive agriculture; Home occupations; Intensive plant agriculture

PERMITTED WITH CONSENT

Air transport facilities; Airstrips; Animal boarding or training establishments; Aquaculture; Camping grounds; Caravan parks; Cellar door premises; Cemeteries; Community facilities; Crematoria; Depots; Dwelling houses; Educational establishments; Environmental facilities; Environmental protection works; Extractive industries; Farm buildings; Flood mitigation works; Forestry; Function centres; Group homes; Hazardous industries; Health consulting rooms; Heavy industrial storage establishments; Helipads; Highway service centres; Home-based child care; Home businesses; Home industries; Industrial retail outlets; Information and education facilities; Intensive livestock agriculture; Intensive plant agriculture; Kiosks; Landscaping material supplies; Open cut mining; Places of public worship; Plant nurseries; Recreation areas; Recreation facilities (indoor); Recreation facilities (major); Recreation facilities (outdoor); Research stations; Restaurants or cafes; Roads; Roadside stalls; Rural industries; Rural supplies; Rural worker's dwellings; Secondary dwellings; Service stations; Sewerage systems; Signage; Storage premises; Take away food and drink premises; Tourist and visitor accommodation; Transport depots; Truck depots; Turf farming; Veterinary hospitals; Waste disposal facilities; Water supply systems.

Date: 3 October 2017

Cert No: 21269

PROHIBITED

Any development not specified above.

MINIMUM LAND DIMENSIONS FOR THE ERECTION OF A DWELLING

Under the provisions of the Muswellbrook Local Environmental Plan 2009, the minimum subdivision lot size is 80ha and is also subject to the provisions detailed below.

Land zoned RU1 Primary Production may, with the consent of Council, be subdivided for the purpose of primary production to create a lot less than the minimum lot size. However, such a lot cannot be created if an existing dwelling would, as the result of the subdivision, be situated on the lot. A dwelling cannot be erected on such a lot created.

Development consent must not be granted to the subdivision of a lot in a strata plan or community title scheme on land zoned RU1 Primary Production that is used, or proposed to be used, for residential accommodation or tourist and visitor accommodation.

Only one dwelling house may be erected on land zoned RU1 Primary Production only if the land is:

- (a) a lot created in accordance with clause 4.1 of the LEP 2009, or
- (b) a lot created before the LEP 2009 commenced and on which the erection of a dwelling house was permissible immediately before that commencement, or
- (c) a lot created before the LEP 2009 commenced that is at least the minimum lot size specified for that lot by the Lot Size Map, or
- (d) a lot for which subdivision approval was granted before the LEP 2009 commenced and on which the erection of a dwelling house would have been permissible immediately before that commencement, or
- (e) an existing holding.

NOTE: EXISTING HOLDING means all adjoining land, even if separated by a road or railway, held in the same ownership:

- (a) on 11 April 1974, and
- (b) at the time of lodging a development application for the erection of a dwelling house under this clause.

and includes any other land adjoining that land acquired by the owner since 11 April 1974.

NOTE: The owner in whose ownership all the land is at the time the application is lodged need not be the same person as the owner in whose ownership all the land was on the stated date.

WHETHER THE LAND INCLUDES OR COMPRISES CRITICAL HABITAT

The subject land has not been declared as critical habitat.

WHETHER THE LAND IS IN A CONSERVATION AREA

The subject land is not known to be in a conservation area.

Date: 3 October 2017

Cert No: 21269

WHETHER AN ITEM OF ENVIRONMENTAL HERITAGE IS SITUATED ON THE LAND

The land is NOT affected by any known or listed heritage item.

STATE ENVIRONMENTAL PLANNING POLICIES (EXEMPT & COMPLYING DEVELOPMENT CODES 2008)

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|---|
| CERTIFICATE UNDER SECTION 149(2) IDENTIFYING THE INFORMATION SET OUT IN CLAUSE 3 OF SCHEDULE 4 OF THE ENVIRONMENTAL PLANNING & ASSESSMENT REGULATIONS |
|---|

Part 3 General Housing Code

Not applicable to the land to which this certificate relates.

Part 3A Rural Housing Code

YES. Complying development specified in the Rural Housing Code may be carried out on this land in certain circumstances pursuant to Clause 1.19 of State Environmental Planning Policy (Exempt and Complying Development Codes) 2008.

Part 4 Housing Alterations Code

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Part 4A General Development Code

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Part 5 Commercial and Industrial Alterations Code

Not applicable to the land to which this certificate relates.

Part 5A Commercial and Industrial (New Buildings and Additions) Code

Not applicable to the land to which this certificate relates.

Part 6 Subdivision Code

YES. Complying development specified in the Subdivision Code may be carried out on this land in certain circumstances pursuant to Clause 1.19 of State Environmental Planning Policy (Exempt and Complying Development Codes) 2008.

Part 7 Demolition Code

YES. Complying development specified in the Demolition Code may be carried out on this land in certain circumstances pursuant to Clause 1.19 of State Environmental Planning Policy (Exempt and Complying Development Codes) 2008.

Date: 3 October 2017

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Part 8 Fire Safety Code

YES. Complying development specified in the Fire Safety Code may be carried out on this land in certain circumstances pursuant to Clause 1.19 of State Environmental Planning Policy (Exempt and Complying Development Codes) 2008.

STATE ENVIRONMENTAL PLANNING POLICIES

The following State Environmental Planning Policies apply to land within the Muswellbrook Shire LGA:-

No. 21. Caravan Parks - Ensures that where caravan parks or camping grounds are permitted under an environmental planning instrument, movable dwellings, as defined in the Local Government Act 1993, are also permitted. The policy ensures that development consent is required for new caravan parks and camping grounds and for additional long-term sites in existing caravan parks.

No. 30. Intensive Agriculture - Requires development consent for cattle feedlots having a capacity of 50 or more cattle or piggeries having a capacity of 200 or more pigs. The policy sets out information and public notification requirements to ensure there are effective planning control over this export-driven rural industry. The policy does not alter if, and where, such development is permitted, or the functions of the consent authority.

No. 33. Hazardous and Offensive Development - Provides new definitions for 'hazardous industry', 'hazardous storage establishment', 'offensive industry' and 'offensive storage establishment'. The definitions apply to all planning instruments, existing and future. The new definitions enable decisions to approve or refuse a development to be based on the merit of proposal. The consent authority must carefully consider the specifics of the case, the location and the way in which the proposed activity is to be carried out. The policy also requires specified matters to be considered for proposals that are 'potentially hazardous' or 'potentially offensive' as defined in the policy. For example, any application to carry out a potentially hazardous or potentially offensive development is to be advertised for public comment, and applications to carry out potentially hazardous development must be supported by a preliminary hazard analysis (PHA).

No. 36. Manufactured Home Estates - Helps establish well-designed and properly serviced manufactured home estates (MHEs) in suitable locations. Affordability and security of tenure for residents are important aspects. To enable the immediate development of estates, the policy allows MHEs to be located on certain land where caravan parks are permitted. There are however, criteria that a proposal must satisfy before the local council can approve development.

No. 44. Koala Habitat Protection - Encourages the proper conservation and management of areas of natural vegetation that provide habitat for koalas to ensure a permanent free-living population over their present range and reverse the current trend of koala population decline.

No. 55. Remediation of Land - Introduces state-wide planning controls for the remediation of contaminated land. The policy states that land must not be developed if it is unsuitable for a proposed use because it is contaminated. If the land is unsuitable, remediation must take place before the land is developed. The policy makes remediation permissible across the State, defines when consent is required, requires all remediation to comply with standards, ensures land is investigated if contamination is suspected, and requires councils to be notified of all remediation proposals.

No. 62. Sustainable Aquaculture - The policy implements the regional strategies already developed by creating a simple approach to identify and categorise aquaculture development on the basis of its potential environmental impact. The SEPP also identifies aquaculture development as a designated development only where there are potential environmental risks.

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No. 65. Design Quality of Residential Flat Development - Raises the design quality of residential flat development across the state through the application of a series of design principles. The policy provides for the establishment of Design Review Panels to provide independent expert advice to councils on the merit of residential flat development. The accompanying regulation requires the involvement of a qualified designer throughout the design, approval and construction stages.

SEPP (Housing for Seniors or People with a Disability) 2004 - Encourage the development of high quality accommodation for our ageing population and for people who have disabilities - housing that is in keeping with the local neighbourhood

SEPP (Building Sustainability Index: BASIX) 2004 - This SEPP operates in conjunction with Environmental Planning and Assessment Amendment (Building Sustainability Index: BASIX) Regulation 2004 to ensure the effective introduction of BASIX in NSW. The SEPP ensures consistency in the implementation of BASIX throughout the State by overriding competing provisions in other environmental planning instruments and development control plans, and specifying that SEPP 1 does not apply in relation to any development standard arising under BASIX.

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SEPP (Mining, Petroleum Production and Extractive Industries) 2007 - This Policy aims to provide for the proper management and development of mineral, petroleum and extractive material resources for the social and economic welfare of the State. The Policy establishes appropriate planning controls to encourage ecologically sustainable development.

SEPP (Miscellaneous Consent Provisions) 2007 - Provides for the erection of temporary structures and the use of places of public entertainment while protecting public safety and local amenity. The SEPP supports the transfer of the regulation of places of public entertainment and temporary structures (such as tents, marquees and booths) from the Local Government Act 1993 to the Environmental Planning and Assessment Act 1979.

SEPP (Rural Lands) 2008 - The aim of this policy is to facilitate the orderly and economic use and development of rural lands for rural and related purposes.

SEPP (Exempt and Complying Development Codes) 2008 – This policy streamlines assessment processes for development that complies with specified development standards. The policy provides exempt codes that have State-wide application, identifying, in the General Exempt Development Code, types of development that are of minimal environmental impact that may be carried out without the need for development consent.

SEPP (Affordable Rental Housing) 2009 – The aims of this policy are to provide a consistent planning regime for the provision of affordable rental housing; facilitate the effective delivery of new affordable rental housing by providing incentives by way of expanding zoning permissibility, floor space ratio bonuses and non-discretionary development standards; facilitate the retention and mitigate the loss of existing affordable rental housing; employ a balanced approach between obligations for retaining and mitigating the loss of existing affordable rental housing, and incentives for the development of new

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affordable rental housing; facilitate an expanding role for not-for-profit-providers of affordable rental housing; support local business centres by providing affordable rental housing for workers close to places of work; and facilitate the development of housing for the homeless and other disadvantaged people who may require support services, including group homes and supportive accommodation.

SEPP (State and Regional Development) 2011 – The aims of this policy are to identify development that is State significant development; identify development that is State significant infrastructure and critical State significant infrastructure; and confer functions on joint regional planning panels to determine development applications.

Further details regarding these State Environmental Planning Policies and the circumstances in which they may apply to the subject and can be found on the Department of Planning's website.

REGIONAL PLANNING INSTRUMENTS

There are no Regional Environmental Plans applying within the Muswellbrook Shire Council area.

DEVELOPMENT CONTROL PLANS

This land is affected by the following Development Control Plans:
Muswellbrook Shire Development Control Plan 2009

COASTAL PROTECTION

The land IS NOT affected by the operations of Sections 38 and 39 of the *Coastal Protection Act* 1979.

MINE SUBSIDENCE

The land IS NOT WITHIN a Mine Subsidence District proclaimed under section 15 of the Mine Subsidence Compensation Act, 1961.

ROAD WIDENING AND ROAD REALIGNMENT

The subject land IS NOT 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.

COUNCIL AND OTHER PUBLIC AUTHORITY POLICIES ON HAZARD RISK RESTRICTIONS

The land IS NOT affected by a policy adopted by the council, or 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).

FLOOD RELATED DEVELOPMENT CONTROLS INFORMATION

The Hunter River Flood Study 2014 shows the land to be affected by flooding.

LAND RESERVED FOR ACQUISITION

There are NOT any environmental planning instruments; deemed environmental planning instruments or draft environmental planning instruments applying to the land that provide for the acquisition of the

Date: 3 October 2017

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land by a public authority, as referred to in section 27 of the Environmental Planning and Assessment Act 1979.

CONTRIBUTIONS PLANS

The Muswellbrook Section 94 Contributions Plan 2001 and Muswellbrook Section 94A Contributions Plan 2009 apply to all land within the Muswellbrook Shire Local Government Area.

BIODIVERSITY CERTIFIED LAND

The land IS NOT biodiversity certified land (within the meaning of Part 7AA of the Threatened Species Conservation Act 1995)

BIOBANKING AGREEMENTS

The land IS NOT affected by a biobanking agreement under Part 7A of the *Threatened Species Conservation Act 1995*.

MATTERS RELATING TO THE MANAGEMENT OF CONTAMINATED LAND

- (a) The land to which this certificate relates is NOT within land declared to be significantly contaminated land under the Contaminated Land Management Act 2008 at the date when the certificate is issued.
- (b) The land to which this certificate relates is NOT subject to a management order under the Contaminated Land Management Act 2008 at the date when the certificate is issued.
- (c) The land to which this certificate relates is NOT the subject of approved voluntary management proposal the subject of the Environment Protection Authority's agreement under the Contaminated Land Management Act 2008 at the date when the certificate is issued.
- (d) The land to which this certificate relates is NOT the subject to an ongoing maintenance order under the Contaminated Land Management Act 2008 at the date when the certificate is issued.
- (e) The land to which this certificate relates has NOT been the subject of a site audit statement provided to Muswellbrook Shire Council.

BUSH FIRE PRONE LAND

The land IS NOT bushfire prone land.

PROPERTY VEGETATION PLANS

Council has NOT been notified of the existence of such a plan or if the land is land to which a property vegetation plan under the Native Vegetation Act 2003 applies.

ORDERS UNDER TREES (DISPUTES BETWEEN NEIGHBOURS) ACT 2006

Council has NOT been notified of any order made under the Trees (Disputes Between Neighbours) Act 2006 to carry out work in relation to a tree on the land.

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DIRECTIONS UNDER PART 3A

There is NOT a direction by the Minister in force under section 75P (2) (c1) of the Act in relation to prohibiting or restricting the carrying out of a project or a stage of a project on the land under Part 4 of the Act.

SITE COMPATIBILITY CERTIFICATES AND CONDITIONS FOR SENIORS HOUSING

There is NOT a current site compatibility certificate (of which the council is aware), issued under clause 25 of State Environmental Planning Policy (Housing for Seniors or People with a Disability) 2004 in respect of proposed development on the land.

SITE COMPATIBILITY CERTIFICATES FOR INFRASTRUCTURE

There is NOT a valid site compatibility certificate (of which the council is aware), issued under clause 19 of State Environmental Planning Policy (Infrastructure) 2007 in respect of proposed development on the land.

SITE COMPATIBILITY CERTIFICATES AND CONDITIONS FOR AFFORDABLE RENTAL HOUSING

There is NOT a current site compatibility certificate for affordable rental housing (of which the council is aware), issued under clause 37 of State Environmental Planning Policy (Affordable Rental Housing) 2007 in respect of proposed development on the land.

PAPER SUBDIVISION INFORMATION

There is NOT an adopted development plan or subdivision order that applies to the land.

SITE VERIFICATION CERTIFICATE

There is NOT a current site verification certificate (of which the council is aware), issued under clause 17C of State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007, in relation to the land.

LOOSE-FILL ASBESTOS INSULATION

There are NO residential premises located on this land that are listed on the register that are required to be maintained under Division 1A of Part 8 of the *Home Building Act 1989*.

The accuracy and currency of the details provided by agencies external to Council have not be verified by Muswellbrook Shire Council and should be verified by the applicant.

ADDITIONAL INFORMATION PURSUANT TO SECTION 149(5) OF THE ACT

Council is unaware of any other relevant matters that may affect the land.

For further information, please contact the
Environmental Services Department.

S J McDonald
General Manager

Per: _____

DJ Watson

**PLANNING CERTIFICATE UNDER
SECTION 149 ENVIRONMENTAL PLANNING
AND ASSESSMENT ACT 1979**

Enquiries Environmental Services
Contact 02 6549 3700
Invoice no. 43721
Your reference Application

Date: 30 September 2017

Assessment: 11817

Cert No: 21270

MACH Energy Australia Pty Ltd
GPO Box 94
BRISBANE QLD 4001

Owner (as recorded by Council)

MACH Energy Australia Pty Ltd

Property Description: WYBONG ROAD MUSWELLBROOK 2333
LOT: 24 DP: 742543

Land to which the certificate relates

The land to which this certificate relates, being the lot or lots described on the application form, is shown in the Council's records as being situated at the street address described above. The information contained in this certificate relates only to the lot or lots described on this certificate. Separate planning certificates can be obtained upon application for the other lots, those certificates may contain different information than is contained in this certificate.

CERTIFICATE UNDER SECTION 149(2) ENVIRONMENTAL PLANNING & ASSESSMENT ACT

LOCAL ENVIRONMENTAL PLANS

PLANNING INSTRUMENT

Muswellbrook Local Environmental Plan 2009

LAND USE ZONING

RU1 Primary Production

PERMITTED WITHOUT CONSENT

Extensive agriculture; Home occupations; Intensive plant agriculture

PERMITTED WITH CONSENT

Air transport facilities; Airstrips; Animal boarding or training establishments; Aquaculture; Camping grounds; Caravan parks; Cellar door premises; Cemeteries; Community facilities; Crematoria; Depots; Dwelling houses; Educational establishments; Environmental facilities; Environmental protection works; Extractive industries; Farm buildings; Flood mitigation works; Forestry; Function centres; Group homes; Hazardous industries; Health consulting rooms; Heavy industrial storage establishments; Helipads; Highway service centres; Home-based child care; Home businesses; Home industries; Industrial retail outlets; Information and education facilities; Intensive livestock agriculture; Intensive plant agriculture; Kiosks; Landscaping material supplies; Open cut mining; Places of public worship; Plant nurseries; Recreation areas; Recreation facilities (indoor); Recreation facilities (major); Recreation facilities (outdoor); Research stations; Restaurants or cafes; Roads; Roadside stalls; Rural industries; Rural supplies; Rural worker's dwellings; Secondary dwellings; Service stations; Sewerage systems; Signage; Storage premises; Take away food and drink premises; Tourist and visitor accommodation; Transport depots; Truck depots; Turf farming; Veterinary hospitals; Waste disposal facilities; Water supply systems.

Date: 3 October 2017

Cert No: 21270

PROHIBITED

Any development not specified above.

MINIMUM LAND DIMENSIONS FOR THE ERECTION OF A DWELLING

Under the provisions of the Muswellbrook Local Environmental Plan 2009, the minimum subdivision lot size is 80ha and is also subject to the provisions detailed below.

Land zoned RU1 Primary Production may, with the consent of Council, be subdivided for the purpose of primary production to create a lot less than the minimum lot size. However, such a lot cannot be created if an existing dwelling would, as the result of the subdivision, be situated on the lot. A dwelling cannot be erected on such a lot created.

Development consent must not be granted to the subdivision of a lot in a strata plan or community title scheme on land zoned RU1 Primary Production that is used, or proposed to be used, for residential accommodation or tourist and visitor accommodation.

Only one dwelling house may be erected on land zoned RU1 Primary Production only if the land is:

- (a) a lot created in accordance with clause 4.1 of the LEP 2009, or
- (b) a lot created before the LEP 2009 commenced and on which the erection of a dwelling house was permissible immediately before that commencement, or
- (c) a lot created before the LEP 2009 commenced that is at least the minimum lot size specified for that lot by the Lot Size Map, or
- (d) a lot for which subdivision approval was granted before the LEP 2009 commenced and on which the erection of a dwelling house would have been permissible immediately before that commencement, or
- (e) an existing holding.

NOTE: EXISTING HOLDING means all adjoining land, even if separated by a road or railway, held in the same ownership:

- (a) on 11 April 1974, and
- (b) at the time of lodging a development application for the erection of a dwelling house under this clause.

and includes any other land adjoining that land acquired by the owner since 11 April 1974.

NOTE: The owner in whose ownership all the land is at the time the application is lodged need not be the same person as the owner in whose ownership all the land was on the stated date.

WHETHER THE LAND INCLUDES OR COMPRISES CRITICAL HABITAT

The subject land has not been declared as critical habitat.

WHETHER THE LAND IS IN A CONSERVATION AREA

The subject land is not known to be in a conservation area.

Date: 3 October 2017

Cert No: 21270

WHETHER AN ITEM OF ENVIRONMENTAL HERITAGE IS SITUATED ON THE LAND

The land is NOT affected by any known or listed heritage item.

STATE ENVIRONMENTAL PLANNING POLICIES (EXEMPT & COMPLYING DEVELOPMENT CODES 2008)

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| CERTIFICATE UNDER SECTION 149(2) IDENTIFYING THE INFORMATION SET OUT IN CLAUSE 3 OF SCHEDULE 4 OF THE ENVIRONMENTAL PLANNING & ASSESSMENT REGULATIONS |
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Part 3 General Housing Code

Not applicable to the land to which this certificate relates.

Part 3A Rural Housing Code

YES. Complying development specified in the Rural Housing Code may be carried out on this land in certain circumstances pursuant to Clause 1.19 of State Environmental Planning Policy (Exempt and Complying Development Codes) 2008.

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Part 4A General Development Code

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Part 5 Commercial and Industrial Alterations Code

Not applicable to the land to which this certificate relates.

Part 5A Commercial and Industrial (New Buildings and Additions) Code

Not applicable to the land to which this certificate relates.

Part 6 Subdivision Code

YES. Complying development specified in the Subdivision Code may be carried out on this land in certain circumstances pursuant to Clause 1.19 of State Environmental Planning Policy (Exempt and Complying Development Codes) 2008.

Part 7 Demolition Code

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Date: 3 October 2017

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Part 8 Fire Safety Code

YES. Complying development specified in the Fire Safety Code may be carried out on this land in certain circumstances pursuant to Clause 1.19 of State Environmental Planning Policy (Exempt and Complying Development Codes) 2008.

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The following State Environmental Planning Policies apply to land within the Muswellbrook Shire LGA:-

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REGIONAL PLANNING INSTRUMENTS

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COUNCIL AND OTHER PUBLIC AUTHORITY POLICIES ON HAZARD RISK RESTRICTIONS

The land IS NOT affected by a policy adopted by the council, or 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).

FLOOD RELATED DEVELOPMENT CONTROLS INFORMATION

The Hunter River Flood Study 2014 shows the land to be affected by flooding.

LAND RESERVED FOR ACQUISITION

There are NOT any environmental planning instruments; deemed environmental planning instruments or draft environmental planning instruments applying to the land that provide for the acquisition of the

Date: 3 October 2017

Cert No: 21270

land by a public authority, as referred to in section 27 of the Environmental Planning and Assessment Act 1979.

CONTRIBUTIONS PLANS

The Muswellbrook Section 94 Contributions Plan 2001 and Muswellbrook Section 94A Contributions Plan 2009 apply to all land within the Muswellbrook Shire Local Government Area.

BIODIVERSITY CERTIFIED LAND

The land IS NOT biodiversity certified land (within the meaning of Part 7AA of the Threatened Species Conservation Act 1995)

BIOBANKING AGREEMENTS

The land IS NOT affected by a biobanking agreement under Part 7A of the *Threatened Species Conservation Act 1995*.

MATTERS RELATING TO THE MANAGEMENT OF CONTAMINATED LAND

- (a) The land to which this certificate relates is NOT within land declared to be significantly contaminated land under the Contaminated Land Management Act 2008 at the date when the certificate is issued.
- (b) The land to which this certificate relates is NOT subject to a management order under the Contaminated Land Management Act 2008 at the date when the certificate is issued.
- (c) The land to which this certificate relates is NOT the subject of approved voluntary management proposal the subject of the Environment Protection Authority's agreement under the Contaminated Land Management Act 2008 at the date when the certificate is issued.
- (d) The land to which this certificate relates is NOT the subject to an ongoing maintenance order under the Contaminated Land Management Act 2008 at the date when the certificate is issued.
- (e) The land to which this certificate relates has NOT been the subject of a site audit statement provided to Muswellbrook Shire Council.

BUSH FIRE PRONE LAND

The land IS NOT bushfire prone land.

PROPERTY VEGETATION PLANS

Council has NOT been notified of the existence of such a plan or if the land is land to which a property vegetation plan under the Native Vegetation Act 2003 applies.

ORDERS UNDER TREES (DISPUTES BETWEEN NEIGHBOURS) ACT 2006

Council has NOT been notified of any order made under the Trees (Disputes Between Neighbours) Act 2006 to carry out work in relation to a tree on the land.

Date: 3 October 2017

Cert No: 21270

DIRECTIONS UNDER PART 3A

There is NOT a direction by the Minister in force under section 75P (2) (c1) of the Act in relation to prohibiting or restricting the carrying out of a project or a stage of a project on the land under Part 4 of the Act.

SITE COMPATIBILITY CERTIFICATES AND CONDITIONS FOR SENIORS HOUSING

There is NOT a current site compatibility certificate (of which the council is aware), issued under clause 25 of State Environmental Planning Policy (Housing for Seniors or People with a Disability) 2004 in respect of proposed development on the land.

SITE COMPATIBILITY CERTIFICATES FOR INFRASTRUCTURE

There is NOT a valid site compatibility certificate (of which the council is aware), issued under clause 19 of State Environmental Planning Policy (Infrastructure) 2007 in respect of proposed development on the land.

SITE COMPATIBILITY CERTIFICATES AND CONDITIONS FOR AFFORDABLE RENTAL HOUSING

There is NOT a current site compatibility certificate for affordable rental housing (of which the council is aware), issued under clause 37 of State Environmental Planning Policy (Affordable Rental Housing) 2007 in respect of proposed development on the land.

PAPER SUBDIVISION INFORMATION

There is NOT an adopted development plan or subdivision order that applies to the land.

SITE VERIFICATION CERTIFICATE

There is NOT a current site verification certificate (of which the council is aware), issued under clause 17C of State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007, in relation to the land.

LOOSE-FILL ASBESTOS INSULATION

There are NO residential premises located on this land that are listed on the register that are required to be maintained under Division 1A of Part 8 of the *Home Building Act 1989*.

The accuracy and currency of the details provided by agencies external to Council have not be verified by Muswellbrook Shire Council and should be verified by the applicant.

ADDITIONAL INFORMATION PURSUANT TO SECTION 149(5) OF THE ACT

Council is unaware of any other relevant matters that may affect the land.

For further information, please contact the
Environmental Services Department.

S J McDonald
General Manager

Per: _____

DJ Watson

Appendix D

■ WATER ■ MINING ■ SPORTS & RECREATION ■ HORTICULTURE & AGRICULTURE ■ ENVIRONMENTAL ■ ENGINEERING & GEOTECH ■ URBAN HORTICULTURE & LANDSCAPING

ABN 70 106 810 708
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F 1300 64 46 89
E info@sesl.com.au
W sesl.com.au

POST PO Box 357, Pennant Hills NSW 1715
LAB 16 Chilvers Rd, Thomleigh NSW 2120
ACT Level 5 Tower A, 7 London Cct, Canberra ACT 2601
VIC Level 1, 21 Shields St, Flemington VIC 3031
QLD Level 10, 15 Green Square Cl, Fortitude Valley QLD 4006



Table 1A(3) Soil HSLs for vapour intrusion (mg/kg)

| | HSL A & HSL B Low - high density residential | | | | HSL C recreational / open space | | | | HSL D Commercial / Industrial | | | | |
|--------------------------|--|----------------|---------------|------|------------------------------------|----------------|----------------|------|----------------------------------|----------------|----------------|------|--|
| CHEMICAL | 0 m to <1 m | 1 m to <2 m | 2 m to <4m | 4 m+ | 0 m to <1 m | 1 m to <2 m | 2 m to <4 m | 4 m+ | 0 m to <1 m | 1 m to <2 m | 2 m to <4 m | 4 m+ | Soil saturation concentrati on (C _{sat}) |
| SAND | | | | | | | | | | | | | |
| Toluene | 160 | 220 | 310 | 540 | NL | NL | NL | NL | NL | NL | NL | NL | 560 |
| Ethylbenzene | 55 | NL | NL | NL | NL | NL | NL | NL | NL | NL | NL | NL | 64 |
| Xylenes | 40 | 60 | 95 | 170 | NL | NL | NL | NL | 230 | NL | NL | NL | 300 |
| Naphthalene | 3 | NL | NL | NL | NL | NL | NL | NL | NL | NL | NL | NL | 9 |
| Benzene | 0.5 | 0.5 | 0.5 | 0.5 | NL | NL | NL | NL | 3 | 3 | 3 | 3 | 360 |
| F1⁽⁹⁾ | 45 | 70 | 110 | 200 | NL | NL | NL | NL | 260 | 370 | 630 | NL | 950 |
| F2⁽¹⁰⁾ | 110 | 240 | 440 | NL | NL | NL | NL | NL | NL | NL | NL | NL | 560 |
| SILT | | | | | | | | | | | | | |
| Toluene | 390 | NL | NL | NL | NL | NL | NL | NL | NL | NL | NL | NL | 640 |
| Ethylbenzene | NL | NL | NL | NL | NL | NL | NL | NL | NL | NL | NL | NL | 69 |
| Xylenes | 95 | 210 | NL | NL | NL | NL | NL | NL | NL | NL | NL | NL | 330 |

| | HSL A & HSL B Low – high density residential | | | | HSL C recreational / open space | | | | HSL D Commercial / Industrial | | | | |
|--------------------|--|-----|-----|-----|------------------------------------|----|----|----|----------------------------------|-----|-----|----|-----|
| Naphthalene | 4 | NL | NL | NL | NL | NL | NL | NL | NL | NL | NL | NL | 10 |
| Benzene | 0.6 | 0.7 | 1 | 2 | NL | NL | NL | NL | 4 | 4 | 6 | 10 | 440 |
| F1 ⁽⁹⁾ | 40 | 65 | 100 | 190 | NL | NL | NL | NL | 250 | 360 | 590 | NL | 910 |
| F2 ⁽¹⁰⁾ | 230 | NL | NL | NL | NL | NL | NL | NL | NL | NL | NL | NL | 570 |
| CLAY | | | | | | | | | | | | | |
| Toluene | 480 | NL | NL | NL | NL | NL | NL | NL | NL | NL | NL | NL | 630 |
| Ethylbenzene | NL | NL | NL | NL | NL | NL | NL | NL | NL | NL | NL | NL | 68 |
| Xylenes | 110 | 310 | NL | NL | NL | NL | NL | NL | NL | NL | NL | NL | 330 |
| Naphthalene | 5 | NL | NL | NL | NL | NL | NL | NL | NL | NL | NL | NL | 10 |
| Benzene | 0.7 | 1 | 2 | 3 | NL | NL | NL | NL | 4 | 6 | 9 | 20 | 430 |
| F1 ⁽⁹⁾ | 50 | 90 | 150 | 290 | NL | NL | NL | NL | 310 | 480 | NL | NL | 850 |
| F2 ⁽¹⁰⁾ | 280 | NL | NL | NL | NL | NL | NL | NL | NL | NL | NL | NL | 560 |

Notes:

- (1) Land use settings are equivalent to those described in Table 1A(1) Footnote 1 and Schedule B7. HSLs for vapour intrusion for high density residential assume residential occupation of the ground floor. If communal car parks or commercial properties occupy the ground floor, HSL D should be used.
- (2) The key limitations of the HSLs should be referred to prior to application and are presented in Friebe and Nadebaum (2011b and 2011d).
- (3) Detailed assumptions in the derivation of the HSLs and information on how to apply the HSLs are presented in Friebe and Nadebaum (2011a and 2011b).
- (4) Soil HSLs for vapour inhalation incorporate an adjustment factor of 10 applied to the vapour phase partitioning to reflect the differences observed between theoretical estimates of soil vapour partitioning and field measurements. Refer Friebe & Nadebaum (2011a) for further information.
- (5) The soil saturation concentration (C_{sat}) is defined as the soil concentration at which the porewater phase cannot dissolve any more of an individual chemical. The soil vapour that is in equilibrium with the porewater will be at its maximum. If the derived soil HSL exceeds C_{sat}, a soil vapour source concentration for a petroleum mixture could not exceed a level that would result in the maximum allowable vapour risk for the given scenario. For these scenarios, no HSL is presented for these chemicals and the HSL is shown as 'not limiting' or 'NL'.

- (6) The HSLs for TPH C₆-C₁₀ in sandy soil are based on a finite source that depletes in less than seven years, and therefore consideration has been given to use of sub-chronic toxicity values. The >C₈-C₁₀ aliphatic toxicity has been adjusted to represent sub-chronic exposure, resulting in higher HSLs than if based on chronic toxicity. For further information refer to Section 8.2 and Appendix J in Friebe and Nadebaum (2011a).
- (7) The figures in the above table may be multiplied by a factor to account for biodegradation of vapour. A factor of 10 may apply for source depths from 2 m to <4 m or a factor of 100 for source depths of 4 m and deeper. To apply the attenuation factor for vapour degradation, a number of conditions must be satisfied. Firstly the maximum length of the shorter side of the concrete slab and surrounding pavement cannot exceed 15 m, as this would prevent oxygen penetrating to the centre of the slab. Secondly, measurement of oxygen in the subsurface is required to determine the potential for biodegradation. Oxygen must be confirmed to be present at >5% to use these factors.
- (8) For soil texture classification undertaken in accord with AS 1726, the classifications of sand, silt and clay may be applied as coarse, fine with liquid limit <50% and fine with liquid limit >50% respectively, as the underlying properties to develop the HSLs may reasonably be selected to be similar. Where there is uncertainty, either a conservative approach may be adopted or laboratory analysis should be carried out.
- (9) To obtain F1 subtract the sum of BTEX concentrations from the C₆-C₁₀ fraction.
- (10) To obtain F2 subtract naphthalene from the >C₁₀-C₁₆ fraction.

Table 1B(5) Generic EILs for aged As, fresh DDT and fresh naphthalene in soils irrespective of their physicochemical properties

| | Ecological Investigation Levels (mg total contaminant/kg) | | |
|--------------------------|---|--|---------------------------|
| CHEMICAL | Areas of ecological significance | Urban residential and public open space ¹ | Commercial and industrial |
| Arsenic ² | 40 | 100 | 160 |
| DDT ³ | 3 | 180 | 640 |
| Naphthalene ³ | 10 | 170 | 370 |

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 arsenic contamination present in soil for at least two years. For fresh contamination refer to Schedule B5c.
3. Insufficient data was available to calculate aged values for DDT and naphthalene, consequently the values for fresh contamination should be used.
4. Insufficient data was available to calculate ACLs for As, DDT and naphthalene. The EIL should be taken directly from Table 1B(5).

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 C ₆ -C ₁₀ | <i>Coarse/ Fine</i> | 125* | 180* | 215* |
| F2 >C ₁₀ -C ₁₆ | | 25* | 120* | 170* |
| F3 >C ₁₆ -C ₃₄ | <i>Coarse</i> | - | 300 | 1700 |
| | <i>Fine</i> | - | 1300 | 2500 |
| F4 >C ₃₄ -C ₄₀ | <i>Coarse</i> | - | 2800 | 3300 |
| | <i>Fine</i> | - | 5600 | 6600 |
| Benzene | <i>Coarse</i> | 10 | 50 | 75 |
| | <i>Fine</i> | 10 | 65 | 95 |
| Toluene | <i>Coarse</i> | 10 | 85 | 135 |
| | <i>Fine</i> | 65 | 105 | 135 |
| Ethylbenzene | <i>Coarse</i> | 1.5 | 70 | 165 |
| | <i>Fine</i> | 40 | 125 | 185 |
| Xylenes | <i>Coarse</i> | 10 | 105 | 180 |
| | <i>Fine</i> | 1.6 | 45 | 95 |
| Benzo(a)pyrene | <i>Coarse</i> | 0.7 | 0.7 | 0.7 |
| | <i>Fine</i> | 0.7 | 0.7 | 0.7 |

Notes:

- (1) ESLs are of low reliability except where indicated by * which indicates that the ESL is of moderate reliability.
- (2) ‘-’ indicates that insufficient data was available to derive a value.
- (3) To obtain F1, subtract the sum of BTEX concentrations from C₆-C₁₀ fraction and subtract naphthalene from >C₁₀-C₁₆ to obtain F2.

Appendix E

■ WATER ■ MINING ■ SPORTS & RECREATION ■ HORTICULTURE & AGRICULTURE ■ ENVIRONMENTAL ■ ENGINEERING & GEOTECH ■ URBAN HORTICULTURE & LANDSCAPING

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[Home](#) [Contaminated land](#) [Record of notices](#)

Search results

Your search for:LGA: Muswellbrook Shire Council

did not find any records in our database.

If a site does not appear on the record it may still be affected by contamination. For example:

- Contamination may be present but the site has not been regulated by the EPA under the Contaminated Land Management Act 1997 or the Environmentally Hazardous Chemicals Act 1985.
- The EPA may be regulating contamination at the site through a licence or notice under the Protection of the Environment Operations Act 1997 (POEO Act).
- Contamination at the site may be being managed under the [planning process](#).

More information about particular sites may be available from:

- The [POEO public register](#)
- The appropriate planning authority: for example, on a planning certificate issued by the local council under [section 149 of the Environmental Planning and Assessment Act](#).

See [What's in the record and What's not in the record](#).

If you want to know whether a specific site has been the subject of notices issued by the EPA under the CLM Act, we suggest that you search by Local Government Area only and carefully review the sites that are listed.

This public record provides information about sites regulated by the EPA under the Contaminated Land Management Act 1997, including sites currently and previously regulated under the Environmentally Hazardous Chemicals Act 1985. Your inquiry using the above search criteria has not matched any record of current or former regulation. You should consider searching again using different criteria. The fact that a site does not appear on the record does not necessarily mean that it is not affected by contamination. The site may have been notified to the EPA but not yet assessed, or contamination may be present but the site is not yet being regulated by the EPA. Further information about particular sites may be available from the appropriate planning authority, for example, on a planning certificate issued by the local council under section 149 of the Environmental Planning and Assessment Act. In addition the EPA may be regulating contamination at the site through a licence under the Protection of the Environment Operations Act 1997. You may wish to search the [POEO public register](#).

[Search Again](#)

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Search TIP

To search for a specific site, search by LGA (local government area) and carefully review all sites listed.

... [more search tips](#)

6 December 2017

For business and industry ()

For local government ()

Contact us

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Appendix F

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VIC Level 1, 21 Shields St, Flemington VIC 3031
QLD Level 10, 15 Green Square Cl, Fortitude Valley QLD 4006



Chain of Custody

CoC N° 25133

QUOTE N° sy60713

SESL PO #

BATCH N°

45880
REPORTING REQUIREMENTS

 REPORT FORMAT: ☐ Hardcopy (mail) ☒ Email PDF ☒ Email Excel ☐ Fax

SEND REPORT TO: Harrison Leake subsamples@sesl.com.au

CC TO: Andrew Jacovides andrewj@sesl.com.au

URGENCY REQ'D: Normal

DATE REQ'D

 Fri, 1 Dec 2017
By 4pm

RELINQUISHED BY:

NAME: SESL Sample Receipt

OF: SESL Australia

DATE: 24-11-17

TIME: 12:00

DISPATCH TO:

Jennifer Cullen

ALS Laboratory Group

 277-289 Woodpark Rd
Smithfield NSW 2164

| SAMPLE DESCRIPTION | | DATE SAMPLED | MATRIX | TEMP °C | PRES. | CONTAINER | | ANALYSIS REQUIRED |
|--------------------|----|--------------|--------|---------|-------|-----------|---|-------------------|
| TYPE* | N° | | | | | | | |
| 1 | 1 | 24/11/2017 | Soil | 19.20 | Ice | G | 1 | 1 - S-16 |
| 2 | 2 | 24/11/2017 | Soil | | | | 1 | 2 - S-16 |
| 3 | 3 | 24/11/2017 | Soil | | | | 1 | 3 - S-16 |
| 4 | 4 | 24/11/2017 | Soil | | | | 1 | 4 - S-16 |
| 5 | 5 | 24/11/2017 | Soil | | | | 1 | 5 - S-16 |
| 6 | 6 | 24/11/2017 | Soil | | | | 1 | 6 - S-16 |
| 7 | 7 | 24/11/2017 | Soil | | | | 1 | 7 - S-16 |
| 8 | 8 | 24/11/2017 | S | | | | 1 | 8 - S-16, EA200 |
| 9 | 9 | 24/11/2017 | S | | | | 1 | 9 - S-16 |
| 10 | 10 | 24/11/2017 | S | | | | 1 | 10 - S-16 |
| 11 | 11 | 24/11/2017 | S | | | | 1 | 11 - S-16, EA200 |
| 12 | 12 | 24/11/2017 | S | | | | 1 | 12 - S-16, EA200 |
| 13 | 13 | 24/11/2017 | S | | | | 1 | 13 - S-16, EA200 |
| 14 | 14 | 24/11/2017 | S | | | | 1 | 14 - S-16, EA200 |
| 15 | 15 | 24/11/2017 | S | | | | 1 | 15 - S-16 |
| 16 | 16 | 24/11/2017 | S | | | | 1 | 16 - S-16 |
| 17 | 17 | 24/11/2017 | S | | | | 1 | 17 - S-16 |
| 18 | 18 | 24/11/2017 | So. | | | | 1 | 18 - S-16 |
| 19 | 19 | 24/11/2017 | Soil | | | | 1 | 19 - S-16 |
| 20 | 20 | 24/11/2017 | Soil | | | | 1 | 20 - S-16 |

 Environmental Division
 Sydney
 Work Order Reference
ES1729769


Telephone: +61-2-8784 6555

Subson / Forward Lab / Split / N.O

Lab / Analysis:

 Organised By / Date: *Asbestos*

 Relinquished By / Date: *Newcat*

Connote / Courier:

WO N°:

Attach By PO / Internal Sheet:

ALL WATER FOR METALS, OCP/OPP LOW LEVEL in ug/L

| | | | | |
|---|--|--|--|--|
| RECEIVED BY: NAME: <i>Soil / Asbestos</i> COMPANY: <i>As</i> | | DATE: <i>24/11/17</i> TIME: <i>1800</i> | SAMPLE CONDITION: SAMPLE CONTAINERS: <input checked="" type="checkbox"/> Intact <input type="checkbox"/> Broken TEMPERATURE: <input type="checkbox"/> Cold <input checked="" type="checkbox"/> Room <input type="checkbox"/> Other <i>8.8 C</i> | *Containers Guide Bo1 Bottle, amber glass G Glass jar Bo2 Bottle, plastic S Stereo Bg1 Bag, plastic V Vial Bg2 Bag, paper O Other |
|---|--|--|--|--|

Chain of Custody

CoC N° 25134

QUOTE N° sy60713

SES PO #

BATCH N°

45880

| REPORTING REQUIREMENTS | | | | | | RELINQUISHED BY | | DISPATCH TO: | |
|------------------------------------|---|--|--|--|--|---------------------------|--|----------------------|--|
| REPORT FORMAT: | <input type="checkbox"/> Hardcopy (mail) <input checked="" type="checkbox"/> Email PDF <input checked="" type="checkbox"/> Email Excel <input type="checkbox"/> Fax | | | | | NAME: SESL Sample Receipt | | Jennifer Cullen | |
| SEND REPORT TO: | Harrison Leake subsamples@sesl.com.au | | | | | OF: SESL Australia | | ALS Laboratory Group | |
| CC TO: | Andrew Jacovides andrewj@sesl.com.au | | | | | DATE: 24-11-17 | | 277-289 Woodpark Rd | |
| URGENCY REQ'D: | Normal | | | | | TIME: 12:00 | | Smithfield NSW 2164 | |
| DATE REQ'D: Fri, 1 Dec 2017 By 4pm | | | | | | | | | |

| SAMPLE DESCRIPTION | DATE SAMPLED | MATRIX | TEMP °C | PRES. | CONTAINER TYPE | ANALYSIS REQUIRED |
|---------------------------|--------------|------------|---------|-------|----------------|--------------------|
| 21 : 45880 - BH18 300-400 | 21 | 24/11/2017 | Soil | 19.20 | Ice | G 1 21 - S-16 |
| 22 : 45880 - BH19 Surface | 22 | 24/11/2017 | Soil | | | 1 22 - S-16 |
| 23 : 45880 - BH19 300-400 | 23 | 24/11/2017 | Soil | | | 1 23 - S-16 |
| 24 : 45880 - BH20 Surface | 24 | 24/11/2017 | Soil | | | 1 24 - S-16 |
| 25 : 45880 - BH20 300-400 | 25 | 24/11/2017 | Soil | | | 1 25 - S-16 |
| 26 : 45880 - QA1 | 26 | 24/11/2017 | Soil | | | 1 26 - S-16 |
| 27 : 45880 - QA2 | 27 | 24/11/2017 | Soil | | | 1 27 - S-16, EA200 |
| 28 : 45880 - QA3 | 28 | 24/11/2017 | Soil | | | 1 28 - S-16 |

ALL WATER FOR METALS, OCP/OPP LOW LEVEL in ug/L

| | | | | |
|--|----------------|---|--|---|
| RECEIVED BY:  | | SAMPLE CONDITION | | *Containers Guide B01 Bottle, amber glass G Glass jar B02 Bottle, plastic S Sterile Bg1 Bag, plastic V Vial Bg2 Bag, paper O Other |
| NAME: | DATE: 24/11/17 | SAMPLE CONTAINERS: <input checked="" type="checkbox"/> Intact <input type="checkbox"/> Broken | | |
| COMPANY: | TIME: 1800 | TEMPERATURE: <input type="checkbox"/> Cold <input type="checkbox"/> Room <input checked="" type="checkbox"/> Other 8-8C | | |

CERTIFICATE OF ANALYSIS

Work Order : **ES1729769**
Client : **SESL Australia Pty Ltd**
Contact : Harrison Leake (SUBSAMPLES)
Address : PO BOX 357
 PENNANT HILLS NSW, AUSTRALIA 1715
Telephone : +61 02 9980 6554
Project : 45880
Order number : ----
C-O-C number : 25133
Sampler : ----
Site : ----
Quote number : SYBQ/259/16
No. of samples received : 28
No. of samples analysed : 28

Page : 1 of 28
Laboratory : Environmental Division Sydney
Contact : Customer Services ES
Address : 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone : +61-2-8784 8555
Date Samples Received : 24-Nov-2017 18:00
Date Analysis Commenced : 27-Nov-2017
Issue Date : 01-Dec-2017 17:24



Accreditation No. 825
 Accredited for compliance with
 ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Descriptive Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

| <i>Signatories</i> | <i>Position</i> | <i>Accreditation Category</i> |
|--------------------|--------------------------|--|
| Alex Rossi | Organic Chemist | Sydney Organics, Smithfield, NSW |
| Celine Conceicao | Senior Spectroscopist | Sydney Inorganics, Smithfield, NSW |
| Christopher Owler | Team Leader - Asbestos | Newcastle - Asbestos, Mayfield West, NSW |
| Edwandy Fadjjar | Organic Coordinator | Sydney Inorganics, Smithfield, NSW |
| Edwandy Fadjjar | Organic Coordinator | Sydney Organics, Smithfield, NSW |
| Sanjeshni Jyoti | Senior Chemist Volatiles | Sydney Organics, Smithfield, NSW |



General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contact for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- EP068: Positive result has been confirmed by re-extraction and re-analysis.
- EA200 'Am' Amosite (brown asbestos)
- EA200 'Cr' Crocidolite (blue asbestos)
- EA200 'Trace' - Asbestos fibres ("Free Fibres") detected by trace analysis per AS4964. The result can be interpreted that the sample contains detectable 'respirable' asbestos fibres
- EA200: Asbestos Identification Samples were analysed by Polarised Light Microscopy including dispersion staining.
- EA200 Legend
- EA200 'Ch' Chrysotile (white asbestos)
- EA200: 'UMF' Unknown Mineral Fibres. "-" indicates fibres detected may or may not be asbestos fibres. Confirmation by alternative techniques is recommended.
- EA200: Negative results for vinyl tiles should be confirmed by an independent analytical technique.
- Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenzo(a,h)anthracene (1.0), Benzo(g,h,i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero, for 'TEQ 1/2LOR' are treated as half the reported LOR, and for 'TEQ LOR' are treated as being equal to the reported LOR.
Note: TEQ 1/2LOR and TEQ LOR will calculate as 0.6mg/Kg and 1.2mg/Kg respectively for samples with non-detects for all of the eight TEQ PAHs.
- EA200: For samples larger than 30g, the <2mm fraction may be sub-sampled prior to trace analysis as outlined in ISO23909:2008(E) Sect 6.3.2-2
- EA200: 'Yes' - Asbestos detected by polarised light microscopy including dispersion staining.
- EA200: 'No*' - No asbestos found, at the reporting limit of 0.1g/kg, by polarised light microscopy including dispersion staining. Asbestos material was detected and positively identified at concentrations estimated to be below 0.1g/kg.
- EA200: 'No' - No asbestos found at the reporting limit 0.1g/kg, by polarised light microscopy including dispersion staining.



Analytical Results

| Sub-Matrix: SOIL (Matrix: SOIL) | | | | Client sample ID | 45880-1 | 45880-2 | 45880-3 | 45880-4 | 45880-5 |
|--|------------|------|-------|------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Client sampling date / time | | | | | 24-Nov-2017 00:00 | 24-Nov-2017 00:00 | 24-Nov-2017 00:00 | 24-Nov-2017 00:00 | 24-Nov-2017 00:00 |
| Compound | CAS Number | LOR | Unit | | ES1729769-001 | ES1729769-002 | ES1729769-003 | ES1729769-004 | ES1729769-005 |
| | | | | | Result | Result | Result | Result | Result |
| EA055: Moisture Content (Dried @ 105-110°C) | | | | | | | | | |
| Moisture Content | ---- | 1.0 | % | | 9.2 | 13.5 | 9.7 | 14.6 | 19.4 |
| EG005T: Total Metals by ICP-AES | | | | | | | | | |
| Arsenic | 7440-38-2 | 5 | mg/kg | | 5 | <5 | 6 | 8 | 7 |
| Cadmium | 7440-43-9 | 1 | mg/kg | | <1 | <1 | <1 | <1 | <1 |
| Chromium | 7440-47-3 | 2 | mg/kg | | 12 | 16 | 11 | 15 | 16 |
| Copper | 7440-50-8 | 5 | mg/kg | | 15 | 15 | 14 | 20 | 19 |
| Lead | 7439-92-1 | 5 | mg/kg | | 22 | 14 | 12 | 13 | 14 |
| Nickel | 7440-02-0 | 2 | mg/kg | | 12 | 13 | 11 | 18 | 19 |
| Zinc | 7440-66-6 | 5 | mg/kg | | 108 | 42 | 46 | 42 | 44 |
| EG035T: Total Recoverable Mercury by FIMS | | | | | | | | | |
| Mercury | 7439-97-6 | 0.1 | mg/kg | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| EP066: Polychlorinated Biphenyls (PCB) | | | | | | | | | |
| Total Polychlorinated biphenyls | ---- | 0.1 | mg/kg | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| EP068A: Organochlorine Pesticides (OC) | | | | | | | | | |
| alpha-BHC | 319-84-6 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Hexachlorobenzene (HCB) | 118-74-1 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| beta-BHC | 319-85-7 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| gamma-BHC | 58-89-9 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| delta-BHC | 319-86-8 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Heptachlor | 76-44-8 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Aldrin | 309-00-2 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Heptachlor epoxide | 1024-57-3 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| ^ Total Chlordane (sum) | ---- | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| trans-Chlordane | 5103-74-2 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| alpha-Endosulfan | 959-98-8 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| cis-Chlordane | 5103-71-9 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Dieldrin | 60-57-1 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| 4,4'-DDE | 72-55-9 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Endrin | 72-20-8 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| beta-Endosulfan | 33213-65-9 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| ^ Endosulfan (sum) | 115-29-7 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| 4,4'-DDD | 72-54-8 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Endrin aldehyde | 7421-93-4 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Endosulfan sulfate | 1031-07-8 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |



Analytical Results

| Sub-Matrix: SOIL (Matrix: SOIL) | | | | Client sample ID | 45880-1 | 45880-2 | 45880-3 | 45880-4 | 45880-5 |
|---|--------------------------|------|-------|------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Client sampling date / time | | | | | 24-Nov-2017 00:00 | 24-Nov-2017 00:00 | 24-Nov-2017 00:00 | 24-Nov-2017 00:00 | 24-Nov-2017 00:00 |
| Compound | CAS Number | LOR | Unit | | ES1729769-001 | ES1729769-002 | ES1729769-003 | ES1729769-004 | ES1729769-005 |
| | | | | | Result | Result | Result | Result | Result |
| EP068A: Organochlorine Pesticides (OC) - Continued | | | | | | | | | |
| 4,4'-DDT | 50-29-3 | 0.2 | mg/kg | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| Endrin ketone | 53494-70-5 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Methoxychlor | 72-43-5 | 0.2 | mg/kg | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| ^ Sum of Aldrin + Dieldrin | 309-00-2/60-57-1 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| ^ Sum of DDD + DDE + DDT | 72-54-8/72-55-9/5 0-2 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| EP068B: Organophosphorus Pesticides (OP) | | | | | | | | | |
| Dichlorvos | 62-73-7 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Demeton-S-methyl | 919-86-8 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Monocrotophos | 6923-22-4 | 0.2 | mg/kg | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| Dimethoate | 60-51-5 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Diazinon | 333-41-5 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Chlorpyrifos-methyl | 5598-13-0 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Parathion-methyl | 298-00-0 | 0.2 | mg/kg | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| Malathion | 121-75-5 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Fenthion | 55-38-9 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Chlorpyrifos | 2921-88-2 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Parathion | 56-38-2 | 0.2 | mg/kg | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| Pirimphos-ethyl | 23505-41-1 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Chlorfenvinphos | 470-90-6 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Bromophos-ethyl | 4824-78-6 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Fenamiphos | 22224-92-6 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Prothiofos | 34643-46-4 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Ethion | 563-12-2 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Carbophenothion | 786-19-6 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Azinphos Methyl | 86-50-0 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| EP075(SIM)B: Polynuclear Aromatic Hydrocarbons | | | | | | | | | |
| Naphthalene | 91-20-3 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Acenaphthylene | 208-96-8 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Acenaphthene | 83-32-9 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Fluorene | 86-73-7 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Phenanthrene | 85-01-8 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Anthracene | 120-12-7 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Fluoranthene | 206-44-0 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Pyrene | 129-00-0 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |



Analytical Results

| Sub-Matrix: SOIL (Matrix: SOIL) | | | | Client sample ID | 45880-1 | 45880-2 | 45880-3 | 45880-4 | 45880-5 |
|--|-------------------|-----|-------|------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Client sampling date / time | | | | | 24-Nov-2017 00:00 | 24-Nov-2017 00:00 | 24-Nov-2017 00:00 | 24-Nov-2017 00:00 | 24-Nov-2017 00:00 |
| Compound | CAS Number | LOR | Unit | | ES1729769-001 | ES1729769-002 | ES1729769-003 | ES1729769-004 | ES1729769-005 |
| | | | | | Result | Result | Result | Result | Result |
| EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued | | | | | | | | | |
| Benz(a)anthracene | 56-55-3 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Chrysene | 218-01-9 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Benzo(b+j)fluoranthene | 205-99-2 205-82-3 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Benzo(k)fluoranthene | 207-08-9 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Benzo(a)pyrene | 50-32-8 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Indeno(1.2.3.cd)pyrene | 193-39-5 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Dibenz(a,h)anthracene | 53-70-3 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Benzo(g,h,i)perylene | 191-24-2 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| ^ Sum of polycyclic aromatic hydrocarbons | ---- | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| ^ Benzo(a)pyrene TEQ (zero) | ---- | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| ^ Benzo(a)pyrene TEQ (half LOR) | ---- | 0.5 | mg/kg | | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 |
| ^ Benzo(a)pyrene TEQ (LOR) | ---- | 0.5 | mg/kg | | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 |
| EP080/071: Total Petroleum Hydrocarbons | | | | | | | | | |
| C6 - C9 Fraction | ---- | 10 | mg/kg | | <10 | <10 | <10 | <10 | <10 |
| C10 - C14 Fraction | ---- | 50 | mg/kg | | <50 | <50 | <50 | <50 | <50 |
| C15 - C28 Fraction | ---- | 100 | mg/kg | | <100 | <100 | <100 | <100 | <100 |
| C29 - C36 Fraction | ---- | 100 | mg/kg | | <100 | <100 | <100 | <100 | <100 |
| ^ C10 - C36 Fraction (sum) | ---- | 50 | mg/kg | | <50 | <50 | <50 | <50 | <50 |
| EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions | | | | | | | | | |
| C6 - C10 Fraction | C6_C10 | 10 | mg/kg | | <10 | <10 | <10 | <10 | <10 |
| ^ C6 - C10 Fraction minus BTEX (F1) | C6_C10-BTEX | 10 | mg/kg | | <10 | <10 | <10 | <10 | <10 |
| >C10 - C16 Fraction | ---- | 50 | mg/kg | | <50 | <50 | <50 | <50 | <50 |
| >C16 - C34 Fraction | ---- | 100 | mg/kg | | <100 | <100 | <100 | <100 | <100 |
| >C34 - C40 Fraction | ---- | 100 | mg/kg | | <100 | <100 | <100 | <100 | <100 |
| ^ >C10 - C40 Fraction (sum) | ---- | 50 | mg/kg | | <50 | <50 | <50 | <50 | <50 |
| ^ >C10 - C16 Fraction minus Naphthalene (F2) | ---- | 50 | mg/kg | | <50 | <50 | <50 | <50 | <50 |
| EP080: BTEXN | | | | | | | | | |
| Benzene | 71-43-2 | 0.2 | mg/kg | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| Toluene | 108-88-3 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Ethylbenzene | 100-41-4 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| meta- & para-Xylene | 108-38-3 106-42-3 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| ortho-Xylene | 95-47-6 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |



Analytical Results

| Sub-Matrix: SOIL (Matrix: SOIL) | | | | Client sample ID | 45880-1 | 45880-2 | 45880-3 | 45880-4 | 45880-5 |
|---|------------|------|-------|------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Client sampling date / time | | | | | 24-Nov-2017 00:00 | 24-Nov-2017 00:00 | 24-Nov-2017 00:00 | 24-Nov-2017 00:00 | 24-Nov-2017 00:00 |
| Compound | CAS Number | LOR | Unit | | ES1729769-001 | ES1729769-002 | ES1729769-003 | ES1729769-004 | ES1729769-005 |
| | | | | | Result | Result | Result | Result | Result |
| EP080: BTEXN - Continued | | | | | | | | | |
| ^ Sum of BTEX | ---- | 0.2 | mg/kg | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| ^ Total Xylenes | 1330-20-7 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Naphthalene | 91-20-3 | 1 | mg/kg | | <1 | <1 | <1 | <1 | <1 |
| EP066S: PCB Surrogate | | | | | | | | | |
| Decachlorobiphenyl | 2051-24-3 | 0.1 | % | | 109 | 104 | 117 | 111 | 103 |
| EP068S: Organochlorine Pesticide Surrogate | | | | | | | | | |
| Dibromo-DDE | 21655-73-2 | 0.05 | % | | 104 | 92.9 | 112 | 104 | 88.1 |
| EP068T: Organophosphorus Pesticide Surrogate | | | | | | | | | |
| DEF | 78-48-8 | 0.05 | % | | 111 | 68.3 | 65.7 | 91.8 | 73.3 |
| EP075(SIM)S: Phenolic Compound Surrogates | | | | | | | | | |
| Phenol-d6 | 13127-88-3 | 0.5 | % | | 90.8 | 101 | 88.2 | 94.7 | 96.2 |
| 2-Chlorophenol-D4 | 93951-73-6 | 0.5 | % | | 92.2 | 103 | 89.2 | 95.9 | 97.0 |
| 2,4,6-Tribromophenol | 118-79-6 | 0.5 | % | | 79.1 | 90.2 | 77.2 | 83.6 | 81.6 |
| EP075(SIM)T: PAH Surrogates | | | | | | | | | |
| 2-Fluorobiphenyl | 321-60-8 | 0.5 | % | | 96.5 | 107 | 94.4 | 101 | 102 |
| Anthracene-d10 | 1719-06-8 | 0.5 | % | | 93.7 | 104 | 91.8 | 98.3 | 98.9 |
| 4-Terphenyl-d14 | 1718-51-0 | 0.5 | % | | 86.3 | 94.8 | 84.2 | 91.3 | 92.4 |
| EP080S: TPH(V)/BTEX Surrogates | | | | | | | | | |
| 1,2-Dichloroethane-D4 | 17060-07-0 | 0.2 | % | | 96.5 | 93.8 | 97.7 | 90.4 | 91.6 |
| Toluene-D8 | 2037-26-5 | 0.2 | % | | 112 | 101 | 108 | 100 | 102 |
| 4-Bromofluorobenzene | 460-00-4 | 0.2 | % | | 108 | 102 | 108 | 101 | 103 |

Chain of Custody

CoC N° 25133

QUOTE N° sy60713

SESL PO #

BATCH N°

45880
REPORTING REQUIREMENTS

 REPORT FORMAT: ☐ Hardcopy (mail) ☒ Email PDF ☒ Email Excel ☐ Fax

SEND REPORT TO: Harrison Leake subsamples@sesl.com.au

CC TO: Andrew Jacovides andrewj@sesl.com.au

URGENCY REQ'D: Normal

 DATE
REQ'D

 Fri, 1 Dec 2017
By 4pm

RELINQUISHED BY:

NAME: SESL Sample Receipt

OF: SESL Australia

DATE: 24-11-17

TIME: 12:00

DISPATCH TO:

Jennifer Cullen

ALS Laboratory Group

**277-289 Woodpark Rd
Smithfield NSW 2164**

| SAMPLE DESCRIPTION | DATE SAMPLED | MATRIX | TEMP °C | PRES. | CONTAINER TYPE* N° | ANALYSIS REQUIRED |
|--------------------------|--------------|--------|---------|-------|-----------------------|-------------------|
| 1: 45880 - BH1 Surface | 24/11/2017 | Soil | 19.20 | Ice | G 1 | 1 - S-16 |
| 2: 45880 - BH2 Surface | 24/11/2017 | Soil | | | 1 | 2 - S-16 |
| 3: 45880 - BH3 Surface | 24/11/2017 | Soil | | | 1 | 3 - S-16 |
| 4: 45880 - BH4 Surface | 24/11/2017 | Soil | | | 1 | 4 - S-16 |
| 5: 45880 - BH4 300-400 | 24/11/2017 | Soil | | | 1 | 5 - S-16 |
| 6: 45880 - BH5 Surface | 24/11/2017 | Soil | | | 1 | 6 - S-16 |
| 7: 45880 - BH6 Surface | 24/11/2017 | Soil | | | 1 | 7 - S-16 |
| 8: 45880 - BH7 Surface | 24/11/2017 | S | | | 1 | 8 - S-16, EA200 |
| 9: 45880 - BH7 300-400 | 24/11/2017 | S | | | 1 | 9 - S-16 |
| 10: 45880 - BH8 Surface | 24/11/2017 | S | | | 1 | 10 - S-16 |
| 11: 45880 - BH9 Surface | 24/11/2017 | S | | | 1 | 11 - S-16, EA200 |
| 12: 45880 - BH10 Surface | 24/11/2017 | S | | | 1 | 12 - S-16, EA200 |
| 13: 45880 - BH11 Surface | 24/11/2017 | S | | | 1 | 13 - S-16, EA200 |
| 14: 45880 - BH12 Surface | 24/11/2017 | S | | | 1 | 14 - S-16, EA200 |
| 15: 45880 - BH13 Surface | 24/11/2017 | S | | | 1 | 15 - S-16 |
| 16: 45880 - BH14 Surface | 24/11/2017 | S | | | 1 | 16 - S-16 |
| 17: 45880 - BH15 Surface | 24/11/2017 | S | | | 1 | 17 - S-16 |
| 18: 45880 - BH16 Surface | 24/11/2017 | So. | | | 1 | 18 - S-16 |
| 19: 45880 - BH17 Surface | 24/11/2017 | Soil | | | 1 | 19 - S-16 |
| 20: 45880 - BH18 Surface | 24/11/2017 | Soil | | | 1 | 20 - S-16 |

 Environmental Division
Sydney

 Work Order Reference
ES1729769


Telephone: +61-2-8784 6555

Subson / Forward Lab / Split / N.O

Lab / Analysis:

 Organised By / Date: *Asbestos*

 Relinquished By / Date: *Newcat*

Connote / Courier:

WO N°:

Attach By PO / Internal Sheet:

ALL WATER FOR METALS, OCP/OPP LOW LEVEL in ug/L

| | | | |
|------------------------------|-------------------------|---|---|
| NAME: <i>Soil / Asbestos</i> | RECEIVED BY: <i>Yes</i> | DATE: <i>24/11/17</i> | SAMPLE CONDITION: |
| COMPANY: | TIME: <i>1800</i> | SAMPLE CONTAINERS: <input checked="" type="checkbox"/> Intact <input type="checkbox"/> Broken | TEMPERATURE: <input type="checkbox"/> Cold <input checked="" type="checkbox"/> Room <input type="checkbox"/> Other <i>8.8 C</i> |

***Containers Guide**

| | |
|------------------------------|-------------------|
| Bo1 Bottle, amber glass | G Glass jar |
| Bo2 Bottle, plastic | S Sterile |
| Bg1 Bag, plastic | V Vial |
| Bg2 Bag, paper | O Other |

Chain of Custody

CoC N° 25134

QUOTE N° sy60713

SES PO #

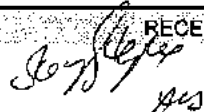
BATCH N°

45880

| REPORTING REQUIREMENTS | | | | | | RELINQUISHED BY | | DISPATCH TO: | |
|------------------------|---|------------|--|---------------------------|--|---------------------------|--|----------------------|--|
| REPORT FORMAT: | <input type="checkbox"/> Hardcopy (mail) <input checked="" type="checkbox"/> Email PDF <input checked="" type="checkbox"/> Email Excel <input type="checkbox"/> Fax | | | | | NAME: SESL Sample Receipt | | Jennifer Cullen | |
| SEND REPORT TO: | Harrison Leake subsamples@sesl.com.au | | | | | OF: SESL Australia | | ALS Laboratory Group | |
| CC TO: | Andrew Jacovides andrewj@sesl.com.au | | | | | DATE: 24-11-17 | | 277-289 Woodpark Rd | |
| URGENCY REQ'D: | Normal | | | | | TIME: 12:00 | | Smithfield NSW 2164 | |
| | | DATE REQ'D | | Fri, 1 Dec 2017 By 4pm | | | | | |

| SAMPLE DESCRIPTION | DATE SAMPLED | MATRIX | TEMP °C | PRES. | CONTAINER TYPE | ANALYSIS REQUIRED |
|---------------------------|--------------|------------|---------|-------|----------------|--------------------|
| 21 : 45880 - BH18 300-400 | 21 | 24/11/2017 | Soil | 19.20 | Ice | G 1 21 - S-16 |
| 22 : 45880 - BH19 Surface | 22 | 24/11/2017 | Soil | | | 1 22 - S-16 |
| 23 : 45880 - BH19 300-400 | 23 | 24/11/2017 | Soil | | | 1 23 - S-16 |
| 24 : 45880 - BH20 Surface | 24 | 24/11/2017 | Soil | | | 1 24 - S-16 |
| 25 : 45880 - BH20 300-400 | 25 | 24/11/2017 | Soil | | | 1 25 - S-16 |
| 26 : 45880 - QA1 | 26 | 24/11/2017 | Soil | | | 1 26 - S-16 |
| 27 : 45880 - QA2 | 27 | 24/11/2017 | Soil | | | 1 27 - S-16, EA200 |
| 28 : 45880 - QA3 | 28 | 24/11/2017 | Soil | | | 1 28 - S-16 |

ALL WATER FOR METALS, OCP/OPP LOW LEVEL in ug/L

| | | | | |
|--|----------------|---|--|--|
| RECEIVED BY:  | | SAMPLE CONDITION | | *Containers Guide B01 Bottle, amber glass G Glass jar B02 Bottle, plastic S Sterile Bg1 Bag, plastic V Vial Bg2 Bag, paper O Other |
| NAME: | DATE: 24/11/17 | SAMPLE CONTAINERS: <input checked="" type="checkbox"/> Intact <input type="checkbox"/> Broken | | |
| COMPANY: | TIME: 1800 | TEMPERATURE: <input type="checkbox"/> Cold <input type="checkbox"/> Room <input checked="" type="checkbox"/> Other 8-8C | | |

CERTIFICATE OF ANALYSIS

Work Order : **ES1729769**
Client : **SESL Australia Pty Ltd**
Contact : Harrison Leake (SUBSAMPLES)
Address : PO BOX 357
 PENNANT HILLS NSW, AUSTRALIA 1715
Telephone : +61 02 9980 6554
Project : 45880
Order number : ----
C-O-C number : 25133
Sampler : ----
Site : ----
Quote number : SYBQ/259/16
No. of samples received : 28
No. of samples analysed : 28

Page : 1 of 28
Laboratory : Environmental Division Sydney
Contact : Customer Services ES
Address : 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone : +61-2-8784 8555
Date Samples Received : 24-Nov-2017 18:00
Date Analysis Commenced : 27-Nov-2017
Issue Date : 01-Dec-2017 17:24



This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Descriptive Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

| <i>Signatories</i> | <i>Position</i> | <i>Accreditation Category</i> |
|--------------------|--------------------------|--|
| Alex Rossi | Organic Chemist | Sydney Organics, Smithfield, NSW |
| Celine Conceicao | Senior Spectroscopist | Sydney Inorganics, Smithfield, NSW |
| Christopher Owler | Team Leader - Asbestos | Newcastle - Asbestos, Mayfield West, NSW |
| Edwandy Fadjjar | Organic Coordinator | Sydney Inorganics, Smithfield, NSW |
| Edwandy Fadjjar | Organic Coordinator | Sydney Organics, Smithfield, NSW |
| Sanjeshni Jyoti | Senior Chemist Volatiles | Sydney Organics, Smithfield, NSW |



General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contact for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.

LOR = Limit of reporting

^ = This result is computed from individual analyte detections at or above the level of reporting

Ø = ALS is not NATA accredited for these tests.

~ = Indicates an estimated value.

- EP068: Positive result has been confirmed by re-extraction and re-analysis.
- EA200 'Am' Amosite (brown asbestos)
- EA200 'Cr' Crocidolite (blue asbestos)
- EA200 'Trace' - Asbestos fibres ("Free Fibres") detected by trace analysis per AS4964. The result can be interpreted that the sample contains detectable 'respirable' asbestos fibres
- EA200: Asbestos Identification Samples were analysed by Polarised Light Microscopy including dispersion staining.
- EA200 Legend
- EA200 'Ch' Chrysotile (white asbestos)
- EA200: 'UMF' Unknown Mineral Fibres. "-" indicates fibres detected may or may not be asbestos fibres. Confirmation by alternative techniques is recommended.
- EA200: Negative results for vinyl tiles should be confirmed by an independent analytical technique.
- Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenzo(a,h)anthracene (1.0), Benzo(g,h,i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero, for 'TEQ 1/2LOR' are treated as half the reported LOR, and for 'TEQ LOR' are treated as being equal to the reported LOR.
Note: TEQ 1/2LOR and TEQ LOR will calculate as 0.6mg/Kg and 1.2mg/Kg respectively for samples with non-detects for all of the eight TEQ PAHs.
- EA200: For samples larger than 30g, the <2mm fraction may be sub-sampled prior to trace analysis as outlined in ISO23909:2008(E) Sect 6.3.2-2
- EA200: 'Yes' - Asbestos detected by polarised light microscopy including dispersion staining.
- EA200: 'No*' - No asbestos found, at the reporting limit of 0.1g/kg, by polarised light microscopy including dispersion staining. Asbestos material was detected and positively identified at concentrations estimated to be below 0.1g/kg.
- EA200: 'No' - No asbestos found at the reporting limit 0.1g/kg, by polarised light microscopy including dispersion staining.



Analytical Results

| Sub-Matrix: SOIL (Matrix: SOIL) | | | | Client sample ID | 45880-1 | 45880-2 | 45880-3 | 45880-4 | 45880-5 |
|--|------------|------|-------|------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Client sampling date / time | | | | | 24-Nov-2017 00:00 | 24-Nov-2017 00:00 | 24-Nov-2017 00:00 | 24-Nov-2017 00:00 | 24-Nov-2017 00:00 |
| Compound | CAS Number | LOR | Unit | | ES1729769-001 | ES1729769-002 | ES1729769-003 | ES1729769-004 | ES1729769-005 |
| | | | | | Result | Result | Result | Result | Result |
| EA055: Moisture Content (Dried @ 105-110°C) | | | | | | | | | |
| Moisture Content | ---- | 1.0 | % | | 9.2 | 13.5 | 9.7 | 14.6 | 19.4 |
| EG005T: Total Metals by ICP-AES | | | | | | | | | |
| Arsenic | 7440-38-2 | 5 | mg/kg | | 5 | <5 | 6 | 8 | 7 |
| Cadmium | 7440-43-9 | 1 | mg/kg | | <1 | <1 | <1 | <1 | <1 |
| Chromium | 7440-47-3 | 2 | mg/kg | | 12 | 16 | 11 | 15 | 16 |
| Copper | 7440-50-8 | 5 | mg/kg | | 15 | 15 | 14 | 20 | 19 |
| Lead | 7439-92-1 | 5 | mg/kg | | 22 | 14 | 12 | 13 | 14 |
| Nickel | 7440-02-0 | 2 | mg/kg | | 12 | 13 | 11 | 18 | 19 |
| Zinc | 7440-66-6 | 5 | mg/kg | | 108 | 42 | 46 | 42 | 44 |
| EG035T: Total Recoverable Mercury by FIMS | | | | | | | | | |
| Mercury | 7439-97-6 | 0.1 | mg/kg | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| EP066: Polychlorinated Biphenyls (PCB) | | | | | | | | | |
| Total Polychlorinated biphenyls | ---- | 0.1 | mg/kg | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| EP068A: Organochlorine Pesticides (OC) | | | | | | | | | |
| alpha-BHC | 319-84-6 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Hexachlorobenzene (HCB) | 118-74-1 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| beta-BHC | 319-85-7 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| gamma-BHC | 58-89-9 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| delta-BHC | 319-86-8 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Heptachlor | 76-44-8 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Aldrin | 309-00-2 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Heptachlor epoxide | 1024-57-3 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| ^ Total Chlordane (sum) | ---- | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| trans-Chlordane | 5103-74-2 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| alpha-Endosulfan | 959-98-8 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| cis-Chlordane | 5103-71-9 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Dieldrin | 60-57-1 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| 4,4'-DDE | 72-55-9 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Endrin | 72-20-8 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| beta-Endosulfan | 33213-65-9 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| ^ Endosulfan (sum) | 115-29-7 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| 4,4'-DDD | 72-54-8 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Endrin aldehyde | 7421-93-4 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Endosulfan sulfate | 1031-07-8 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |



Analytical Results

| Sub-Matrix: SOIL (Matrix: SOIL) | | | | Client sample ID | 45880-1 | 45880-2 | 45880-3 | 45880-4 | 45880-5 |
|---|--------------------------|------|-------|------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Client sampling date / time | | | | | 24-Nov-2017 00:00 | 24-Nov-2017 00:00 | 24-Nov-2017 00:00 | 24-Nov-2017 00:00 | 24-Nov-2017 00:00 |
| Compound | CAS Number | LOR | Unit | | ES1729769-001 | ES1729769-002 | ES1729769-003 | ES1729769-004 | ES1729769-005 |
| | | | | | Result | Result | Result | Result | Result |
| EP068A: Organochlorine Pesticides (OC) - Continued | | | | | | | | | |
| 4,4'-DDT | 50-29-3 | 0.2 | mg/kg | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| Endrin ketone | 53494-70-5 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Methoxychlor | 72-43-5 | 0.2 | mg/kg | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| ^ Sum of Aldrin + Dieldrin | 309-00-2/60-57-1 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| ^ Sum of DDD + DDE + DDT | 72-54-8/72-55-9/5 0-2 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| EP068B: Organophosphorus Pesticides (OP) | | | | | | | | | |
| Dichlorvos | 62-73-7 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Demeton-S-methyl | 919-86-8 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Monocrotophos | 6923-22-4 | 0.2 | mg/kg | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| Dimethoate | 60-51-5 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Diazinon | 333-41-5 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Chlorpyrifos-methyl | 5598-13-0 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Parathion-methyl | 298-00-0 | 0.2 | mg/kg | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| Malathion | 121-75-5 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Fenthion | 55-38-9 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Chlorpyrifos | 2921-88-2 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Parathion | 56-38-2 | 0.2 | mg/kg | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| Pirimphos-ethyl | 23505-41-1 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Chlorfenvinphos | 470-90-6 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Bromophos-ethyl | 4824-78-6 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Fenamiphos | 22224-92-6 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Prothiofos | 34643-46-4 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Ethion | 563-12-2 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Carbophenothion | 786-19-6 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Azinphos Methyl | 86-50-0 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| EP075(SIM)B: Polynuclear Aromatic Hydrocarbons | | | | | | | | | |
| Naphthalene | 91-20-3 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Acenaphthylene | 208-96-8 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Acenaphthene | 83-32-9 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Fluorene | 86-73-7 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Phenanthrene | 85-01-8 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Anthracene | 120-12-7 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Fluoranthene | 206-44-0 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Pyrene | 129-00-0 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |



Analytical Results

| Sub-Matrix: SOIL (Matrix: SOIL) | | | | Client sample ID | 45880-1 | 45880-2 | 45880-3 | 45880-4 | 45880-5 |
|--|-------------------|-----|-------|------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Client sampling date / time | | | | | 24-Nov-2017 00:00 | 24-Nov-2017 00:00 | 24-Nov-2017 00:00 | 24-Nov-2017 00:00 | 24-Nov-2017 00:00 |
| Compound | CAS Number | LOR | Unit | | ES1729769-001 | ES1729769-002 | ES1729769-003 | ES1729769-004 | ES1729769-005 |
| | | | | | Result | Result | Result | Result | Result |
| EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued | | | | | | | | | |
| Benz(a)anthracene | 56-55-3 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Chrysene | 218-01-9 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Benzo(b+j)fluoranthene | 205-99-2 205-82-3 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Benzo(k)fluoranthene | 207-08-9 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Benzo(a)pyrene | 50-32-8 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Indeno(1.2.3.cd)pyrene | 193-39-5 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Dibenz(a,h)anthracene | 53-70-3 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Benzo(g,h,i)perylene | 191-24-2 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| ^ Sum of polycyclic aromatic hydrocarbons | ---- | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| ^ Benzo(a)pyrene TEQ (zero) | ---- | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| ^ Benzo(a)pyrene TEQ (half LOR) | ---- | 0.5 | mg/kg | | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 |
| ^ Benzo(a)pyrene TEQ (LOR) | ---- | 0.5 | mg/kg | | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 |
| EP080/071: Total Petroleum Hydrocarbons | | | | | | | | | |
| C6 - C9 Fraction | ---- | 10 | mg/kg | | <10 | <10 | <10 | <10 | <10 |
| C10 - C14 Fraction | ---- | 50 | mg/kg | | <50 | <50 | <50 | <50 | <50 |
| C15 - C28 Fraction | ---- | 100 | mg/kg | | <100 | <100 | <100 | <100 | <100 |
| C29 - C36 Fraction | ---- | 100 | mg/kg | | <100 | <100 | <100 | <100 | <100 |
| ^ C10 - C36 Fraction (sum) | ---- | 50 | mg/kg | | <50 | <50 | <50 | <50 | <50 |
| EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions | | | | | | | | | |
| C6 - C10 Fraction | C6_C10 | 10 | mg/kg | | <10 | <10 | <10 | <10 | <10 |
| ^ C6 - C10 Fraction minus BTEX (F1) | C6_C10-BTEX | 10 | mg/kg | | <10 | <10 | <10 | <10 | <10 |
| >C10 - C16 Fraction | ---- | 50 | mg/kg | | <50 | <50 | <50 | <50 | <50 |
| >C16 - C34 Fraction | ---- | 100 | mg/kg | | <100 | <100 | <100 | <100 | <100 |
| >C34 - C40 Fraction | ---- | 100 | mg/kg | | <100 | <100 | <100 | <100 | <100 |
| ^ >C10 - C40 Fraction (sum) | ---- | 50 | mg/kg | | <50 | <50 | <50 | <50 | <50 |
| ^ >C10 - C16 Fraction minus Naphthalene (F2) | ---- | 50 | mg/kg | | <50 | <50 | <50 | <50 | <50 |
| EP080: BTEXN | | | | | | | | | |
| Benzene | 71-43-2 | 0.2 | mg/kg | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| Toluene | 108-88-3 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Ethylbenzene | 100-41-4 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| meta- & para-Xylene | 108-38-3 106-42-3 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| ortho-Xylene | 95-47-6 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |



Analytical Results

| Sub-Matrix: SOIL (Matrix: SOIL) | | | | Client sample ID | 45880-1 | 45880-2 | 45880-3 | 45880-4 | 45880-5 |
|---|------------|------|-------|------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Client sampling date / time | | | | | 24-Nov-2017 00:00 | 24-Nov-2017 00:00 | 24-Nov-2017 00:00 | 24-Nov-2017 00:00 | 24-Nov-2017 00:00 |
| Compound | CAS Number | LOR | Unit | | ES1729769-001 | ES1729769-002 | ES1729769-003 | ES1729769-004 | ES1729769-005 |
| | | | | | Result | Result | Result | Result | Result |
| EP080: BTEXN - Continued | | | | | | | | | |
| ^ Sum of BTEX | ---- | 0.2 | mg/kg | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| ^ Total Xylenes | 1330-20-7 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Naphthalene | 91-20-3 | 1 | mg/kg | | <1 | <1 | <1 | <1 | <1 |
| EP066S: PCB Surrogate | | | | | | | | | |
| Decachlorobiphenyl | 2051-24-3 | 0.1 | % | | 109 | 104 | 117 | 111 | 103 |
| EP068S: Organochlorine Pesticide Surrogate | | | | | | | | | |
| Dibromo-DDE | 21655-73-2 | 0.05 | % | | 104 | 92.9 | 112 | 104 | 88.1 |
| EP068T: Organophosphorus Pesticide Surrogate | | | | | | | | | |
| DEF | 78-48-8 | 0.05 | % | | 111 | 68.3 | 65.7 | 91.8 | 73.3 |
| EP075(SIM)S: Phenolic Compound Surrogates | | | | | | | | | |
| Phenol-d6 | 13127-88-3 | 0.5 | % | | 90.8 | 101 | 88.2 | 94.7 | 96.2 |
| 2-Chlorophenol-D4 | 93951-73-6 | 0.5 | % | | 92.2 | 103 | 89.2 | 95.9 | 97.0 |
| 2,4,6-Tribromophenol | 118-79-6 | 0.5 | % | | 79.1 | 90.2 | 77.2 | 83.6 | 81.6 |
| EP075(SIM)T: PAH Surrogates | | | | | | | | | |
| 2-Fluorobiphenyl | 321-60-8 | 0.5 | % | | 96.5 | 107 | 94.4 | 101 | 102 |
| Anthracene-d10 | 1719-06-8 | 0.5 | % | | 93.7 | 104 | 91.8 | 98.3 | 98.9 |
| 4-Terphenyl-d14 | 1718-51-0 | 0.5 | % | | 86.3 | 94.8 | 84.2 | 91.3 | 92.4 |
| EP080S: TPH(V)/BTEX Surrogates | | | | | | | | | |
| 1,2-Dichloroethane-D4 | 17060-07-0 | 0.2 | % | | 96.5 | 93.8 | 97.7 | 90.4 | 91.6 |
| Toluene-D8 | 2037-26-5 | 0.2 | % | | 112 | 101 | 108 | 100 | 102 |
| 4-Bromofluorobenzene | 460-00-4 | 0.2 | % | | 108 | 102 | 108 | 101 | 103 |



Analytical Results

| Sub-Matrix: SOIL (Matrix: SOIL) | | | | Client sample ID | 45880-6 | 45880-7 | 45880-8 | 45880-9 | 45880-10 |
|---|------------|------|--------|------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Client sampling date / time | | | | | 24-Nov-2017 00:00 | 24-Nov-2017 00:00 | 24-Nov-2017 00:00 | 24-Nov-2017 00:00 | 24-Nov-2017 00:00 |
| Compound | CAS Number | LOR | Unit | | ES1729769-006 | ES1729769-007 | ES1729769-008 | ES1729769-009 | ES1729769-010 |
| | | | | Result | Result | Result | Result | Result | Result |
| EA055: Moisture Content (Dried @ 105-110°C) | | | | | | | | | |
| Moisture Content | ---- | 1.0 | % | | 7.0 | 13.8 | 6.6 | 4.8 | 9.5 |
| EA200: AS 4964 - 2004 Identification of Asbestos in bulk samples | | | | | | | | | |
| Asbestos (Trace) | 1332-21-4 | 5 | Fibres | ---- | ---- | No | ---- | ---- | ---- |
| EA200: AS 4964 - 2004 Identification of Asbestos in Soils | | | | | | | | | |
| Asbestos Detected | 1332-21-4 | 0.1 | g/kg | ---- | ---- | No | ---- | ---- | ---- |
| Asbestos Type | 1332-21-4 | - | -- | ---- | ---- | - | ---- | ---- | ---- |
| Sample weight (dry) | ---- | 0.01 | g | ---- | ---- | 19.0 | ---- | ---- | ---- |
| APPROVED IDENTIFIER: | ---- | - | -- | ---- | ---- | C.OWLER | ---- | ---- | ---- |
| EG005T: Total Metals by ICP-AES | | | | | | | | | |
| Arsenic | 7440-38-2 | 5 | mg/kg | <5 | 6 | 6 | <5 | 5 | |
| Cadmium | 7440-43-9 | 1 | mg/kg | <1 | <1 | <1 | <1 | <1 | |
| Chromium | 7440-47-3 | 2 | mg/kg | 13 | 14 | 6 | 6 | 13 | |
| Copper | 7440-50-8 | 5 | mg/kg | 14 | 15 | 15 | 6 | 14 | |
| Lead | 7439-92-1 | 5 | mg/kg | 14 | 14 | 12 | 7 | 15 | |
| Nickel | 7440-02-0 | 2 | mg/kg | 9 | 15 | 10 | 5 | 11 | |
| Zinc | 7440-66-6 | 5 | mg/kg | 54 | 41 | 55 | 21 | 79 | |
| EG035T: Total Recoverable Mercury by FIMS | | | | | | | | | |
| Mercury | 7439-97-6 | 0.1 | mg/kg | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | |
| EP066: Polychlorinated Biphenyls (PCB) | | | | | | | | | |
| Total Polychlorinated biphenyls | ---- | 0.1 | mg/kg | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | |
| EP068A: Organochlorine Pesticides (OC) | | | | | | | | | |
| alpha-BHC | 319-84-6 | 0.05 | mg/kg | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | |
| Hexachlorobenzene (HCB) | 118-74-1 | 0.05 | mg/kg | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | |
| beta-BHC | 319-85-7 | 0.05 | mg/kg | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | |
| gamma-BHC | 58-89-9 | 0.05 | mg/kg | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | |
| delta-BHC | 319-86-8 | 0.05 | mg/kg | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | |
| Heptachlor | 76-44-8 | 0.05 | mg/kg | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | |
| Aldrin | 309-00-2 | 0.05 | mg/kg | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | |
| Heptachlor epoxide | 1024-57-3 | 0.05 | mg/kg | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | |
| ^ Total Chlordane (sum) | ---- | 0.05 | mg/kg | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | |
| trans-Chlordane | 5103-74-2 | 0.05 | mg/kg | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | |
| alpha-Endosulfan | 959-98-8 | 0.05 | mg/kg | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | |
| cis-Chlordane | 5103-71-9 | 0.05 | mg/kg | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | |
| Dieldrin | 60-57-1 | 0.05 | mg/kg | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | |

Chain of Custody

CoC N° 25133

QUOTE N° sy60713

SESL PO #

BATCH N°

45880
REPORTING REQUIREMENTS

 REPORT FORMAT: ☐ Hardcopy (mail) ☒ Email PDF ☒ Email Excel ☐ Fax

SEND REPORT TO: Harrison Leake subsamples@sesl.com.au

CC TO: Andrew Jacovides andrewj@sesl.com.au

URGENCY REQ'D: Normal

 DATE
REQ'D

 Fri, 1 Dec 2017
By 4pm

RELINQUISHED BY:

NAME: SESL Sample Receipt

OF: SESL Australia

DATE: 24-11-17

TIME: 12:00

DISPATCH TO:

Jennifer Cullen

ALS Laboratory Group

**277-289 Woodpark Rd
Smithfield NSW 2164**

| SAMPLE DESCRIPTION | | DATE SAMPLED | MATRIX | TEMP °C | PRES. | CONTAINER TYPE* N° | | ANALYSIS REQUIRED |
|--------------------------|----|--------------|--------|---------|-------|-----------------------|---|-------------------|
| 1: 45880 - BH1 Surface | 1 | 24/11/2017 | Soil | 19.20 | Ice | G | 1 | 1 - S-16 |
| 2: 45880 - BH2 Surface | 2 | 24/11/2017 | Soil | | | | 1 | 2 - S-16 |
| 3: 45880 - BH3 Surface | 3 | 24/11/2017 | Soil | | | | 1 | 3 - S-16 |
| 4: 45880 - BH4 Surface | 4 | 24/11/2017 | Soil | | | | 1 | 4 - S-16 |
| 5: 45880 - BH4 300-400 | 5 | 24/11/2017 | Soil | | | | 1 | 5 - S-16 |
| 6: 45880 - BH5 Surface | 6 | 24/11/2017 | Soil | | | | 1 | 6 - S-16 |
| 7: 45880 - BH6 Surface | 7 | 24/11/2017 | Soil | | | | 1 | 7 - S-16 |
| 8: 45880 - BH7 Surface | 8 | 24/11/2017 | S | | | | 1 | 8 - S-16, EA200 |
| 9: 45880 - BH7 300-400 | 9 | 24/11/2017 | S | | | | 1 | 9 - S-16 |
| 10: 45880 - BH8 Surface | 10 | 24/11/2017 | S | | | | 1 | 10 - S-16 |
| 11: 45880 - BH9 Surface | 11 | 24/11/2017 | S | | | | 1 | 11 - S-16, EA200 |
| 12: 45880 - BH10 Surface | 12 | 24/11/2017 | S | | | | 1 | 12 - S-16, EA200 |
| 13: 45880 - BH11 Surface | 13 | 24/11/2017 | S | | | | 1 | 13 - S-16, EA200 |
| 14: 45880 - BH12 Surface | 14 | 24/11/2017 | S | | | | 1 | 14 - S-16, EA200 |
| 15: 45880 - BH13 Surface | 15 | 24/11/2017 | S | | | | 1 | 15 - S-16 |
| 16: 45880 - BH14 Surface | 16 | 24/11/2017 | S | | | | 1 | 16 - S-16 |
| 17: 45880 - BH15 Surface | 17 | 24/11/2017 | S | | | | 1 | 17 - S-16 |
| 18: 45880 - BH16 Surface | 18 | 24/11/2017 | So. | | | | 1 | 18 - S-16 |
| 19: 45880 - BH17 Surface | 19 | 24/11/2017 | Soil | | | | 1 | 19 - S-16 |
| 20: 45880 - BH18 Surface | 20 | 24/11/2017 | Soil | | | | 1 | 20 - S-16 |

 Environmental Division
 Sydney
 Work Order Reference
ES1729769


Telephone: +61-2-8784 6555

 Subson / Forward Lab / Split / N.O
 Lab / Analysis: -----
 Organised By / Date: *Asbestos*
 Relinquished By / Date: *Newcat*
 Connote / Courier: -----
 WO N°: -----
 Attach By PO / Internal Sheet: -----

ALL WATER FOR METALS, OCP/OPP LOW LEVEL in ug/L

| | | | | |
|---|--|--|--|---|
| RECEIVED BY: NAME: <i>Soil / Asbestos</i> COMPANY: <i>As</i> | | DATE: <i>24/11/17</i> TIME: <i>1800</i> | SAMPLE CONDITION: SAMPLE CONTAINERS: <input checked="" type="checkbox"/> Intact <input type="checkbox"/> Broken TEMPERATURE: <input type="checkbox"/> Cold <input checked="" type="checkbox"/> Room <input type="checkbox"/> Other <i>8.8 C</i> | *Containers Guide Bo1 Bottle, amber glass G Glass jar Bo2 Bottle, plastic S Stereo Bg1 Bag, plastic V Vial Bg2 Bag, paper O Other |
|---|--|--|--|---|

Chain of Custody

CoC N° 25134

QUOTE N° sy60713

SES PO #

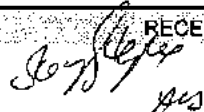
BATCH N°

45880

| REPORTING REQUIREMENTS | | | | | | RELINQUISHED BY | | DISPATCH TO: | |
|------------------------|---|------------|--|---------------------------|--|---------------------------|--|----------------------|--|
| REPORT FORMAT: | <input type="checkbox"/> Hardcopy (mail) <input checked="" type="checkbox"/> Email PDF <input checked="" type="checkbox"/> Email Excel <input type="checkbox"/> Fax | | | | | NAME: SESL Sample Receipt | | Jennifer Cullen | |
| SEND REPORT TO: | Harrison Leake subsamples@sesl.com.au | | | | | OF: SESL Australia | | ALS Laboratory Group | |
| CC TO: | Andrew Jacovides andrewj@sesl.com.au | | | | | DATE: 24-11-17 | | 277-289 Woodpark Rd | |
| URGENCY REQ'D: | Normal | | | | | TIME: 12:00 | | Smithfield NSW 2164 | |
| | | DATE REQ'D | | Fri, 1 Dec 2017 By 4pm | | | | | |

| SAMPLE DESCRIPTION | DATE SAMPLED | MATRIX | TEMP °C | PRES. | CONTAINER TYPE | ANALYSIS REQUIRED |
|---------------------------|--------------|------------|---------|-------|----------------|--------------------|
| 21 : 45880 - BH18 300-400 | 21 | 24/11/2017 | Soil | 19.20 | Ice | G 1 21 - S-16 |
| 22 : 45880 - BH19 Surface | 22 | 24/11/2017 | Soil | | | 1 22 - S-16 |
| 23 : 45880 - BH19 300-400 | 23 | 24/11/2017 | Soil | | | 1 23 - S-16 |
| 24 : 45880 - BH20 Surface | 24 | 24/11/2017 | Soil | | | 1 24 - S-16 |
| 25 : 45880 - BH20 300-400 | 25 | 24/11/2017 | Soil | | | 1 25 - S-16 |
| 26 : 45880 - QA1 | 26 | 24/11/2017 | Soil | | | 1 26 - S-16 |
| 27 : 45880 - QA2 | 27 | 24/11/2017 | Soil | | | 1 27 - S-16, EA200 |
| 28 : 45880 - QA3 | 28 | 24/11/2017 | Soil | | | 1 28 - S-16 |

ALL WATER FOR METALS, OCP/OPP LOW LEVEL in ug/L

| | | | | |
|--|----------------|---|--|--|
| RECEIVED BY:  | | SAMPLE CONDITION | | *Containers Guide B01 Bottle, amber glass G Glass jar B02 Bottle, plastic S Sterile Bg1 Bag, plastic V Vial Bg2 Bag, paper O Other |
| NAME: | DATE: 24/11/17 | SAMPLE CONTAINERS: <input checked="" type="checkbox"/> Intact <input type="checkbox"/> Broken | | |
| COMPANY: | TIME: 1800 | TEMPERATURE: <input type="checkbox"/> Cold <input type="checkbox"/> Room <input checked="" type="checkbox"/> Other 8-8C | | |

CERTIFICATE OF ANALYSIS

Work Order : **ES1729769**
Client : **SESL Australia Pty Ltd**
Contact : Harrison Leake (SUBSAMPLES)
Address : PO BOX 357
PENNANT HILLS NSW, AUSTRALIA 1715
Telephone : +61 02 9980 6554
Project : 45880
Order number : ----
C-O-C number : 25133
Sampler : ----
Site : ----
Quote number : SYBQ/259/16
No. of samples received : 28
No. of samples analysed : 28

Page : 1 of 28
Laboratory : Environmental Division Sydney
Contact : Customer Services ES
Address : 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone : +61-2-8784 8555
Date Samples Received : 24-Nov-2017 18:00
Date Analysis Commenced : 27-Nov-2017
Issue Date : 01-Dec-2017 17:24



This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Descriptive Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

| <i>Signatories</i> | <i>Position</i> | <i>Accreditation Category</i> |
|--------------------|--------------------------|--|
| Alex Rossi | Organic Chemist | Sydney Organics, Smithfield, NSW |
| Celine Conceicao | Senior Spectroscopist | Sydney Inorganics, Smithfield, NSW |
| Christopher Owler | Team Leader - Asbestos | Newcastle - Asbestos, Mayfield West, NSW |
| Edwandy Fadjjar | Organic Coordinator | Sydney Inorganics, Smithfield, NSW |
| Edwandy Fadjjar | Organic Coordinator | Sydney Organics, Smithfield, NSW |
| Sanjeshni Jyoti | Senior Chemist Volatiles | Sydney Organics, Smithfield, NSW |



General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contact for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.

LOR = Limit of reporting

^ = This result is computed from individual analyte detections at or above the level of reporting

Ø = ALS is not NATA accredited for these tests.

~ = Indicates an estimated value.

- EP068: Positive result has been confirmed by re-extraction and re-analysis.
- EA200 'Am' Amosite (brown asbestos)
- EA200 'Cr' Crocidolite (blue asbestos)
- EA200 'Trace' - Asbestos fibres ("Free Fibres") detected by trace analysis per AS4964. The result can be interpreted that the sample contains detectable 'respirable' asbestos fibres
- EA200: Asbestos Identification Samples were analysed by Polarised Light Microscopy including dispersion staining.
- EA200 Legend
- EA200 'Ch' Chrysotile (white asbestos)
- EA200: 'UMF' Unknown Mineral Fibres. "-" indicates fibres detected may or may not be asbestos fibres. Confirmation by alternative techniques is recommended.
- EA200: Negative results for vinyl tiles should be confirmed by an independent analytical technique.
- Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenzo(a,h)anthracene (1.0), Benzo(g,h,i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero, for 'TEQ 1/2LOR' are treated as half the reported LOR, and for 'TEQ LOR' are treated as being equal to the reported LOR.
Note: TEQ 1/2LOR and TEQ LOR will calculate as 0.6mg/Kg and 1.2mg/Kg respectively for samples with non-detects for all of the eight TEQ PAHs.
- EA200: For samples larger than 30g, the <2mm fraction may be sub-sampled prior to trace analysis as outlined in ISO23909:2008(E) Sect 6.3.2-2
- EA200: 'Yes' - Asbestos detected by polarised light microscopy including dispersion staining.
- EA200: 'No*' - No asbestos found, at the reporting limit of 0.1g/kg, by polarised light microscopy including dispersion staining. Asbestos material was detected and positively identified at concentrations estimated to be below 0.1g/kg.
- EA200: 'No' - No asbestos found at the reporting limit 0.1g/kg, by polarised light microscopy including dispersion staining.



Analytical Results

| Sub-Matrix: SOIL (Matrix: SOIL) | | | | Client sample ID | 45880-1 | 45880-2 | 45880-3 | 45880-4 | 45880-5 |
|--|------------|------|-------|------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Client sampling date / time | | | | | 24-Nov-2017 00:00 | 24-Nov-2017 00:00 | 24-Nov-2017 00:00 | 24-Nov-2017 00:00 | 24-Nov-2017 00:00 |
| Compound | CAS Number | LOR | Unit | | ES1729769-001 | ES1729769-002 | ES1729769-003 | ES1729769-004 | ES1729769-005 |
| | | | | | Result | Result | Result | Result | Result |
| EA055: Moisture Content (Dried @ 105-110°C) | | | | | | | | | |
| Moisture Content | ---- | 1.0 | % | | 9.2 | 13.5 | 9.7 | 14.6 | 19.4 |
| EG005T: Total Metals by ICP-AES | | | | | | | | | |
| Arsenic | 7440-38-2 | 5 | mg/kg | | 5 | <5 | 6 | 8 | 7 |
| Cadmium | 7440-43-9 | 1 | mg/kg | | <1 | <1 | <1 | <1 | <1 |
| Chromium | 7440-47-3 | 2 | mg/kg | | 12 | 16 | 11 | 15 | 16 |
| Copper | 7440-50-8 | 5 | mg/kg | | 15 | 15 | 14 | 20 | 19 |
| Lead | 7439-92-1 | 5 | mg/kg | | 22 | 14 | 12 | 13 | 14 |
| Nickel | 7440-02-0 | 2 | mg/kg | | 12 | 13 | 11 | 18 | 19 |
| Zinc | 7440-66-6 | 5 | mg/kg | | 108 | 42 | 46 | 42 | 44 |
| EG035T: Total Recoverable Mercury by FIMS | | | | | | | | | |
| Mercury | 7439-97-6 | 0.1 | mg/kg | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| EP066: Polychlorinated Biphenyls (PCB) | | | | | | | | | |
| Total Polychlorinated biphenyls | ---- | 0.1 | mg/kg | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| EP068A: Organochlorine Pesticides (OC) | | | | | | | | | |
| alpha-BHC | 319-84-6 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Hexachlorobenzene (HCB) | 118-74-1 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| beta-BHC | 319-85-7 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| gamma-BHC | 58-89-9 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| delta-BHC | 319-86-8 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Heptachlor | 76-44-8 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Aldrin | 309-00-2 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Heptachlor epoxide | 1024-57-3 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| ^ Total Chlordane (sum) | ---- | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| trans-Chlordane | 5103-74-2 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| alpha-Endosulfan | 959-98-8 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| cis-Chlordane | 5103-71-9 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Dieldrin | 60-57-1 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| 4,4'-DDE | 72-55-9 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Endrin | 72-20-8 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| beta-Endosulfan | 33213-65-9 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| ^ Endosulfan (sum) | 115-29-7 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| 4,4'-DDD | 72-54-8 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Endrin aldehyde | 7421-93-4 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Endosulfan sulfate | 1031-07-8 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |



Analytical Results

| Sub-Matrix: SOIL (Matrix: SOIL) | | | | Client sample ID | 45880-1 | 45880-2 | 45880-3 | 45880-4 | 45880-5 |
|---|--------------------------|------|-------|------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Client sampling date / time | | | | | 24-Nov-2017 00:00 | 24-Nov-2017 00:00 | 24-Nov-2017 00:00 | 24-Nov-2017 00:00 | 24-Nov-2017 00:00 |
| Compound | CAS Number | LOR | Unit | | ES1729769-001 | ES1729769-002 | ES1729769-003 | ES1729769-004 | ES1729769-005 |
| | | | | | Result | Result | Result | Result | Result |
| EP068A: Organochlorine Pesticides (OC) - Continued | | | | | | | | | |
| 4,4'-DDT | 50-29-3 | 0.2 | mg/kg | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| Endrin ketone | 53494-70-5 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Methoxychlor | 72-43-5 | 0.2 | mg/kg | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| ^ Sum of Aldrin + Dieldrin | 309-00-2/60-57-1 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| ^ Sum of DDD + DDE + DDT | 72-54-8/72-55-9/5 0-2 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| EP068B: Organophosphorus Pesticides (OP) | | | | | | | | | |
| Dichlorvos | 62-73-7 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Demeton-S-methyl | 919-86-8 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Monocrotophos | 6923-22-4 | 0.2 | mg/kg | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| Dimethoate | 60-51-5 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Diazinon | 333-41-5 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Chlorpyrifos-methyl | 5598-13-0 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Parathion-methyl | 298-00-0 | 0.2 | mg/kg | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| Malathion | 121-75-5 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Fenthion | 55-38-9 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Chlorpyrifos | 2921-88-2 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Parathion | 56-38-2 | 0.2 | mg/kg | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| Pirimphos-ethyl | 23505-41-1 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Chlorfenvinphos | 470-90-6 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Bromophos-ethyl | 4824-78-6 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Fenamiphos | 22224-92-6 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Prothiofos | 34643-46-4 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Ethion | 563-12-2 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Carbophenothion | 786-19-6 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Azinphos Methyl | 86-50-0 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| EP075(SIM)B: Polynuclear Aromatic Hydrocarbons | | | | | | | | | |
| Naphthalene | 91-20-3 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Acenaphthylene | 208-96-8 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Acenaphthene | 83-32-9 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Fluorene | 86-73-7 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Phenanthrene | 85-01-8 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Anthracene | 120-12-7 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Fluoranthene | 206-44-0 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Pyrene | 129-00-0 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |



Analytical Results

Sub-Matrix: SOIL
 (Matrix: SOIL)

Client sample ID

| | | | | 45880-1 | 45880-2 | 45880-3 | 45880-4 | 45880-5 |
|--|-------------------|-----|-------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Client sampling date / time | | | | 24-Nov-2017 00:00 | 24-Nov-2017 00:00 | 24-Nov-2017 00:00 | 24-Nov-2017 00:00 | 24-Nov-2017 00:00 |
| Compound | CAS Number | LOR | Unit | ES1729769-001 | ES1729769-002 | ES1729769-003 | ES1729769-004 | ES1729769-005 |
| | | | | Result | Result | Result | Result | Result |
| EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued | | | | | | | | |
| Benz(a)anthracene | 56-55-3 | 0.5 | mg/kg | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Chrysene | 218-01-9 | 0.5 | mg/kg | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Benzo(b+j)fluoranthene | 205-99-2 205-82-3 | 0.5 | mg/kg | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Benzo(k)fluoranthene | 207-08-9 | 0.5 | mg/kg | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Benzo(a)pyrene | 50-32-8 | 0.5 | mg/kg | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Indeno(1.2.3.cd)pyrene | 193-39-5 | 0.5 | mg/kg | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Dibenz(a,h)anthracene | 53-70-3 | 0.5 | mg/kg | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Benzo(g,h,i)perylene | 191-24-2 | 0.5 | mg/kg | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| ^ Sum of polycyclic aromatic hydrocarbons | ---- | 0.5 | mg/kg | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| ^ Benzo(a)pyrene TEQ (zero) | ---- | 0.5 | mg/kg | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| ^ Benzo(a)pyrene TEQ (half LOR) | ---- | 0.5 | mg/kg | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 |
| ^ Benzo(a)pyrene TEQ (LOR) | ---- | 0.5 | mg/kg | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 |
| EP080/071: Total Petroleum Hydrocarbons | | | | | | | | |
| C6 - C9 Fraction | ---- | 10 | mg/kg | <10 | <10 | <10 | <10 | <10 |
| C10 - C14 Fraction | ---- | 50 | mg/kg | <50 | <50 | <50 | <50 | <50 |
| C15 - C28 Fraction | ---- | 100 | mg/kg | <100 | <100 | <100 | <100 | <100 |
| C29 - C36 Fraction | ---- | 100 | mg/kg | <100 | <100 | <100 | <100 | <100 |
| ^ C10 - C36 Fraction (sum) | ---- | 50 | mg/kg | <50 | <50 | <50 | <50 | <50 |
| EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions | | | | | | | | |
| C6 - C10 Fraction | C6_C10 | 10 | mg/kg | <10 | <10 | <10 | <10 | <10 |
| ^ C6 - C10 Fraction minus BTEX (F1) | C6_C10-BTEX | 10 | mg/kg | <10 | <10 | <10 | <10 | <10 |
| >C10 - C16 Fraction | ---- | 50 | mg/kg | <50 | <50 | <50 | <50 | <50 |
| >C16 - C34 Fraction | ---- | 100 | mg/kg | <100 | <100 | <100 | <100 | <100 |
| >C34 - C40 Fraction | ---- | 100 | mg/kg | <100 | <100 | <100 | <100 | <100 |
| ^ >C10 - C40 Fraction (sum) | ---- | 50 | mg/kg | <50 | <50 | <50 | <50 | <50 |
| ^ >C10 - C16 Fraction minus Naphthalene (F2) | ---- | 50 | mg/kg | <50 | <50 | <50 | <50 | <50 |
| EP080: BTEXN | | | | | | | | |
| Benzene | 71-43-2 | 0.2 | mg/kg | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| Toluene | 108-88-3 | 0.5 | mg/kg | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Ethylbenzene | 100-41-4 | 0.5 | mg/kg | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| meta- & para-Xylene | 108-38-3 106-42-3 | 0.5 | mg/kg | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| ortho-Xylene | 95-47-6 | 0.5 | mg/kg | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |



Analytical Results

| Sub-Matrix: SOIL (Matrix: SOIL) | | | | Client sample ID | 45880-1 | 45880-2 | 45880-3 | 45880-4 | 45880-5 |
|---|------------|------|-------|------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Client sampling date / time | | | | | 24-Nov-2017 00:00 | 24-Nov-2017 00:00 | 24-Nov-2017 00:00 | 24-Nov-2017 00:00 | 24-Nov-2017 00:00 |
| Compound | CAS Number | LOR | Unit | | ES1729769-001 | ES1729769-002 | ES1729769-003 | ES1729769-004 | ES1729769-005 |
| | | | | | Result | Result | Result | Result | Result |
| EP080: BTEXN - Continued | | | | | | | | | |
| ^ Sum of BTEX | ---- | 0.2 | mg/kg | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| ^ Total Xylenes | 1330-20-7 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Naphthalene | 91-20-3 | 1 | mg/kg | | <1 | <1 | <1 | <1 | <1 |
| EP066S: PCB Surrogate | | | | | | | | | |
| Decachlorobiphenyl | 2051-24-3 | 0.1 | % | | 109 | 104 | 117 | 111 | 103 |
| EP068S: Organochlorine Pesticide Surrogate | | | | | | | | | |
| Dibromo-DDE | 21655-73-2 | 0.05 | % | | 104 | 92.9 | 112 | 104 | 88.1 |
| EP068T: Organophosphorus Pesticide Surrogate | | | | | | | | | |
| DEF | 78-48-8 | 0.05 | % | | 111 | 68.3 | 65.7 | 91.8 | 73.3 |
| EP075(SIM)S: Phenolic Compound Surrogates | | | | | | | | | |
| Phenol-d6 | 13127-88-3 | 0.5 | % | | 90.8 | 101 | 88.2 | 94.7 | 96.2 |
| 2-Chlorophenol-D4 | 93951-73-6 | 0.5 | % | | 92.2 | 103 | 89.2 | 95.9 | 97.0 |
| 2,4,6-Tribromophenol | 118-79-6 | 0.5 | % | | 79.1 | 90.2 | 77.2 | 83.6 | 81.6 |
| EP075(SIM)T: PAH Surrogates | | | | | | | | | |
| 2-Fluorobiphenyl | 321-60-8 | 0.5 | % | | 96.5 | 107 | 94.4 | 101 | 102 |
| Anthracene-d10 | 1719-06-8 | 0.5 | % | | 93.7 | 104 | 91.8 | 98.3 | 98.9 |
| 4-Terphenyl-d14 | 1718-51-0 | 0.5 | % | | 86.3 | 94.8 | 84.2 | 91.3 | 92.4 |
| EP080S: TPH(V)/BTEX Surrogates | | | | | | | | | |
| 1,2-Dichloroethane-D4 | 17060-07-0 | 0.2 | % | | 96.5 | 93.8 | 97.7 | 90.4 | 91.6 |
| Toluene-D8 | 2037-26-5 | 0.2 | % | | 112 | 101 | 108 | 100 | 102 |
| 4-Bromofluorobenzene | 460-00-4 | 0.2 | % | | 108 | 102 | 108 | 101 | 103 |

Chain of Custody

CoC N° 25133

QUOTE N° sy60713

SESL PO #

BATCH N°

45880

REPORTING REQUIREMENTS

 REPORT FORMAT: ☐ Hardcopy (mail) ☒ Email PDF ☒ Email Excel ☐ Fax

SEND REPORT TO: Harrison Leake subsamples@sesl.com.au

CC TO: Andrew Jacovides andrewj@sesl.com.au

URGENCY REQ'D: Normal

DATE REQ'D

 Fri, 1 Dec 2017
By 4pm

RELINQUISHED BY:

NAME: SESL Sample Receipt

OF: SESL Australia

DATE: 24-11-17

TIME: 12:00

DISPATCH TO:

Jennifer Cullen

ALS Laboratory Group

 277-289 Woodpark Rd
Smithfield NSW 2164

| SAMPLE DESCRIPTION | | DATE SAMPLED | MATRIX | TEMP °C | PRES. | CONTAINER TYPE* | N° | ANALYSIS REQUIRED |
|--------------------------|----|--------------|--------|---------|-------|-----------------|----|-------------------|
| 1: 45880 - BH1 Surface | 1 | 24/11/2017 | Soil | 19.20 | Ice | G | 1 | 1 - S-16 |
| 2: 45880 - BH2 Surface | 2 | 24/11/2017 | Soil | | | | 1 | 2 - S-16 |
| 3: 45880 - BH3 Surface | 3 | 24/11/2017 | Soil | | | | 1 | 3 - S-16 |
| 4: 45880 - BH4 Surface | 4 | 24/11/2017 | Soil | | | | 1 | 4 - S-16 |
| 5: 45880 - BH4 300-400 | 5 | 24/11/2017 | Soil | | | | 1 | 5 - S-16 |
| 6: 45880 - BH5 Surface | 6 | 24/11/2017 | Soil | | | | 1 | 6 - S-16 |
| 7: 45880 - BH6 Surface | 7 | 24/11/2017 | Soil | | | | 1 | 7 - S-16 |
| 8: 45880 - BH7 Surface | 8 | 24/11/2017 | S | | | | 1 | 8 - S-16, EA200 |
| 9: 45880 - BH7 300-400 | 9 | 24/11/2017 | S | | | | 1 | 9 - S-16 |
| 10: 45880 - BH8 Surface | 10 | 24/11/2017 | S | | | | 1 | 10 - S-16 |
| 11: 45880 - BH9 Surface | 11 | 24/11/2017 | S | | | | 1 | 11 - S-16, EA200 |
| 12: 45880 - BH10 Surface | 12 | 24/11/2017 | S | | | | 1 | 12 - S-16, EA200 |
| 13: 45880 - BH11 Surface | 13 | 24/11/2017 | S | | | | 1 | 13 - S-16, EA200 |
| 14: 45880 - BH12 Surface | 14 | 24/11/2017 | S | | | | 1 | 14 - S-16, EA200 |
| 15: 45880 - BH13 Surface | 15 | 24/11/2017 | S | | | | 1 | 15 - S-16 |
| 16: 45880 - BH14 Surface | 16 | 24/11/2017 | S | | | | 1 | 16 - S-16 |
| 17: 45880 - BH15 Surface | 17 | 24/11/2017 | S | | | | 1 | 17 - S-16 |
| 18: 45880 - BH16 Surface | 18 | 24/11/2017 | So. | | | | 1 | 18 - S-16 |
| 19: 45880 - BH17 Surface | 19 | 24/11/2017 | Soil | | | | 1 | 19 - S-16 |
| 20: 45880 - BH18 Surface | 20 | 24/11/2017 | Soil | | | | 1 | 20 - S-16 |

 Environmental Division
Sydney

 Work Order Reference
ES1729769


Telephone: +61-2-8784 6555

Subson / Forward Lab / Split / N.O

Lab / Analysis:

 Organised By / Date: *Asbestos*

 Relinquished By / Date: *Newcat*

Connote / Courier:

WO N°:

Attach By PO / Internal Sheet:

ALL WATER FOR METALS, OCP/OPP LOW LEVEL in ug/L

| | | | | | |
|---|-------------|--|-----------------|--|--|
| RECEIVED BY: | | SAMPLE CONDITION: | | *Containers Guide Bo1 Bottle, amber glass G Glass jar Bo2 Bottle, plastic S Stereo Bg1 Bag, plastic V Vial Bg2 Bag, paper O Other | |
| NAME: | <i>Soil</i> | DATE: | <i>24/11/17</i> | | |
| COMPANY: | <i>As</i> | TIME: | <i>1800</i> | | |
| SAMPLE CONTAINERS: <input checked="" type="checkbox"/> Intact <input type="checkbox"/> Broken | | TEMPERATURE: <input type="checkbox"/> Cold <input checked="" type="checkbox"/> Room <input type="checkbox"/> Other | | <i>8.8 C</i> | |
| | | | | | |
| | | | | | |

Chain of Custody

CoC N° 25134

QUOTE N° sy60713

SES PO #

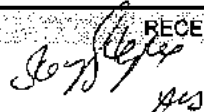
BATCH N°

45880

| REPORTING REQUIREMENTS | | | | | | RELINQUISHED BY | | DISPATCH TO: | |
|------------------------|---|------------|--|---------------------------|--|---------------------------|--|----------------------|--|
| REPORT FORMAT: | <input type="checkbox"/> Hardcopy (mail) <input checked="" type="checkbox"/> Email PDF <input checked="" type="checkbox"/> Email Excel <input type="checkbox"/> Fax | | | | | NAME: SESL Sample Receipt | | Jennifer Cullen | |
| SEND REPORT TO: | Harrison Leake subsamples@sesl.com.au | | | | | OF: SESL Australia | | ALS Laboratory Group | |
| CC TO: | Andrew Jacovides andrewj@sesl.com.au | | | | | DATE: 24-11-17 | | 277-289 Woodpark Rd | |
| URGENCY REQ'D: | Normal | | | | | TIME: 12:00 | | Smithfield NSW 2164 | |
| | | DATE REQ'D | | Fri, 1 Dec 2017 By 4pm | | | | | |

| SAMPLE DESCRIPTION | DATE SAMPLED | MATRIX | TEMP °C | PRES. | CONTAINER TYPE | ANALYSIS REQUIRED |
|---------------------------|--------------|------------|---------|-------|----------------|--------------------|
| 21 : 45880 - BH18 300-400 | 21 | 24/11/2017 | Soil | 19.20 | Ice | G 1 21 - S-16 |
| 22 : 45880 - BH19 Surface | 22 | 24/11/2017 | Soil | | | 1 22 - S-16 |
| 23 : 45880 - BH19 300-400 | 23 | 24/11/2017 | Soil | | | 1 23 - S-16 |
| 24 : 45880 - BH20 Surface | 24 | 24/11/2017 | Soil | | | 1 24 - S-16 |
| 25 : 45880 - BH20 300-400 | 25 | 24/11/2017 | Soil | | | 1 25 - S-16 |
| 26 : 45880 - QA1 | 26 | 24/11/2017 | Soil | | | 1 26 - S-16 |
| 27 : 45880 - QA2 | 27 | 24/11/2017 | Soil | | | 1 27 - S-16, EA200 |
| 28 : 45880 - QA3 | 28 | 24/11/2017 | Soil | | | 1 28 - S-16 |

ALL WATER FOR METALS, OCP/OPP LOW LEVEL in ug/L

| | | | | |
|--|----------------|---|--|---|
| RECEIVED BY:  | | SAMPLE CONDITION | | *Containers Guide B01 Bottle, amber glass G Glass jar B02 Bottle, plastic S Sterile Bg1 Bag, plastic V Vial Bg2 Bag, paper O Other |
| NAME: | DATE: 24/11/17 | SAMPLE CONTAINERS: <input checked="" type="checkbox"/> Intact <input type="checkbox"/> Broken | | |
| COMPANY: | TIME: 1800 | TEMPERATURE: <input type="checkbox"/> Cold <input type="checkbox"/> Room <input checked="" type="checkbox"/> Other 8-8C | | |

CERTIFICATE OF ANALYSIS

Work Order : **ES1729769**
Client : **SESL Australia Pty Ltd**
Contact : Harrison Leake (SUBSAMPLES)
Address : PO BOX 357
 PENNANT HILLS NSW, AUSTRALIA 1715
Telephone : +61 02 9980 6554
Project : 45880
Order number : ----
C-O-C number : 25133
Sampler : ----
Site : ----
Quote number : SYBQ/259/16
No. of samples received : 28
No. of samples analysed : 28

Page : 1 of 28
Laboratory : Environmental Division Sydney
Contact : Customer Services ES
Address : 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone : +61-2-8784 8555
Date Samples Received : 24-Nov-2017 18:00
Date Analysis Commenced : 27-Nov-2017
Issue Date : 01-Dec-2017 17:24



Accreditation No. 825
 Accredited for compliance with
 ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Descriptive Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

| <i>Signatories</i> | <i>Position</i> | <i>Accreditation Category</i> |
|--------------------|--------------------------|--|
| Alex Rossi | Organic Chemist | Sydney Organics, Smithfield, NSW |
| Celine Conceicao | Senior Spectroscopist | Sydney Inorganics, Smithfield, NSW |
| Christopher Owler | Team Leader - Asbestos | Newcastle - Asbestos, Mayfield West, NSW |
| Edwandy Fadjjar | Organic Coordinator | Sydney Inorganics, Smithfield, NSW |
| Edwandy Fadjjar | Organic Coordinator | Sydney Organics, Smithfield, NSW |
| Sanjeshni Jyoti | Senior Chemist Volatiles | Sydney Organics, Smithfield, NSW |



General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contact for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.

LOR = Limit of reporting

^ = This result is computed from individual analyte detections at or above the level of reporting

Ø = ALS is not NATA accredited for these tests.

~ = Indicates an estimated value.

- EP068: Positive result has been confirmed by re-extraction and re-analysis.
- EA200 'Am' Amosite (brown asbestos)
- EA200 'Cr' Crocidolite (blue asbestos)
- EA200 'Trace' - Asbestos fibres ("Free Fibres") detected by trace analysis per AS4964. The result can be interpreted that the sample contains detectable 'respirable' asbestos fibres
- EA200: Asbestos Identification Samples were analysed by Polarised Light Microscopy including dispersion staining.
- EA200 Legend
- EA200 'Ch' Chrysotile (white asbestos)
- EA200: 'UMF' Unknown Mineral Fibres. "-" indicates fibres detected may or may not be asbestos fibres. Confirmation by alternative techniques is recommended.
- EA200: Negative results for vinyl tiles should be confirmed by an independent analytical technique.
- Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenzo(a,h)anthracene (1.0), Benzo(g,h,i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero, for 'TEQ 1/2LOR' are treated as half the reported LOR, and for 'TEQ LOR' are treated as being equal to the reported LOR.
Note: TEQ 1/2LOR and TEQ LOR will calculate as 0.6mg/Kg and 1.2mg/Kg respectively for samples with non-detects for all of the eight TEQ PAHs.
- EA200: For samples larger than 30g, the <2mm fraction may be sub-sampled prior to trace analysis as outlined in ISO23909:2008(E) Sect 6.3.2-2
- EA200: 'Yes' - Asbestos detected by polarised light microscopy including dispersion staining.
- EA200: 'No*' - No asbestos found, at the reporting limit of 0.1g/kg, by polarised light microscopy including dispersion staining. Asbestos material was detected and positively identified at concentrations estimated to be below 0.1g/kg.
- EA200: 'No' - No asbestos found at the reporting limit 0.1g/kg, by polarised light microscopy including dispersion staining.



Analytical Results

| Sub-Matrix: SOIL (Matrix: SOIL) | | | | Client sample ID | 45880-1 | 45880-2 | 45880-3 | 45880-4 | 45880-5 |
|--|------------|------|-------|------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Client sampling date / time | | | | | 24-Nov-2017 00:00 | 24-Nov-2017 00:00 | 24-Nov-2017 00:00 | 24-Nov-2017 00:00 | 24-Nov-2017 00:00 |
| Compound | CAS Number | LOR | Unit | | ES1729769-001 | ES1729769-002 | ES1729769-003 | ES1729769-004 | ES1729769-005 |
| | | | | | Result | Result | Result | Result | Result |
| EA055: Moisture Content (Dried @ 105-110°C) | | | | | | | | | |
| Moisture Content | ---- | 1.0 | % | | 9.2 | 13.5 | 9.7 | 14.6 | 19.4 |
| EG005T: Total Metals by ICP-AES | | | | | | | | | |
| Arsenic | 7440-38-2 | 5 | mg/kg | | 5 | <5 | 6 | 8 | 7 |
| Cadmium | 7440-43-9 | 1 | mg/kg | | <1 | <1 | <1 | <1 | <1 |
| Chromium | 7440-47-3 | 2 | mg/kg | | 12 | 16 | 11 | 15 | 16 |
| Copper | 7440-50-8 | 5 | mg/kg | | 15 | 15 | 14 | 20 | 19 |
| Lead | 7439-92-1 | 5 | mg/kg | | 22 | 14 | 12 | 13 | 14 |
| Nickel | 7440-02-0 | 2 | mg/kg | | 12 | 13 | 11 | 18 | 19 |
| Zinc | 7440-66-6 | 5 | mg/kg | | 108 | 42 | 46 | 42 | 44 |
| EG035T: Total Recoverable Mercury by FIMS | | | | | | | | | |
| Mercury | 7439-97-6 | 0.1 | mg/kg | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| EP066: Polychlorinated Biphenyls (PCB) | | | | | | | | | |
| Total Polychlorinated biphenyls | ---- | 0.1 | mg/kg | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| EP068A: Organochlorine Pesticides (OC) | | | | | | | | | |
| alpha-BHC | 319-84-6 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Hexachlorobenzene (HCB) | 118-74-1 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| beta-BHC | 319-85-7 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| gamma-BHC | 58-89-9 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| delta-BHC | 319-86-8 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Heptachlor | 76-44-8 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Aldrin | 309-00-2 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Heptachlor epoxide | 1024-57-3 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| ^ Total Chlordane (sum) | ---- | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| trans-Chlordane | 5103-74-2 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| alpha-Endosulfan | 959-98-8 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| cis-Chlordane | 5103-71-9 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Dieldrin | 60-57-1 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| 4,4'-DDE | 72-55-9 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Endrin | 72-20-8 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| beta-Endosulfan | 33213-65-9 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| ^ Endosulfan (sum) | 115-29-7 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| 4,4'-DDD | 72-54-8 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Endrin aldehyde | 7421-93-4 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Endosulfan sulfate | 1031-07-8 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |



Analytical Results

| Sub-Matrix: SOIL (Matrix: SOIL) | | | | Client sample ID | 45880-1 | 45880-2 | 45880-3 | 45880-4 | 45880-5 |
|---|--------------------------|------|-------|------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Client sampling date / time | | | | | 24-Nov-2017 00:00 | 24-Nov-2017 00:00 | 24-Nov-2017 00:00 | 24-Nov-2017 00:00 | 24-Nov-2017 00:00 |
| Compound | CAS Number | LOR | Unit | | ES1729769-001 | ES1729769-002 | ES1729769-003 | ES1729769-004 | ES1729769-005 |
| | | | | | Result | Result | Result | Result | Result |
| EP068A: Organochlorine Pesticides (OC) - Continued | | | | | | | | | |
| 4,4'-DDT | 50-29-3 | 0.2 | mg/kg | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| Endrin ketone | 53494-70-5 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Methoxychlor | 72-43-5 | 0.2 | mg/kg | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| ^ Sum of Aldrin + Dieldrin | 309-00-2/60-57-1 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| ^ Sum of DDD + DDE + DDT | 72-54-8/72-55-9/5 0-2 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| EP068B: Organophosphorus Pesticides (OP) | | | | | | | | | |
| Dichlorvos | 62-73-7 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Demeton-S-methyl | 919-86-8 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Monocrotophos | 6923-22-4 | 0.2 | mg/kg | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| Dimethoate | 60-51-5 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Diazinon | 333-41-5 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Chlorpyrifos-methyl | 5598-13-0 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Parathion-methyl | 298-00-0 | 0.2 | mg/kg | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| Malathion | 121-75-5 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Fenthion | 55-38-9 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Chlorpyrifos | 2921-88-2 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Parathion | 56-38-2 | 0.2 | mg/kg | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| Pirimphos-ethyl | 23505-41-1 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Chlorfenvinphos | 470-90-6 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Bromophos-ethyl | 4824-78-6 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Fenamiphos | 22224-92-6 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Prothiofos | 34643-46-4 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Ethion | 563-12-2 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Carbophenothion | 786-19-6 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Azinphos Methyl | 86-50-0 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| EP075(SIM)B: Polynuclear Aromatic Hydrocarbons | | | | | | | | | |
| Naphthalene | 91-20-3 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Acenaphthylene | 208-96-8 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Acenaphthene | 83-32-9 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Fluorene | 86-73-7 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Phenanthrene | 85-01-8 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Anthracene | 120-12-7 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Fluoranthene | 206-44-0 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Pyrene | 129-00-0 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |



Analytical Results

| Sub-Matrix: SOIL (Matrix: SOIL) | | | | Client sample ID | 45880-1 | 45880-2 | 45880-3 | 45880-4 | 45880-5 |
|--|-------------------|-----|-------|------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Client sampling date / time | | | | | 24-Nov-2017 00:00 | 24-Nov-2017 00:00 | 24-Nov-2017 00:00 | 24-Nov-2017 00:00 | 24-Nov-2017 00:00 |
| Compound | CAS Number | LOR | Unit | | ES1729769-001 | ES1729769-002 | ES1729769-003 | ES1729769-004 | ES1729769-005 |
| | | | | | Result | Result | Result | Result | Result |
| EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued | | | | | | | | | |
| Benz(a)anthracene | 56-55-3 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Chrysene | 218-01-9 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Benzo(b+j)fluoranthene | 205-99-2 205-82-3 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Benzo(k)fluoranthene | 207-08-9 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Benzo(a)pyrene | 50-32-8 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Indeno(1.2.3.cd)pyrene | 193-39-5 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Dibenz(a,h)anthracene | 53-70-3 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Benzo(g,h,i)perylene | 191-24-2 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| ^ Sum of polycyclic aromatic hydrocarbons | ---- | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| ^ Benzo(a)pyrene TEQ (zero) | ---- | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| ^ Benzo(a)pyrene TEQ (half LOR) | ---- | 0.5 | mg/kg | | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 |
| ^ Benzo(a)pyrene TEQ (LOR) | ---- | 0.5 | mg/kg | | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 |
| EP080/071: Total Petroleum Hydrocarbons | | | | | | | | | |
| C6 - C9 Fraction | ---- | 10 | mg/kg | | <10 | <10 | <10 | <10 | <10 |
| C10 - C14 Fraction | ---- | 50 | mg/kg | | <50 | <50 | <50 | <50 | <50 |
| C15 - C28 Fraction | ---- | 100 | mg/kg | | <100 | <100 | <100 | <100 | <100 |
| C29 - C36 Fraction | ---- | 100 | mg/kg | | <100 | <100 | <100 | <100 | <100 |
| ^ C10 - C36 Fraction (sum) | ---- | 50 | mg/kg | | <50 | <50 | <50 | <50 | <50 |
| EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions | | | | | | | | | |
| C6 - C10 Fraction | C6_C10 | 10 | mg/kg | | <10 | <10 | <10 | <10 | <10 |
| ^ C6 - C10 Fraction minus BTEX (F1) | C6_C10-BTEX | 10 | mg/kg | | <10 | <10 | <10 | <10 | <10 |
| >C10 - C16 Fraction | ---- | 50 | mg/kg | | <50 | <50 | <50 | <50 | <50 |
| >C16 - C34 Fraction | ---- | 100 | mg/kg | | <100 | <100 | <100 | <100 | <100 |
| >C34 - C40 Fraction | ---- | 100 | mg/kg | | <100 | <100 | <100 | <100 | <100 |
| ^ >C10 - C40 Fraction (sum) | ---- | 50 | mg/kg | | <50 | <50 | <50 | <50 | <50 |
| ^ >C10 - C16 Fraction minus Naphthalene (F2) | ---- | 50 | mg/kg | | <50 | <50 | <50 | <50 | <50 |
| EP080: BTEXN | | | | | | | | | |
| Benzene | 71-43-2 | 0.2 | mg/kg | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| Toluene | 108-88-3 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Ethylbenzene | 100-41-4 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| meta- & para-Xylene | 108-38-3 106-42-3 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| ortho-Xylene | 95-47-6 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |



Analytical Results

| Sub-Matrix: SOIL (Matrix: SOIL) | | | | Client sample ID | 45880-1 | 45880-2 | 45880-3 | 45880-4 | 45880-5 |
|---|------------|------|-------|------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Client sampling date / time | | | | | 24-Nov-2017 00:00 | 24-Nov-2017 00:00 | 24-Nov-2017 00:00 | 24-Nov-2017 00:00 | 24-Nov-2017 00:00 |
| Compound | CAS Number | LOR | Unit | | ES1729769-001 | ES1729769-002 | ES1729769-003 | ES1729769-004 | ES1729769-005 |
| | | | | | Result | Result | Result | Result | Result |
| EP080: BTEXN - Continued | | | | | | | | | |
| ^ Sum of BTEX | ---- | 0.2 | mg/kg | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| ^ Total Xylenes | 1330-20-7 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Naphthalene | 91-20-3 | 1 | mg/kg | | <1 | <1 | <1 | <1 | <1 |
| EP066S: PCB Surrogate | | | | | | | | | |
| Decachlorobiphenyl | 2051-24-3 | 0.1 | % | | 109 | 104 | 117 | 111 | 103 |
| EP068S: Organochlorine Pesticide Surrogate | | | | | | | | | |
| Dibromo-DDE | 21655-73-2 | 0.05 | % | | 104 | 92.9 | 112 | 104 | 88.1 |
| EP068T: Organophosphorus Pesticide Surrogate | | | | | | | | | |
| DEF | 78-48-8 | 0.05 | % | | 111 | 68.3 | 65.7 | 91.8 | 73.3 |
| EP075(SIM)S: Phenolic Compound Surrogates | | | | | | | | | |
| Phenol-d6 | 13127-88-3 | 0.5 | % | | 90.8 | 101 | 88.2 | 94.7 | 96.2 |
| 2-Chlorophenol-D4 | 93951-73-6 | 0.5 | % | | 92.2 | 103 | 89.2 | 95.9 | 97.0 |
| 2,4,6-Tribromophenol | 118-79-6 | 0.5 | % | | 79.1 | 90.2 | 77.2 | 83.6 | 81.6 |
| EP075(SIM)T: PAH Surrogates | | | | | | | | | |
| 2-Fluorobiphenyl | 321-60-8 | 0.5 | % | | 96.5 | 107 | 94.4 | 101 | 102 |
| Anthracene-d10 | 1719-06-8 | 0.5 | % | | 93.7 | 104 | 91.8 | 98.3 | 98.9 |
| 4-Terphenyl-d14 | 1718-51-0 | 0.5 | % | | 86.3 | 94.8 | 84.2 | 91.3 | 92.4 |
| EP080S: TPH(V)/BTEX Surrogates | | | | | | | | | |
| 1,2-Dichloroethane-D4 | 17060-07-0 | 0.2 | % | | 96.5 | 93.8 | 97.7 | 90.4 | 91.6 |
| Toluene-D8 | 2037-26-5 | 0.2 | % | | 112 | 101 | 108 | 100 | 102 |
| 4-Bromofluorobenzene | 460-00-4 | 0.2 | % | | 108 | 102 | 108 | 101 | 103 |



Analytical Results

| Sub-Matrix: SOIL (Matrix: SOIL) | | | | Client sample ID | 45880-6 | 45880-7 | 45880-8 | 45880-9 | 45880-10 |
|---|------------|------|--------|------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Client sampling date / time | | | | | 24-Nov-2017 00:00 | 24-Nov-2017 00:00 | 24-Nov-2017 00:00 | 24-Nov-2017 00:00 | 24-Nov-2017 00:00 |
| Compound | CAS Number | LOR | Unit | | ES1729769-006 | ES1729769-007 | ES1729769-008 | ES1729769-009 | ES1729769-010 |
| | | | | Result | Result | Result | Result | Result | Result |
| EA055: Moisture Content (Dried @ 105-110°C) | | | | | | | | | |
| Moisture Content | ---- | 1.0 | % | | 7.0 | 13.8 | 6.6 | 4.8 | 9.5 |
| EA200: AS 4964 - 2004 Identification of Asbestos in bulk samples | | | | | | | | | |
| Asbestos (Trace) | 1332-21-4 | 5 | Fibres | ---- | ---- | No | ---- | ---- | ---- |
| EA200: AS 4964 - 2004 Identification of Asbestos in Soils | | | | | | | | | |
| Asbestos Detected | 1332-21-4 | 0.1 | g/kg | ---- | ---- | No | ---- | ---- | ---- |
| Asbestos Type | 1332-21-4 | - | -- | ---- | ---- | - | ---- | ---- | ---- |
| Sample weight (dry) | ---- | 0.01 | g | ---- | ---- | 19.0 | ---- | ---- | ---- |
| APPROVED IDENTIFIER: | ---- | - | -- | ---- | ---- | C.OWLER | ---- | ---- | ---- |
| EG005T: Total Metals by ICP-AES | | | | | | | | | |
| Arsenic | 7440-38-2 | 5 | mg/kg | <5 | 6 | 6 | <5 | 5 | |
| Cadmium | 7440-43-9 | 1 | mg/kg | <1 | <1 | <1 | <1 | <1 | |
| Chromium | 7440-47-3 | 2 | mg/kg | 13 | 14 | 6 | 6 | 13 | |
| Copper | 7440-50-8 | 5 | mg/kg | 14 | 15 | 15 | 6 | 14 | |
| Lead | 7439-92-1 | 5 | mg/kg | 14 | 14 | 12 | 7 | 15 | |
| Nickel | 7440-02-0 | 2 | mg/kg | 9 | 15 | 10 | 5 | 11 | |
| Zinc | 7440-66-6 | 5 | mg/kg | 54 | 41 | 55 | 21 | 79 | |
| EG035T: Total Recoverable Mercury by FIMS | | | | | | | | | |
| Mercury | 7439-97-6 | 0.1 | mg/kg | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | |
| EP066: Polychlorinated Biphenyls (PCB) | | | | | | | | | |
| Total Polychlorinated biphenyls | ---- | 0.1 | mg/kg | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | |
| EP068A: Organochlorine Pesticides (OC) | | | | | | | | | |
| alpha-BHC | 319-84-6 | 0.05 | mg/kg | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | |
| Hexachlorobenzene (HCB) | 118-74-1 | 0.05 | mg/kg | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | |
| beta-BHC | 319-85-7 | 0.05 | mg/kg | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | |
| gamma-BHC | 58-89-9 | 0.05 | mg/kg | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | |
| delta-BHC | 319-86-8 | 0.05 | mg/kg | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | |
| Heptachlor | 76-44-8 | 0.05 | mg/kg | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | |
| Aldrin | 309-00-2 | 0.05 | mg/kg | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | |
| Heptachlor epoxide | 1024-57-3 | 0.05 | mg/kg | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | |
| ^ Total Chlordane (sum) | ---- | 0.05 | mg/kg | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | |
| trans-Chlordane | 5103-74-2 | 0.05 | mg/kg | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | |
| alpha-Endosulfan | 959-98-8 | 0.05 | mg/kg | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | |
| cis-Chlordane | 5103-71-9 | 0.05 | mg/kg | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | |
| Dieldrin | 60-57-1 | 0.05 | mg/kg | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | |



Analytical Results

| Sub-Matrix: SOIL (Matrix: SOIL) | | | | Client sample ID | 45880-6 | 45880-7 | 45880-8 | 45880-9 | 45880-10 |
|---|------------|------|--------|------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Client sampling date / time | | | | | 24-Nov-2017 00:00 | 24-Nov-2017 00:00 | 24-Nov-2017 00:00 | 24-Nov-2017 00:00 | 24-Nov-2017 00:00 |
| Compound | CAS Number | LOR | Unit | | ES1729769-006 | ES1729769-007 | ES1729769-008 | ES1729769-009 | ES1729769-010 |
| | | | | Result | Result | Result | Result | Result | Result |
| EA055: Moisture Content (Dried @ 105-110°C) | | | | | | | | | |
| Moisture Content | ---- | 1.0 | % | | 7.0 | 13.8 | 6.6 | 4.8 | 9.5 |
| EA200: AS 4964 - 2004 Identification of Asbestos in bulk samples | | | | | | | | | |
| Asbestos (Trace) | 1332-21-4 | 5 | Fibres | ---- | ---- | No | ---- | ---- | ---- |
| EA200: AS 4964 - 2004 Identification of Asbestos in Soils | | | | | | | | | |
| Asbestos Detected | 1332-21-4 | 0.1 | g/kg | ---- | ---- | No | ---- | ---- | ---- |
| Asbestos Type | 1332-21-4 | - | -- | ---- | ---- | - | ---- | ---- | ---- |
| Sample weight (dry) | ---- | 0.01 | g | ---- | ---- | 19.0 | ---- | ---- | ---- |
| APPROVED IDENTIFIER: | ---- | - | -- | ---- | ---- | C.OWLER | ---- | ---- | ---- |
| EG005T: Total Metals by ICP-AES | | | | | | | | | |
| Arsenic | 7440-38-2 | 5 | mg/kg | <5 | 6 | 6 | <5 | 5 | |
| Cadmium | 7440-43-9 | 1 | mg/kg | <1 | <1 | <1 | <1 | <1 | |
| Chromium | 7440-47-3 | 2 | mg/kg | 13 | 14 | 6 | 6 | 13 | |
| Copper | 7440-50-8 | 5 | mg/kg | 14 | 15 | 15 | 6 | 14 | |
| Lead | 7439-92-1 | 5 | mg/kg | 14 | 14 | 12 | 7 | 15 | |
| Nickel | 7440-02-0 | 2 | mg/kg | 9 | 15 | 10 | 5 | 11 | |
| Zinc | 7440-66-6 | 5 | mg/kg | 54 | 41 | 55 | 21 | 79 | |
| EG035T: Total Recoverable Mercury by FIMS | | | | | | | | | |
| Mercury | 7439-97-6 | 0.1 | mg/kg | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | |
| EP066: Polychlorinated Biphenyls (PCB) | | | | | | | | | |
| Total Polychlorinated biphenyls | ---- | 0.1 | mg/kg | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | |
| EP068A: Organochlorine Pesticides (OC) | | | | | | | | | |
| alpha-BHC | 319-84-6 | 0.05 | mg/kg | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | |
| Hexachlorobenzene (HCB) | 118-74-1 | 0.05 | mg/kg | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | |
| beta-BHC | 319-85-7 | 0.05 | mg/kg | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | |
| gamma-BHC | 58-89-9 | 0.05 | mg/kg | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | |
| delta-BHC | 319-86-8 | 0.05 | mg/kg | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | |
| Heptachlor | 76-44-8 | 0.05 | mg/kg | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | |
| Aldrin | 309-00-2 | 0.05 | mg/kg | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | |
| Heptachlor epoxide | 1024-57-3 | 0.05 | mg/kg | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | |
| ^ Total Chlordane (sum) | ---- | 0.05 | mg/kg | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | |
| trans-Chlordane | 5103-74-2 | 0.05 | mg/kg | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | |
| alpha-Endosulfan | 959-98-8 | 0.05 | mg/kg | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | |
| cis-Chlordane | 5103-71-9 | 0.05 | mg/kg | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | |
| Dieldrin | 60-57-1 | 0.05 | mg/kg | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | |



Analytical Results

| Sub-Matrix: SOIL (Matrix: SOIL) | | | | Client sample ID | 45880-6 | 45880-7 | 45880-8 | 45880-9 | 45880-10 |
|---|----------------------|------|-------|------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Client sampling date / time | | | | | 24-Nov-2017 00:00 | 24-Nov-2017 00:00 | 24-Nov-2017 00:00 | 24-Nov-2017 00:00 | 24-Nov-2017 00:00 |
| Compound | CAS Number | LOR | Unit | | ES1729769-006 | ES1729769-007 | ES1729769-008 | ES1729769-009 | ES1729769-010 |
| | | | | | Result | Result | Result | Result | Result |
| EP068A: Organochlorine Pesticides (OC) - Continued | | | | | | | | | |
| 4.4'-DDE | 72-55-9 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Endrin | 72-20-8 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| beta-Endosulfan | 33213-65-9 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| ^ Endosulfan (sum) | 115-29-7 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| 4.4'-DDD | 72-54-8 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Endrin aldehyde | 7421-93-4 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Endosulfan sulfate | 1031-07-8 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| 4.4'-DDT | 50-29-3 | 0.2 | mg/kg | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| Endrin ketone | 53494-70-5 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Methoxychlor | 72-43-5 | 0.2 | mg/kg | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| ^ Sum of Aldrin + Dieldrin | 309-00-2/60-57-1 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| ^ Sum of DDD + DDE + DDT | 72-54-8/72-55-9/50-2 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| EP068B: Organophosphorus Pesticides (OP) | | | | | | | | | |
| Dichlorvos | 62-73-7 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Demeton-S-methyl | 919-86-8 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Monocrotophos | 6923-22-4 | 0.2 | mg/kg | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| Dimethoate | 60-51-5 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Diazinon | 333-41-5 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Chlorpyrifos-methyl | 5598-13-0 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Parathion-methyl | 298-00-0 | 0.2 | mg/kg | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| Malathion | 121-75-5 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Fenthion | 55-38-9 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Chlorpyrifos | 2921-88-2 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Parathion | 56-38-2 | 0.2 | mg/kg | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| Pirimphos-ethyl | 23505-41-1 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Chlorfenvinphos | 470-90-6 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Bromophos-ethyl | 4824-78-6 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Fenamiphos | 22224-92-6 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Prothiofos | 34643-46-4 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Ethion | 563-12-2 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Carbophenothion | 786-19-6 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Azinphos Methyl | 86-50-0 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| EP075(SIM)B: Polynuclear Aromatic Hydrocarbons | | | | | | | | | |
| Naphthalene | 91-20-3 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |



Analytical Results

| Sub-Matrix: SOIL (Matrix: SOIL) | | | | Client sample ID | 45880-6 | 45880-7 | 45880-8 | 45880-9 | 45880-10 |
|--|-------------------|-----|-------|------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Client sampling date / time | | | | | 24-Nov-2017 00:00 | 24-Nov-2017 00:00 | 24-Nov-2017 00:00 | 24-Nov-2017 00:00 | 24-Nov-2017 00:00 |
| Compound | CAS Number | LOR | Unit | | ES1729769-006 | ES1729769-007 | ES1729769-008 | ES1729769-009 | ES1729769-010 |
| | | | | | Result | Result | Result | Result | Result |
| EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued | | | | | | | | | |
| Acenaphthylene | 208-96-8 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Acenaphthene | 83-32-9 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Fluorene | 86-73-7 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Phenanthrene | 85-01-8 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Anthracene | 120-12-7 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Fluoranthene | 206-44-0 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Pyrene | 129-00-0 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Benz(a)anthracene | 56-55-3 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Chrysene | 218-01-9 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Benzo(b+j)fluoranthene | 205-99-2 205-82-3 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Benzo(k)fluoranthene | 207-08-9 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Benzo(a)pyrene | 50-32-8 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Indeno(1.2.3.cd)pyrene | 193-39-5 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Dibenz(a,h)anthracene | 53-70-3 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Benzo(g,h,i)perylene | 191-24-2 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| ^ Sum of polycyclic aromatic hydrocarbons | ---- | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| ^ Benzo(a)pyrene TEQ (zero) | ---- | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| ^ Benzo(a)pyrene TEQ (half LOR) | ---- | 0.5 | mg/kg | | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 |
| ^ Benzo(a)pyrene TEQ (LOR) | ---- | 0.5 | mg/kg | | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 |
| EP080/071: Total Petroleum Hydrocarbons | | | | | | | | | |
| C6 - C9 Fraction | ---- | 10 | mg/kg | | <10 | <10 | <10 | <10 | <10 |
| C10 - C14 Fraction | ---- | 50 | mg/kg | | <50 | <50 | <50 | <50 | <50 |
| C15 - C28 Fraction | ---- | 100 | mg/kg | | <100 | <100 | <100 | <100 | <100 |
| C29 - C36 Fraction | ---- | 100 | mg/kg | | <100 | <100 | <100 | <100 | <100 |
| ^ C10 - C36 Fraction (sum) | ---- | 50 | mg/kg | | <50 | <50 | <50 | <50 | <50 |
| EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions | | | | | | | | | |
| C6 - C10 Fraction | C6_C10 | 10 | mg/kg | | <10 | <10 | <10 | <10 | <10 |
| ^ C6 - C10 Fraction minus BTEX (F1) | C6_C10-BTEX | 10 | mg/kg | | <10 | <10 | <10 | <10 | <10 |
| >C10 - C16 Fraction | ---- | 50 | mg/kg | | <50 | <50 | <50 | <50 | <50 |
| >C16 - C34 Fraction | ---- | 100 | mg/kg | | <100 | <100 | <100 | <100 | <100 |
| >C34 - C40 Fraction | ---- | 100 | mg/kg | | <100 | <100 | <100 | <100 | <100 |
| ^ >C10 - C40 Fraction (sum) | ---- | 50 | mg/kg | | <50 | <50 | <50 | <50 | <50 |
| ^ >C10 - C16 Fraction minus Naphthalene (F2) | ---- | 50 | mg/kg | | <50 | <50 | <50 | <50 | <50 |



Analytical Results

| Sub-Matrix: SOIL (Matrix: SOIL) | | | | Client sample ID | 45880-6 | 45880-7 | 45880-8 | 45880-9 | 45880-10 |
|--|-------------------|------|-------|------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Client sampling date / time | | | | | 24-Nov-2017 00:00 | 24-Nov-2017 00:00 | 24-Nov-2017 00:00 | 24-Nov-2017 00:00 | 24-Nov-2017 00:00 |
| Compound | CAS Number | LOR | Unit | | ES1729769-006 | ES1729769-007 | ES1729769-008 | ES1729769-009 | ES1729769-010 |
| | | | | | Result | Result | Result | Result | Result |
| EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions - Continued | | | | | | | | | |
| EP080: BTEXN | | | | | | | | | |
| Benzene | 71-43-2 | 0.2 | mg/kg | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| Toluene | 108-88-3 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Ethylbenzene | 100-41-4 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| meta- & para-Xylene | 108-38-3 106-42-3 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| ortho-Xylene | 95-47-6 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| ^ Sum of BTEX | ---- | 0.2 | mg/kg | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| ^ Total Xylenes | 1330-20-7 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Naphthalene | 91-20-3 | 1 | mg/kg | | <1 | <1 | <1 | <1 | <1 |
| EP066S: PCB Surrogate | | | | | | | | | |
| Decachlorobiphenyl | 2051-24-3 | 0.1 | % | | 109 | 129 | 111 | 99.4 | 107 |
| EP068S: Organochlorine Pesticide Surrogate | | | | | | | | | |
| Dibromo-DDE | 21655-73-2 | 0.05 | % | | 98.0 | 108 | 107 | 86.7 | 103 |
| EP068T: Organophosphorus Pesticide Surrogate | | | | | | | | | |
| DEF | 78-48-8 | 0.05 | % | | 65.2 | 65.0 | 68.2 | 66.2 | 66.0 |
| EP075(SIM)S: Phenolic Compound Surrogates | | | | | | | | | |
| Phenol-d6 | 13127-88-3 | 0.5 | % | | 94.3 | 93.4 | 95.5 | 95.7 | 94.6 |
| 2-Chlorophenol-D4 | 93951-73-6 | 0.5 | % | | 94.9 | 94.1 | 96.5 | 96.7 | 95.8 |
| 2,4,6-Tribromophenol | 118-79-6 | 0.5 | % | | 83.4 | 81.4 | 83.4 | 82.3 | 84.8 |
| EP075(SIM)T: PAH Surrogates | | | | | | | | | |
| 2-Fluorobiphenyl | 321-60-8 | 0.5 | % | | 100 | 98.5 | 101 | 101 | 100 |
| Anthracene-d10 | 1719-06-8 | 0.5 | % | | 97.4 | 95.6 | 97.9 | 97.9 | 97.3 |
| 4-Terphenyl-d14 | 1718-51-0 | 0.5 | % | | 90.1 | 88.5 | 90.6 | 90.3 | 89.8 |
| EP080S: TPH(V)/BTEX Surrogates | | | | | | | | | |
| 1,2-Dichloroethane-D4 | 17060-07-0 | 0.2 | % | | 98.8 | 92.4 | 96.9 | 96.1 | 113 |
| Toluene-D8 | 2037-26-5 | 0.2 | % | | 110 | 99.0 | 108 | 104 | 120 |
| 4-Bromofluorobenzene | 460-00-4 | 0.2 | % | | 108 | 97.8 | 106 | 106 | 123 |



Analytical Results

| Sub-Matrix: SOIL (Matrix: SOIL) | | | | Client sample ID | 45880-11 | 45880-12 | 45880-13 | 45880-14 | 45880-15 |
|---|------------|------|--------|------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Client sampling date / time | | | | | 24-Nov-2017 00:00 | 24-Nov-2017 00:00 | 24-Nov-2017 00:00 | 24-Nov-2017 00:00 | 24-Nov-2017 00:00 |
| Compound | CAS Number | LOR | Unit | | ES1729769-011 | ES1729769-012 | ES1729769-013 | ES1729769-014 | ES1729769-015 |
| | | | | | Result | Result | Result | Result | Result |
| EA055: Moisture Content (Dried @ 105-110°C) | | | | | | | | | |
| Moisture Content | ---- | 1.0 | % | | 13.4 | 10.4 | 10.9 | 7.4 | 7.8 |
| EA200: AS 4964 - 2004 Identification of Asbestos in bulk samples | | | | | | | | | |
| Asbestos (Trace) | 1332-21-4 | 5 | Fibres | | No | No | No | No | ---- |
| EA200: AS 4964 - 2004 Identification of Asbestos in Soils | | | | | | | | | |
| Asbestos Detected | 1332-21-4 | 0.1 | g/kg | | No | No | No | No | ---- |
| Asbestos Type | 1332-21-4 | - | -- | | - | - | - | - | ---- |
| Sample weight (dry) | ---- | 0.01 | g | | 12.8 | 14.9 | 9.69 | 7.00 | ---- |
| APPROVED IDENTIFIER: | ---- | - | -- | | C.OWLER | C.OWLER | C.OWLER | C.OWLER | ---- |
| EG005T: Total Metals by ICP-AES | | | | | | | | | |
| Arsenic | 7440-38-2 | 5 | mg/kg | | <5 | <5 | <5 | <5 | <5 |
| Cadmium | 7440-43-9 | 1 | mg/kg | | <1 | <1 | 1 | <1 | <1 |
| Chromium | 7440-47-3 | 2 | mg/kg | | 45 | 40 | 30 | 42 | 49 |
| Copper | 7440-50-8 | 5 | mg/kg | | 20 | 16 | 29 | 17 | 13 |
| Lead | 7439-92-1 | 5 | mg/kg | | 410 | 384 | 168 | 60 | 44 |
| Nickel | 7440-02-0 | 2 | mg/kg | | 25 | 19 | 19 | 21 | 19 |
| Zinc | 7440-66-6 | 5 | mg/kg | | 312 | 249 | 591 | 115 | 40 |
| EG035T: Total Recoverable Mercury by FIMS | | | | | | | | | |
| Mercury | 7439-97-6 | 0.1 | mg/kg | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| EP066: Polychlorinated Biphenyls (PCB) | | | | | | | | | |
| Total Polychlorinated biphenyls | ---- | 0.1 | mg/kg | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| EP068A: Organochlorine Pesticides (OC) | | | | | | | | | |
| alpha-BHC | 319-84-6 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Hexachlorobenzene (HCB) | 118-74-1 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| beta-BHC | 319-85-7 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| gamma-BHC | 58-89-9 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| delta-BHC | 319-86-8 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Heptachlor | 76-44-8 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Aldrin | 309-00-2 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Heptachlor epoxide | 1024-57-3 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| ^ Total Chlordane (sum) | ---- | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| trans-Chlordane | 5103-74-2 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| alpha-Endosulfan | 959-98-8 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| cis-Chlordane | 5103-71-9 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Dieldrin | 60-57-1 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |



Analytical Results

| Sub-Matrix: SOIL (Matrix: SOIL) | | | | Client sample ID | 45880-11 | 45880-12 | 45880-13 | 45880-14 | 45880-15 |
|---|----------------------|------|-------|------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Client sampling date / time | | | | | 24-Nov-2017 00:00 | 24-Nov-2017 00:00 | 24-Nov-2017 00:00 | 24-Nov-2017 00:00 | 24-Nov-2017 00:00 |
| Compound | CAS Number | LOR | Unit | | ES1729769-011 | ES1729769-012 | ES1729769-013 | ES1729769-014 | ES1729769-015 |
| | | | | | Result | Result | Result | Result | Result |
| EP068A: Organochlorine Pesticides (OC) - Continued | | | | | | | | | |
| 4.4'-DDE | 72-55-9 | 0.05 | mg/kg | | <0.05 | <0.05 | 0.48 | <0.05 | <0.05 |
| Endrin | 72-20-8 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| beta-Endosulfan | 33213-65-9 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| ^ Endosulfan (sum) | 115-29-7 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| 4.4'-DDD | 72-54-8 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Endrin aldehyde | 7421-93-4 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Endosulfan sulfate | 1031-07-8 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| 4.4'-DDT | 50-29-3 | 0.2 | mg/kg | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| Endrin ketone | 53494-70-5 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Methoxychlor | 72-43-5 | 0.2 | mg/kg | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| ^ Sum of Aldrin + Dieldrin | 309-00-2/60-57-1 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| ^ Sum of DDD + DDE + DDT | 72-54-8/72-55-9/50-2 | 0.05 | mg/kg | | <0.05 | <0.05 | 0.48 | <0.05 | <0.05 |
| EP068B: Organophosphorus Pesticides (OP) | | | | | | | | | |
| Dichlorvos | 62-73-7 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Demeton-S-methyl | 919-86-8 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Monocrotophos | 6923-22-4 | 0.2 | mg/kg | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| Dimethoate | 60-51-5 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Diazinon | 333-41-5 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Chlorpyrifos-methyl | 5598-13-0 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Parathion-methyl | 298-00-0 | 0.2 | mg/kg | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| Malathion | 121-75-5 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Fenthion | 55-38-9 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Chlorpyrifos | 2921-88-2 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Parathion | 56-38-2 | 0.2 | mg/kg | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| Pirimphos-ethyl | 23505-41-1 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Chlorfenvinphos | 470-90-6 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Bromophos-ethyl | 4824-78-6 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Fenamiphos | 22224-92-6 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Prothiofos | 34643-46-4 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Ethion | 563-12-2 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Carbophenothion | 786-19-6 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Azinphos Methyl | 86-50-0 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| EP075(SIM)B: Polynuclear Aromatic Hydrocarbons | | | | | | | | | |
| Naphthalene | 91-20-3 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |



Analytical Results

| Sub-Matrix: SOIL (Matrix: SOIL) | | | | Client sample ID | 45880-11 | 45880-12 | 45880-13 | 45880-14 | 45880-15 |
|--|-------------------|-----|-------|------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Client sampling date / time | | | | | 24-Nov-2017 00:00 | 24-Nov-2017 00:00 | 24-Nov-2017 00:00 | 24-Nov-2017 00:00 | 24-Nov-2017 00:00 |
| Compound | CAS Number | LOR | Unit | | ES1729769-011 | ES1729769-012 | ES1729769-013 | ES1729769-014 | ES1729769-015 |
| | | | | | Result | Result | Result | Result | Result |
| EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued | | | | | | | | | |
| Acenaphthylene | 208-96-8 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Acenaphthene | 83-32-9 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Fluorene | 86-73-7 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Phenanthrene | 85-01-8 | 0.5 | mg/kg | | 1.0 | <0.5 | <0.5 | <0.5 | <0.5 |
| Anthracene | 120-12-7 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Fluoranthene | 206-44-0 | 0.5 | mg/kg | | 1.1 | <0.5 | <0.5 | <0.5 | <0.5 |
| Pyrene | 129-00-0 | 0.5 | mg/kg | | 0.7 | <0.5 | <0.5 | <0.5 | <0.5 |
| Benz(a)anthracene | 56-55-3 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Chrysene | 218-01-9 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Benzo(b+j)fluoranthene | 205-99-2 205-82-3 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Benzo(k)fluoranthene | 207-08-9 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Benzo(a)pyrene | 50-32-8 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Indeno(1.2.3.cd)pyrene | 193-39-5 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Dibenz(a,h)anthracene | 53-70-3 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Benzo(g,h,i)perylene | 191-24-2 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| ^ Sum of polycyclic aromatic hydrocarbons | ---- | 0.5 | mg/kg | | 2.8 | <0.5 | <0.5 | <0.5 | <0.5 |
| ^ Benzo(a)pyrene TEQ (zero) | ---- | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| ^ Benzo(a)pyrene TEQ (half LOR) | ---- | 0.5 | mg/kg | | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 |
| ^ Benzo(a)pyrene TEQ (LOR) | ---- | 0.5 | mg/kg | | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 |
| EP080/071: Total Petroleum Hydrocarbons | | | | | | | | | |
| C6 - C9 Fraction | ---- | 10 | mg/kg | | <10 | <10 | <10 | <10 | <10 |
| C10 - C14 Fraction | ---- | 50 | mg/kg | | <50 | <50 | <50 | <50 | <50 |
| C15 - C28 Fraction | ---- | 100 | mg/kg | | <100 | <100 | <100 | <100 | <100 |
| C29 - C36 Fraction | ---- | 100 | mg/kg | | <100 | <100 | <100 | <100 | <100 |
| ^ C10 - C36 Fraction (sum) | ---- | 50 | mg/kg | | <50 | <50 | <50 | <50 | <50 |
| EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions | | | | | | | | | |
| C6 - C10 Fraction | C6_C10 | 10 | mg/kg | | <10 | <10 | <10 | <10 | <10 |
| ^ C6 - C10 Fraction minus BTEX (F1) | C6_C10-BTEX | 10 | mg/kg | | <10 | <10 | <10 | <10 | <10 |
| >C10 - C16 Fraction | ---- | 50 | mg/kg | | <50 | <50 | <50 | <50 | <50 |
| >C16 - C34 Fraction | ---- | 100 | mg/kg | | 100 | 110 | <100 | 100 | <100 |
| >C34 - C40 Fraction | ---- | 100 | mg/kg | | <100 | <100 | <100 | <100 | <100 |
| ^ >C10 - C40 Fraction (sum) | ---- | 50 | mg/kg | | 100 | 110 | <50 | 100 | <50 |
| ^ >C10 - C16 Fraction minus Naphthalene (F2) | ---- | 50 | mg/kg | | <50 | <50 | <50 | <50 | <50 |



Analytical Results

| Sub-Matrix: SOIL (Matrix: SOIL) | | | | Client sample ID | 45880-11 | 45880-12 | 45880-13 | 45880-14 | 45880-15 |
|--|-------------------|------|-------|------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Client sampling date / time | | | | | 24-Nov-2017 00:00 | 24-Nov-2017 00:00 | 24-Nov-2017 00:00 | 24-Nov-2017 00:00 | 24-Nov-2017 00:00 |
| Compound | CAS Number | LOR | Unit | | ES1729769-011 | ES1729769-012 | ES1729769-013 | ES1729769-014 | ES1729769-015 |
| | | | | | Result | Result | Result | Result | Result |
| EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions - Continued | | | | | | | | | |
| EP080: BTEXN | | | | | | | | | |
| Benzene | 71-43-2 | 0.2 | mg/kg | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| Toluene | 108-88-3 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Ethylbenzene | 100-41-4 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| meta- & para-Xylene | 108-38-3 106-42-3 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| ortho-Xylene | 95-47-6 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| ^ Sum of BTEX | ---- | 0.2 | mg/kg | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| ^ Total Xylenes | 1330-20-7 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Naphthalene | 91-20-3 | 1 | mg/kg | | <1 | <1 | <1 | <1 | <1 |
| EP066S: PCB Surrogate | | | | | | | | | |
| Decachlorobiphenyl | 2051-24-3 | 0.1 | % | | 99.7 | 101 | 86.0 | 113 | 107 |
| EP068S: Organochlorine Pesticide Surrogate | | | | | | | | | |
| Dibromo-DDE | 21655-73-2 | 0.05 | % | | 80.4 | 103 | 95.1 | 113 | 102 |
| EP068T: Organophosphorus Pesticide Surrogate | | | | | | | | | |
| DEF | 78-48-8 | 0.05 | % | | 66.3 | 89.9 | 72.8 | 72.7 | 65.1 |
| EP075(SIM)S: Phenolic Compound Surrogates | | | | | | | | | |
| Phenol-d6 | 13127-88-3 | 0.5 | % | | 91.8 | 91.6 | 94.6 | 97.6 | 93.5 |
| 2-Chlorophenol-D4 | 93951-73-6 | 0.5 | % | | 93.1 | 92.4 | 95.5 | 98.6 | 94.1 |
| 2,4,6-Tribromophenol | 118-79-6 | 0.5 | % | | 83.7 | 85.2 | 87.4 | 94.7 | 85.7 |
| EP075(SIM)T: PAH Surrogates | | | | | | | | | |
| 2-Fluorobiphenyl | 321-60-8 | 0.5 | % | | 96.8 | 96.3 | 98.5 | 102 | 97.5 |
| Anthracene-d10 | 1719-06-8 | 0.5 | % | | 94.1 | 93.4 | 95.8 | 99.6 | 95.4 |
| 4-Terphenyl-d14 | 1718-51-0 | 0.5 | % | | 86.4 | 85.7 | 88.0 | 90.9 | 87.0 |
| EP080S: TPH(V)/BTEX Surrogates | | | | | | | | | |
| 1,2-Dichloroethane-D4 | 17060-07-0 | 0.2 | % | | 96.5 | 102 | 97.3 | 109 | 90.9 |
| Toluene-D8 | 2037-26-5 | 0.2 | % | | 108 | 114 | 107 | 122 | 99.8 |
| 4-Bromofluorobenzene | 460-00-4 | 0.2 | % | | 104 | 111 | 108 | 118 | 101 |



Analytical Results

| Sub-Matrix: SOIL (Matrix: SOIL) | | | | Client sample ID | 45880-16 | 45880-17 | 45880-18 | 45880-19 | 45880-20 |
|--|------------|------|-------|------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Client sampling date / time | | | | | 24-Nov-2017 00:00 | 24-Nov-2017 00:00 | 24-Nov-2017 00:00 | 24-Nov-2017 00:00 | 24-Nov-2017 00:00 |
| Compound | CAS Number | LOR | Unit | | ES1729769-016 | ES1729769-017 | ES1729769-018 | ES1729769-019 | ES1729769-020 |
| | | | | | Result | Result | Result | Result | Result |
| EA055: Moisture Content (Dried @ 105-110°C) | | | | | | | | | |
| Moisture Content | ---- | 1.0 | % | | 5.9 | 16.8 | 46.4 | 14.5 | 16.3 |
| EG005T: Total Metals by ICP-AES | | | | | | | | | |
| Arsenic | 7440-38-2 | 5 | mg/kg | | <5 | 6 | <5 | <5 | 6 |
| Cadmium | 7440-43-9 | 1 | mg/kg | | <1 | <1 | <1 | <1 | <1 |
| Chromium | 7440-47-3 | 2 | mg/kg | | 46 | 17 | 43 | 41 | 10 |
| Copper | 7440-50-8 | 5 | mg/kg | | 13 | 22 | 41 | 39 | 21 |
| Lead | 7439-92-1 | 5 | mg/kg | | 13 | 79 | 23 | 15 | 12 |
| Nickel | 7440-02-0 | 2 | mg/kg | | 24 | 13 | 40 | 39 | 16 |
| Zinc | 7440-66-6 | 5 | mg/kg | | 36 | 95 | 435 | 138 | 49 |
| EG035T: Total Recoverable Mercury by FIMS | | | | | | | | | |
| Mercury | 7439-97-6 | 0.1 | mg/kg | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| EP066: Polychlorinated Biphenyls (PCB) | | | | | | | | | |
| Total Polychlorinated biphenyls | ---- | 0.1 | mg/kg | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| EP068A: Organochlorine Pesticides (OC) | | | | | | | | | |
| alpha-BHC | 319-84-6 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Hexachlorobenzene (HCB) | 118-74-1 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| beta-BHC | 319-85-7 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| gamma-BHC | 58-89-9 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| delta-BHC | 319-86-8 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Heptachlor | 76-44-8 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Aldrin | 309-00-2 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Heptachlor epoxide | 1024-57-3 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| ^ Total Chlordane (sum) | ---- | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| trans-Chlordane | 5103-74-2 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| alpha-Endosulfan | 959-98-8 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| cis-Chlordane | 5103-71-9 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Dieldrin | 60-57-1 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| 4,4'-DDE | 72-55-9 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Endrin | 72-20-8 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| beta-Endosulfan | 33213-65-9 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| ^ Endosulfan (sum) | 115-29-7 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| 4,4'-DDD | 72-54-8 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Endrin aldehyde | 7421-93-4 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Endosulfan sulfate | 1031-07-8 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |



Analytical Results

| Sub-Matrix: SOIL (Matrix: SOIL) | | | | Client sample ID | 45880-16 | 45880-17 | 45880-18 | 45880-19 | 45880-20 |
|---|--------------------------|------|-------|------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Client sampling date / time | | | | | 24-Nov-2017 00:00 | 24-Nov-2017 00:00 | 24-Nov-2017 00:00 | 24-Nov-2017 00:00 | 24-Nov-2017 00:00 |
| Compound | CAS Number | LOR | Unit | | ES1729769-016 | ES1729769-017 | ES1729769-018 | ES1729769-019 | ES1729769-020 |
| | | | | | Result | Result | Result | Result | Result |
| EP068A: Organochlorine Pesticides (OC) - Continued | | | | | | | | | |
| 4,4'-DDT | 50-29-3 | 0.2 | mg/kg | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| Endrin ketone | 53494-70-5 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Methoxychlor | 72-43-5 | 0.2 | mg/kg | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| ^ Sum of Aldrin + Dieldrin | 309-00-2/60-57-1 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| ^ Sum of DDD + DDE + DDT | 72-54-8/72-55-9/5 0-2 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| EP068B: Organophosphorus Pesticides (OP) | | | | | | | | | |
| Dichlorvos | 62-73-7 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Demeton-S-methyl | 919-86-8 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Monocrotophos | 6923-22-4 | 0.2 | mg/kg | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| Dimethoate | 60-51-5 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Diazinon | 333-41-5 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Chlorpyrifos-methyl | 5598-13-0 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Parathion-methyl | 298-00-0 | 0.2 | mg/kg | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| Malathion | 121-75-5 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Fenthion | 55-38-9 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Chlorpyrifos | 2921-88-2 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Parathion | 56-38-2 | 0.2 | mg/kg | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| Pirimphos-ethyl | 23505-41-1 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Chlorfenvinphos | 470-90-6 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Bromophos-ethyl | 4824-78-6 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Fenamiphos | 22224-92-6 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Prothiofos | 34643-46-4 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Ethion | 563-12-2 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Carbophenothion | 786-19-6 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Azinphos Methyl | 86-50-0 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| EP075(SIM)B: Polynuclear Aromatic Hydrocarbons | | | | | | | | | |
| Naphthalene | 91-20-3 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Acenaphthylene | 208-96-8 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Acenaphthene | 83-32-9 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Fluorene | 86-73-7 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Phenanthrene | 85-01-8 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Anthracene | 120-12-7 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Fluoranthene | 206-44-0 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Pyrene | 129-00-0 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |



Analytical Results

Sub-Matrix: SOIL
(Matrix: SOIL)

Client sample ID

| | | | | 45880-16 | 45880-17 | 45880-18 | 45880-19 | 45880-20 |
|--|-------------------|-----|-------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Client sampling date / time | | | | 24-Nov-2017 00:00 | 24-Nov-2017 00:00 | 24-Nov-2017 00:00 | 24-Nov-2017 00:00 | 24-Nov-2017 00:00 |
| Compound | CAS Number | LOR | Unit | ES1729769-016 | ES1729769-017 | ES1729769-018 | ES1729769-019 | ES1729769-020 |
| | | | | Result | Result | Result | Result | Result |
| EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued | | | | | | | | |
| Benz(a)anthracene | 56-55-3 | 0.5 | mg/kg | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Chrysene | 218-01-9 | 0.5 | mg/kg | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Benzo(b+j)fluoranthene | 205-99-2 205-82-3 | 0.5 | mg/kg | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Benzo(k)fluoranthene | 207-08-9 | 0.5 | mg/kg | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Benzo(a)pyrene | 50-32-8 | 0.5 | mg/kg | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Indeno(1.2.3.cd)pyrene | 193-39-5 | 0.5 | mg/kg | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Dibenz(a,h)anthracene | 53-70-3 | 0.5 | mg/kg | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Benzo(g,h,i)perylene | 191-24-2 | 0.5 | mg/kg | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| ^ Sum of polycyclic aromatic hydrocarbons | ---- | 0.5 | mg/kg | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| ^ Benzo(a)pyrene TEQ (zero) | ---- | 0.5 | mg/kg | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| ^ Benzo(a)pyrene TEQ (half LOR) | ---- | 0.5 | mg/kg | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 |
| ^ Benzo(a)pyrene TEQ (LOR) | ---- | 0.5 | mg/kg | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 |
| EP080/071: Total Petroleum Hydrocarbons | | | | | | | | |
| C6 - C9 Fraction | ---- | 10 | mg/kg | <10 | <10 | <10 | <10 | <10 |
| C10 - C14 Fraction | ---- | 50 | mg/kg | <50 | <50 | <50 | <50 | <50 |
| C15 - C28 Fraction | ---- | 100 | mg/kg | <100 | <100 | <100 | <100 | <100 |
| C29 - C36 Fraction | ---- | 100 | mg/kg | <100 | <100 | <100 | <100 | <100 |
| ^ C10 - C36 Fraction (sum) | ---- | 50 | mg/kg | <50 | <50 | <50 | <50 | <50 |
| EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions | | | | | | | | |
| C6 - C10 Fraction | C6_C10 | 10 | mg/kg | <10 | <10 | <10 | <10 | <10 |
| ^ C6 - C10 Fraction minus BTEX (F1) | C6_C10-BTEX | 10 | mg/kg | <10 | <10 | <10 | <10 | <10 |
| >C10 - C16 Fraction | ---- | 50 | mg/kg | <50 | <50 | <50 | <50 | <50 |
| >C16 - C34 Fraction | ---- | 100 | mg/kg | <100 | <100 | <100 | <100 | <100 |
| >C34 - C40 Fraction | ---- | 100 | mg/kg | <100 | <100 | <100 | <100 | <100 |
| ^ >C10 - C40 Fraction (sum) | ---- | 50 | mg/kg | <50 | <50 | <50 | <50 | <50 |
| ^ >C10 - C16 Fraction minus Naphthalene (F2) | ---- | 50 | mg/kg | <50 | <50 | <50 | <50 | <50 |
| EP080: BTEXN | | | | | | | | |
| Benzene | 71-43-2 | 0.2 | mg/kg | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| Toluene | 108-88-3 | 0.5 | mg/kg | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Ethylbenzene | 100-41-4 | 0.5 | mg/kg | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| meta- & para-Xylene | 108-38-3 106-42-3 | 0.5 | mg/kg | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| ortho-Xylene | 95-47-6 | 0.5 | mg/kg | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |



Analytical Results

| Sub-Matrix: SOIL (Matrix: SOIL) | | | | Client sample ID | 45880-16 | 45880-17 | 45880-18 | 45880-19 | 45880-20 |
|---|------------|------|-------|------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Client sampling date / time | | | | | 24-Nov-2017 00:00 | 24-Nov-2017 00:00 | 24-Nov-2017 00:00 | 24-Nov-2017 00:00 | 24-Nov-2017 00:00 |
| Compound | CAS Number | LOR | Unit | | ES1729769-016 | ES1729769-017 | ES1729769-018 | ES1729769-019 | ES1729769-020 |
| | | | | | Result | Result | Result | Result | Result |
| EP080: BTEXN - Continued | | | | | | | | | |
| ^ Sum of BTEX | ---- | 0.2 | mg/kg | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| ^ Total Xylenes | 1330-20-7 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Naphthalene | 91-20-3 | 1 | mg/kg | | <1 | <1 | <1 | <1 | <1 |
| EP066S: PCB Surrogate | | | | | | | | | |
| Decachlorobiphenyl | 2051-24-3 | 0.1 | % | | 111 | 103 | 91.7 | 104 | 118 |
| EP068S: Organochlorine Pesticide Surrogate | | | | | | | | | |
| Dibromo-DDE | 21655-73-2 | 0.05 | % | | 118 | 111 | 90.2 | 102 | 121 |
| EP068T: Organophosphorus Pesticide Surrogate | | | | | | | | | |
| DEF | 78-48-8 | 0.05 | % | | 75.6 | 70.0 | 66.6 | 68.6 | 65.2 |
| EP075(SIM)S: Phenolic Compound Surrogates | | | | | | | | | |
| Phenol-d6 | 13127-88-3 | 0.5 | % | | 91.9 | 94.8 | 95.2 | 91.3 | 92.9 |
| 2-Chlorophenol-D4 | 93951-73-6 | 0.5 | % | | 92.5 | 95.3 | 96.0 | 91.1 | 92.6 |
| 2,4,6-Tribromophenol | 118-79-6 | 0.5 | % | | 81.5 | 85.8 | 87.8 | 80.9 | 80.7 |
| EP075(SIM)T: PAH Surrogates | | | | | | | | | |
| 2-Fluorobiphenyl | 321-60-8 | 0.5 | % | | 97.2 | 99.6 | 99.1 | 95.2 | 96.7 |
| Anthracene-d10 | 1719-06-8 | 0.5 | % | | 93.5 | 96.7 | 96.4 | 93.2 | 94.8 |
| 4-Terphenyl-d14 | 1718-51-0 | 0.5 | % | | 86.5 | 88.5 | 88.4 | 85.4 | 87.4 |
| EP080S: TPH(V)/BTEX Surrogates | | | | | | | | | |
| 1,2-Dichloroethane-D4 | 17060-07-0 | 0.2 | % | | 93.0 | 94.0 | 80.6 | 100 | 94.9 |
| Toluene-D8 | 2037-26-5 | 0.2 | % | | 101 | 97.7 | 87.4 | 113 | 106 |
| 4-Bromofluorobenzene | 460-00-4 | 0.2 | % | | 99.7 | 97.6 | 87.8 | 110 | 106 |



Analytical Results

| Sub-Matrix: SOIL (Matrix: SOIL) | | | | Client sample ID | 45880-21 | 45880-22 | 45880-23 | 45880-24 | 45880-25 |
|--|------------|------|-------|------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Client sampling date / time | | | | | 24-Nov-2017 00:00 | 24-Nov-2017 00:00 | 24-Nov-2017 00:00 | 24-Nov-2017 00:00 | 24-Nov-2017 00:00 |
| Compound | CAS Number | LOR | Unit | | ES1729769-021 | ES1729769-022 | ES1729769-023 | ES1729769-024 | ES1729769-025 |
| | | | | | Result | Result | Result | Result | Result |
| EA055: Moisture Content (Dried @ 105-110°C) | | | | | | | | | |
| Moisture Content | ---- | 1.0 | % | | 18.2 | 11.3 | 10.4 | 11.3 | 11.2 |
| EG005T: Total Metals by ICP-AES | | | | | | | | | |
| Arsenic | 7440-38-2 | 5 | mg/kg | | <5 | 8 | 6 | 8 | 8 |
| Cadmium | 7440-43-9 | 1 | mg/kg | | <1 | <1 | <1 | <1 | <1 |
| Chromium | 7440-47-3 | 2 | mg/kg | | 9 | 9 | 9 | 11 | 14 |
| Copper | 7440-50-8 | 5 | mg/kg | | 21 | 17 | 17 | 16 | 17 |
| Lead | 7439-92-1 | 5 | mg/kg | | 12 | 14 | 13 | 13 | 12 |
| Nickel | 7440-02-0 | 2 | mg/kg | | 13 | 11 | 11 | 13 | 14 |
| Zinc | 7440-66-6 | 5 | mg/kg | | 48 | 42 | 40 | 42 | 42 |
| EG035T: Total Recoverable Mercury by FIMS | | | | | | | | | |
| Mercury | 7439-97-6 | 0.1 | mg/kg | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| EP066: Polychlorinated Biphenyls (PCB) | | | | | | | | | |
| Total Polychlorinated biphenyls | ---- | 0.1 | mg/kg | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| EP068A: Organochlorine Pesticides (OC) | | | | | | | | | |
| alpha-BHC | 319-84-6 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Hexachlorobenzene (HCB) | 118-74-1 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| beta-BHC | 319-85-7 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| gamma-BHC | 58-89-9 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| delta-BHC | 319-86-8 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Heptachlor | 76-44-8 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Aldrin | 309-00-2 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Heptachlor epoxide | 1024-57-3 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| ^ Total Chlordane (sum) | ---- | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| trans-Chlordane | 5103-74-2 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| alpha-Endosulfan | 959-98-8 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| cis-Chlordane | 5103-71-9 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Dieldrin | 60-57-1 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| 4,4'-DDE | 72-55-9 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Endrin | 72-20-8 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| beta-Endosulfan | 33213-65-9 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| ^ Endosulfan (sum) | 115-29-7 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| 4,4'-DDD | 72-54-8 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Endrin aldehyde | 7421-93-4 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Endosulfan sulfate | 1031-07-8 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |



Analytical Results

| Sub-Matrix: SOIL (Matrix: SOIL) | | | | Client sample ID | 45880-21 | 45880-22 | 45880-23 | 45880-24 | 45880-25 |
|---|--------------------------|------|-------|------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Client sampling date / time | | | | | 24-Nov-2017 00:00 | 24-Nov-2017 00:00 | 24-Nov-2017 00:00 | 24-Nov-2017 00:00 | 24-Nov-2017 00:00 |
| Compound | CAS Number | LOR | Unit | | ES1729769-021 | ES1729769-022 | ES1729769-023 | ES1729769-024 | ES1729769-025 |
| | | | | | Result | Result | Result | Result | Result |
| EP068A: Organochlorine Pesticides (OC) - Continued | | | | | | | | | |
| 4,4'-DDT | 50-29-3 | 0.2 | mg/kg | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| Endrin ketone | 53494-70-5 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Methoxychlor | 72-43-5 | 0.2 | mg/kg | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| ^ Sum of Aldrin + Dieldrin | 309-00-2/60-57-1 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| ^ Sum of DDD + DDE + DDT | 72-54-8/72-55-9/5 0-2 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| EP068B: Organophosphorus Pesticides (OP) | | | | | | | | | |
| Dichlorvos | 62-73-7 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Demeton-S-methyl | 919-86-8 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Monocrotophos | 6923-22-4 | 0.2 | mg/kg | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| Dimethoate | 60-51-5 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Diazinon | 333-41-5 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Chlorpyrifos-methyl | 5598-13-0 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Parathion-methyl | 298-00-0 | 0.2 | mg/kg | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| Malathion | 121-75-5 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Fenthion | 55-38-9 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Chlorpyrifos | 2921-88-2 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Parathion | 56-38-2 | 0.2 | mg/kg | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| Pirimphos-ethyl | 23505-41-1 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Chlorfenvinphos | 470-90-6 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Bromophos-ethyl | 4824-78-6 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Fenamiphos | 22224-92-6 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Prothiofos | 34643-46-4 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Ethion | 563-12-2 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Carbophenothion | 786-19-6 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Azinphos Methyl | 86-50-0 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| EP075(SIM)B: Polynuclear Aromatic Hydrocarbons | | | | | | | | | |
| Naphthalene | 91-20-3 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Acenaphthylene | 208-96-8 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Acenaphthene | 83-32-9 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Fluorene | 86-73-7 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Phenanthrene | 85-01-8 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Anthracene | 120-12-7 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Fluoranthene | 206-44-0 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Pyrene | 129-00-0 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |



Analytical Results

| Sub-Matrix: SOIL (Matrix: SOIL) | | | | Client sample ID | 45880-21 | 45880-22 | 45880-23 | 45880-24 | 45880-25 |
|--|-------------------|-----|-------|------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Client sampling date / time | | | | | 24-Nov-2017 00:00 | 24-Nov-2017 00:00 | 24-Nov-2017 00:00 | 24-Nov-2017 00:00 | 24-Nov-2017 00:00 |
| Compound | CAS Number | LOR | Unit | | ES1729769-021 | ES1729769-022 | ES1729769-023 | ES1729769-024 | ES1729769-025 |
| | | | | | Result | Result | Result | Result | Result |
| EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued | | | | | | | | | |
| Benz(a)anthracene | 56-55-3 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Chrysene | 218-01-9 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Benzo(b+j)fluoranthene | 205-99-2 205-82-3 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Benzo(k)fluoranthene | 207-08-9 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Benzo(a)pyrene | 50-32-8 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Indeno(1.2.3.cd)pyrene | 193-39-5 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Dibenz(a,h)anthracene | 53-70-3 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Benzo(g,h,i)perylene | 191-24-2 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| ^ Sum of polycyclic aromatic hydrocarbons | ---- | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| ^ Benzo(a)pyrene TEQ (zero) | ---- | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| ^ Benzo(a)pyrene TEQ (half LOR) | ---- | 0.5 | mg/kg | | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 |
| ^ Benzo(a)pyrene TEQ (LOR) | ---- | 0.5 | mg/kg | | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 |
| EP080/071: Total Petroleum Hydrocarbons | | | | | | | | | |
| C6 - C9 Fraction | ---- | 10 | mg/kg | | <10 | <10 | <10 | <10 | <10 |
| C10 - C14 Fraction | ---- | 50 | mg/kg | | <50 | <50 | <50 | <50 | <50 |
| C15 - C28 Fraction | ---- | 100 | mg/kg | | <100 | <100 | <100 | <100 | <100 |
| C29 - C36 Fraction | ---- | 100 | mg/kg | | <100 | <100 | <100 | <100 | <100 |
| ^ C10 - C36 Fraction (sum) | ---- | 50 | mg/kg | | <50 | <50 | <50 | <50 | <50 |
| EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions | | | | | | | | | |
| C6 - C10 Fraction | C6_C10 | 10 | mg/kg | | <10 | <10 | <10 | <10 | <10 |
| ^ C6 - C10 Fraction minus BTEX (F1) | C6_C10-BTEX | 10 | mg/kg | | <10 | <10 | <10 | <10 | <10 |
| >C10 - C16 Fraction | ---- | 50 | mg/kg | | <50 | <50 | <50 | <50 | <50 |
| >C16 - C34 Fraction | ---- | 100 | mg/kg | | <100 | <100 | <100 | <100 | <100 |
| >C34 - C40 Fraction | ---- | 100 | mg/kg | | <100 | <100 | <100 | <100 | <100 |
| ^ >C10 - C40 Fraction (sum) | ---- | 50 | mg/kg | | <50 | <50 | <50 | <50 | <50 |
| ^ >C10 - C16 Fraction minus Naphthalene (F2) | ---- | 50 | mg/kg | | <50 | <50 | <50 | <50 | <50 |
| EP080: BTEXN | | | | | | | | | |
| Benzene | 71-43-2 | 0.2 | mg/kg | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| Toluene | 108-88-3 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Ethylbenzene | 100-41-4 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| meta- & para-Xylene | 108-38-3 106-42-3 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| ortho-Xylene | 95-47-6 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |



Analytical Results

| Sub-Matrix: SOIL (Matrix: SOIL) | | | | Client sample ID | 45880-21 | 45880-22 | 45880-23 | 45880-24 | 45880-25 |
|---|------------|------|-------|------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Client sampling date / time | | | | | 24-Nov-2017 00:00 | 24-Nov-2017 00:00 | 24-Nov-2017 00:00 | 24-Nov-2017 00:00 | 24-Nov-2017 00:00 |
| Compound | CAS Number | LOR | Unit | | ES1729769-021 | ES1729769-022 | ES1729769-023 | ES1729769-024 | ES1729769-025 |
| | | | | | Result | Result | Result | Result | Result |
| EP080: BTEXN - Continued | | | | | | | | | |
| ^ Sum of BTEX | ---- | 0.2 | mg/kg | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| ^ Total Xylenes | 1330-20-7 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Naphthalene | 91-20-3 | 1 | mg/kg | | <1 | <1 | <1 | <1 | <1 |
| EP066S: PCB Surrogate | | | | | | | | | |
| Decachlorobiphenyl | 2051-24-3 | 0.1 | % | | 115 | 111 | 110 | 99.3 | 117 |
| EP068S: Organochlorine Pesticide Surrogate | | | | | | | | | |
| Dibromo-DDE | 21655-73-2 | 0.05 | % | | 115 | 72.0 | 80.5 | 83.5 | 113 |
| EP068T: Organophosphorus Pesticide Surrogate | | | | | | | | | |
| DEF | 78-48-8 | 0.05 | % | | 71.9 | 64.1 | 67.7 | 64.5 | 88.4 |
| EP075(SIM)S: Phenolic Compound Surrogates | | | | | | | | | |
| Phenol-d6 | 13127-88-3 | 0.5 | % | | 90.8 | 88.3 | 94.3 | 90.8 | 86.2 |
| 2-Chlorophenol-D4 | 93951-73-6 | 0.5 | % | | 92.6 | 90.4 | 96.4 | 93.2 | 88.5 |
| 2,4,6-Tribromophenol | 118-79-6 | 0.5 | % | | 70.2 | 68.4 | 69.5 | 67.6 | 60.6 |
| EP075(SIM)T: PAH Surrogates | | | | | | | | | |
| 2-Fluorobiphenyl | 321-60-8 | 0.5 | % | | 97.2 | 95.2 | 102 | 98.1 | 93.6 |
| Anthracene-d10 | 1719-06-8 | 0.5 | % | | 97.4 | 95.0 | 100.0 | 95.3 | 93.0 |
| 4-Terphenyl-d14 | 1718-51-0 | 0.5 | % | | 87.7 | 85.5 | 89.6 | 85.9 | 85.2 |
| EP080S: TPH(V)/BTEX Surrogates | | | | | | | | | |
| 1,2-Dichloroethane-D4 | 17060-07-0 | 0.2 | % | | 121 | 130 | 126 | 118 | 115 |
| Toluene-D8 | 2037-26-5 | 0.2 | % | | 107 | 115 | 116 | 109 | 109 |
| 4-Bromofluorobenzene | 460-00-4 | 0.2 | % | | 100 | 102 | 108 | 99.0 | 105 |



Analytical Results

| Sub-Matrix: SOIL (Matrix: SOIL) | | | | Client sample ID | 45880-26 | 45880-27 | 45880-28 | ---- | ---- |
|---|------------|------|--------|------------------|-------------------|-------------------|-------------------|-------|-------|
| Client sampling date / time | | | | | 24-Nov-2017 00:00 | 24-Nov-2017 00:00 | 24-Nov-2017 00:00 | ---- | ---- |
| Compound | CAS Number | LOR | Unit | | ES1729769-026 | ES1729769-027 | ES1729769-028 | ----- | ----- |
| | | | | Result | Result | Result | Result | ---- | ---- |
| EA055: Moisture Content (Dried @ 105-110°C) | | | | | | | | | |
| Moisture Content | ---- | 1.0 | % | | 6.6 | 12.2 | 15.8 | ---- | ---- |
| EA200: AS 4964 - 2004 Identification of Asbestos in bulk samples | | | | | | | | | |
| Asbestos (Trace) | 1332-21-4 | 5 | Fibres | | ---- | No | ---- | ---- | ---- |
| EA200: AS 4964 - 2004 Identification of Asbestos in Soils | | | | | | | | | |
| Asbestos Detected | 1332-21-4 | 0.1 | g/kg | | ---- | No | ---- | ---- | ---- |
| Asbestos Type | 1332-21-4 | - | -- | | ---- | - | ---- | ---- | ---- |
| Sample weight (dry) | ---- | 0.01 | g | | ---- | 15.5 | ---- | ---- | ---- |
| APPROVED IDENTIFIER: | ---- | - | -- | | ---- | C.OWLER | ---- | ---- | ---- |
| EG005T: Total Metals by ICP-AES | | | | | | | | | |
| Arsenic | 7440-38-2 | 5 | mg/kg | | 6 | <5 | 9 | ---- | ---- |
| Cadmium | 7440-43-9 | 1 | mg/kg | | <1 | <1 | <1 | ---- | ---- |
| Chromium | 7440-47-3 | 2 | mg/kg | | 9 | 50 | 13 | ---- | ---- |
| Copper | 7440-50-8 | 5 | mg/kg | | 10 | 18 | 17 | ---- | ---- |
| Lead | 7439-92-1 | 5 | mg/kg | | 11 | 517 | 15 | ---- | ---- |
| Nickel | 7440-02-0 | 2 | mg/kg | | 8 | 25 | 12 | ---- | ---- |
| Zinc | 7440-66-6 | 5 | mg/kg | | 57 | 335 | 43 | ---- | ---- |
| EG035T: Total Recoverable Mercury by FIMS | | | | | | | | | |
| Mercury | 7439-97-6 | 0.1 | mg/kg | | <0.1 | <0.1 | <0.1 | ---- | ---- |
| EP066: Polychlorinated Biphenyls (PCB) | | | | | | | | | |
| Total Polychlorinated biphenyls | ---- | 0.1 | mg/kg | | <0.1 | <0.1 | <0.1 | ---- | ---- |
| EP068A: Organochlorine Pesticides (OC) | | | | | | | | | |
| alpha-BHC | 319-84-6 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | ---- | ---- |
| Hexachlorobenzene (HCB) | 118-74-1 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | ---- | ---- |
| beta-BHC | 319-85-7 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | ---- | ---- |
| gamma-BHC | 58-89-9 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | ---- | ---- |
| delta-BHC | 319-86-8 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | ---- | ---- |
| Heptachlor | 76-44-8 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | ---- | ---- |
| Aldrin | 309-00-2 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | ---- | ---- |
| Heptachlor epoxide | 1024-57-3 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | ---- | ---- |
| ^ Total Chlordane (sum) | ---- | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | ---- | ---- |
| trans-Chlordane | 5103-74-2 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | ---- | ---- |
| alpha-Endosulfan | 959-98-8 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | ---- | ---- |
| cis-Chlordane | 5103-71-9 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | ---- | ---- |
| Dieldrin | 60-57-1 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | ---- | ---- |



Analytical Results

| Sub-Matrix: SOIL (Matrix: SOIL) | | | | Client sample ID | 45880-26 | 45880-27 | 45880-28 | ---- | ---- |
|---|----------------------|------|-------|------------------|-------------------|-------------------|-------------------|-------|-------|
| Client sampling date / time | | | | | 24-Nov-2017 00:00 | 24-Nov-2017 00:00 | 24-Nov-2017 00:00 | ---- | ---- |
| Compound | CAS Number | LOR | Unit | | ES1729769-026 | ES1729769-027 | ES1729769-028 | ----- | ----- |
| | | | | Result | Result | Result | Result | ---- | ---- |
| EP068A: Organochlorine Pesticides (OC) - Continued | | | | | | | | | |
| 4.4'-DDE | 72-55-9 | 0.05 | mg/kg | <0.05 | <0.05 | <0.05 | <0.05 | ---- | ---- |
| Endrin | 72-20-8 | 0.05 | mg/kg | <0.05 | <0.05 | <0.05 | <0.05 | ---- | ---- |
| beta-Endosulfan | 33213-65-9 | 0.05 | mg/kg | <0.05 | <0.05 | <0.05 | <0.05 | ---- | ---- |
| ^ Endosulfan (sum) | 115-29-7 | 0.05 | mg/kg | <0.05 | <0.05 | <0.05 | <0.05 | ---- | ---- |
| 4.4'-DDD | 72-54-8 | 0.05 | mg/kg | <0.05 | <0.05 | <0.05 | <0.05 | ---- | ---- |
| Endrin aldehyde | 7421-93-4 | 0.05 | mg/kg | <0.05 | <0.05 | <0.05 | <0.05 | ---- | ---- |
| Endosulfan sulfate | 1031-07-8 | 0.05 | mg/kg | <0.05 | <0.05 | <0.05 | <0.05 | ---- | ---- |
| 4.4'-DDT | 50-29-3 | 0.2 | mg/kg | <0.2 | <0.2 | <0.2 | <0.2 | ---- | ---- |
| Endrin ketone | 53494-70-5 | 0.05 | mg/kg | <0.05 | <0.05 | <0.05 | <0.05 | ---- | ---- |
| Methoxychlor | 72-43-5 | 0.2 | mg/kg | <0.2 | <0.2 | <0.2 | <0.2 | ---- | ---- |
| ^ Sum of Aldrin + Dieldrin | 309-00-2/60-57-1 | 0.05 | mg/kg | <0.05 | <0.05 | <0.05 | <0.05 | ---- | ---- |
| ^ Sum of DDD + DDE + DDT | 72-54-8/72-55-9/50-2 | 0.05 | mg/kg | <0.05 | <0.05 | <0.05 | <0.05 | ---- | ---- |
| EP068B: Organophosphorus Pesticides (OP) | | | | | | | | | |
| Dichlorvos | 62-73-7 | 0.05 | mg/kg | <0.05 | <0.05 | <0.05 | <0.05 | ---- | ---- |
| Demeton-S-methyl | 919-86-8 | 0.05 | mg/kg | <0.05 | <0.05 | <0.05 | <0.05 | ---- | ---- |
| Monocrotophos | 6923-22-4 | 0.2 | mg/kg | <0.2 | <0.2 | <0.2 | <0.2 | ---- | ---- |
| Dimethoate | 60-51-5 | 0.05 | mg/kg | <0.05 | <0.05 | <0.05 | <0.05 | ---- | ---- |
| Diazinon | 333-41-5 | 0.05 | mg/kg | <0.05 | <0.05 | <0.05 | <0.05 | ---- | ---- |
| Chlorpyrifos-methyl | 5598-13-0 | 0.05 | mg/kg | <0.05 | <0.05 | <0.05 | <0.05 | ---- | ---- |
| Parathion-methyl | 298-00-0 | 0.2 | mg/kg | <0.2 | <0.2 | <0.2 | <0.2 | ---- | ---- |
| Malathion | 121-75-5 | 0.05 | mg/kg | <0.05 | <0.05 | <0.05 | <0.05 | ---- | ---- |
| Fenthion | 55-38-9 | 0.05 | mg/kg | <0.05 | <0.05 | <0.05 | <0.05 | ---- | ---- |
| Chlorpyrifos | 2921-88-2 | 0.05 | mg/kg | <0.05 | <0.05 | <0.05 | <0.05 | ---- | ---- |
| Parathion | 56-38-2 | 0.2 | mg/kg | <0.2 | <0.2 | <0.2 | <0.2 | ---- | ---- |
| Pirimphos-ethyl | 23505-41-1 | 0.05 | mg/kg | <0.05 | <0.05 | <0.05 | <0.05 | ---- | ---- |
| Chlorfenvinphos | 470-90-6 | 0.05 | mg/kg | <0.05 | <0.05 | <0.05 | <0.05 | ---- | ---- |
| Bromophos-ethyl | 4824-78-6 | 0.05 | mg/kg | <0.05 | <0.05 | <0.05 | <0.05 | ---- | ---- |
| Fenamiphos | 22224-92-6 | 0.05 | mg/kg | <0.05 | <0.05 | <0.05 | <0.05 | ---- | ---- |
| Prothiofos | 34643-46-4 | 0.05 | mg/kg | <0.05 | <0.05 | <0.05 | <0.05 | ---- | ---- |
| Ethion | 563-12-2 | 0.05 | mg/kg | <0.05 | <0.05 | <0.05 | <0.05 | ---- | ---- |
| Carbophenothion | 786-19-6 | 0.05 | mg/kg | <0.05 | <0.05 | <0.05 | <0.05 | ---- | ---- |
| Azinphos Methyl | 86-50-0 | 0.05 | mg/kg | <0.05 | <0.05 | <0.05 | <0.05 | ---- | ---- |
| EP075(SIM)B: Polynuclear Aromatic Hydrocarbons | | | | | | | | | |
| Naphthalene | 91-20-3 | 0.5 | mg/kg | <0.5 | <0.5 | <0.5 | <0.5 | ---- | ---- |



Analytical Results

| | | | | | | | | | |
|---|-------------------|-----|-------|------------------|-------------------|-------------------|-------------------|-------|-------|
| Sub-Matrix: SOIL (Matrix: SOIL) | | | | Client sample ID | 45880-26 | 45880-27 | 45880-28 | ---- | ---- |
| Client sampling date / time | | | | | 24-Nov-2017 00:00 | 24-Nov-2017 00:00 | 24-Nov-2017 00:00 | ---- | ---- |
| Compound | CAS Number | LOR | Unit | | ES1729769-026 | ES1729769-027 | ES1729769-028 | ----- | ----- |
| | | | | | Result | Result | Result | ---- | ---- |
| EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued | | | | | | | | | |
| Acenaphthylene | 208-96-8 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | ---- | ---- |
| Acenaphthene | 83-32-9 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | ---- | ---- |
| Fluorene | 86-73-7 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | ---- | ---- |
| Phenanthrene | 85-01-8 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | ---- | ---- |
| Anthracene | 120-12-7 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | ---- | ---- |
| Fluoranthene | 206-44-0 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | ---- | ---- |
| Pyrene | 129-00-0 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | ---- | ---- |
| Benz(a)anthracene | 56-55-3 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | ---- | ---- |
| Chrysene | 218-01-9 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | ---- | ---- |
| Benzo(b+j)fluoranthene | 205-99-2 205-82-3 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | ---- | ---- |
| Benzo(k)fluoranthene | 207-08-9 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | ---- | ---- |
| Benzo(a)pyrene | 50-32-8 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | ---- | ---- |
| Indeno(1.2.3.cd)pyrene | 193-39-5 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | ---- | ---- |
| Dibenz(a,h)anthracene | 53-70-3 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | ---- | ---- |
| Benzo(g,h,i)perylene | 191-24-2 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | ---- | ---- |
| ^ Sum of polycyclic aromatic hydrocarbons | ---- | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | ---- | ---- |
| ^ Benzo(a)pyrene TEQ (zero) | ---- | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | ---- | ---- |
| ^ Benzo(a)pyrene TEQ (half LOR) | ---- | 0.5 | mg/kg | | 0.6 | 0.6 | 0.6 | ---- | ---- |
| ^ Benzo(a)pyrene TEQ (LOR) | ---- | 0.5 | mg/kg | | 1.2 | 1.2 | 1.2 | ---- | ---- |
| EP080/071: Total Petroleum Hydrocarbons | | | | | | | | | |
| C6 - C9 Fraction | ---- | 10 | mg/kg | | <10 | <10 | <10 | ---- | ---- |
| C10 - C14 Fraction | ---- | 50 | mg/kg | | <50 | <50 | <50 | ---- | ---- |
| C15 - C28 Fraction | ---- | 100 | mg/kg | | <100 | <100 | <100 | ---- | ---- |
| C29 - C36 Fraction | ---- | 100 | mg/kg | | <100 | <100 | <100 | ---- | ---- |
| ^ C10 - C36 Fraction (sum) | ---- | 50 | mg/kg | | <50 | <50 | <50 | ---- | ---- |
| EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions | | | | | | | | | |
| C6 - C10 Fraction | C6_C10 | 10 | mg/kg | | <10 | <10 | <10 | ---- | ---- |
| ^ C6 - C10 Fraction minus BTEX (F1) | C6_C10-BTEX | 10 | mg/kg | | <10 | <10 | <10 | ---- | ---- |
| >C10 - C16 Fraction | ---- | 50 | mg/kg | | <50 | <50 | <50 | ---- | ---- |
| >C16 - C34 Fraction | ---- | 100 | mg/kg | | <100 | 100 | <100 | ---- | ---- |
| >C34 - C40 Fraction | ---- | 100 | mg/kg | | <100 | <100 | <100 | ---- | ---- |
| ^ >C10 - C40 Fraction (sum) | ---- | 50 | mg/kg | | <50 | 100 | <50 | ---- | ---- |
| ^ >C10 - C16 Fraction minus Naphthalene (F2) | ---- | 50 | mg/kg | | <50 | <50 | <50 | ---- | ---- |



Analytical Results

| | | | | | | | | | |
|---|-------------------|------|-------|------------------|-------------------|-------------------|-------------------|-------|-------|
| Sub-Matrix: SOIL (Matrix: SOIL) | | | | Client sample ID | 45880-26 | 45880-27 | 45880-28 | ---- | ---- |
| Client sampling date / time | | | | | 24-Nov-2017 00:00 | 24-Nov-2017 00:00 | 24-Nov-2017 00:00 | ---- | ---- |
| Compound | CAS Number | LOR | Unit | | ES1729769-026 | ES1729769-027 | ES1729769-028 | ----- | ----- |
| | | | | | Result | Result | Result | ---- | ---- |
| EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions - Continued | | | | | | | | | |
| EP080: BTEXN | | | | | | | | | |
| Benzene | 71-43-2 | 0.2 | mg/kg | | <0.2 | <0.2 | <0.2 | ---- | ---- |
| Toluene | 108-88-3 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | ---- | ---- |
| Ethylbenzene | 100-41-4 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | ---- | ---- |
| meta- & para-Xylene | 108-38-3 106-42-3 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | ---- | ---- |
| ortho-Xylene | 95-47-6 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | ---- | ---- |
| ^ Sum of BTEX | ---- | 0.2 | mg/kg | | <0.2 | <0.2 | <0.2 | ---- | ---- |
| ^ Total Xylenes | 1330-20-7 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | ---- | ---- |
| Naphthalene | 91-20-3 | 1 | mg/kg | | <1 | <1 | <1 | ---- | ---- |
| EP066S: PCB Surrogate | | | | | | | | | |
| Decachlorobiphenyl | 2051-24-3 | 0.1 | % | | 98.4 | 116 | 117 | ---- | ---- |
| EP068S: Organochlorine Pesticide Surrogate | | | | | | | | | |
| Dibromo-DDE | 21655-73-2 | 0.05 | % | | 67.2 | 105 | 118 | ---- | ---- |
| EP068T: Organophosphorus Pesticide Surrogate | | | | | | | | | |
| DEF | 78-48-8 | 0.05 | % | | 70.6 | 87.7 | 87.2 | ---- | ---- |
| EP075(SIM)S: Phenolic Compound Surrogates | | | | | | | | | |
| Phenol-d6 | 13127-88-3 | 0.5 | % | | 89.7 | 86.9 | 90.8 | ---- | ---- |
| 2-Chlorophenol-D4 | 93951-73-6 | 0.5 | % | | 91.8 | 90.2 | 91.8 | ---- | ---- |
| 2,4,6-Tribromophenol | 118-79-6 | 0.5 | % | | 68.7 | 72.6 | 80.0 | ---- | ---- |
| EP075(SIM)T: PAH Surrogates | | | | | | | | | |
| 2-Fluorobiphenyl | 321-60-8 | 0.5 | % | | 97.6 | 94.8 | 94.6 | ---- | ---- |
| Anthracene-d10 | 1719-06-8 | 0.5 | % | | 97.0 | 93.2 | 93.3 | ---- | ---- |
| 4-Terphenyl-d14 | 1718-51-0 | 0.5 | % | | 86.9 | 85.1 | 69.7 | ---- | ---- |
| EP080S: TPH(V)/BTEX Surrogates | | | | | | | | | |
| 1,2-Dichloroethane-D4 | 17060-07-0 | 0.2 | % | | 108 | 101 | 118 | ---- | ---- |
| Toluene-D8 | 2037-26-5 | 0.2 | % | | 126 | 122 | 111 | ---- | ---- |
| 4-Bromofluorobenzene | 460-00-4 | 0.2 | % | | 117 | 112 | 103 | ---- | ---- |

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Work Order : ES1729769
Client : SESL Australia Pty Ltd
Project : 45880



Analytical Results

Descriptive Results

Sub-Matrix: **SOIL**

| Method: Compound | Client sample ID - Client sampling date / time | Analytical Results |
|--|--|-----------------------|
| EA200: AS 4964 - 2004 Identification of Asbestos in Soils | | |
| EA200: Description | 45880-8 - 24-Nov-2017 00:00 | Pale brown sandy soil |
| EA200: Description | 45880-11 - 24-Nov-2017 00:00 | Mid brown sandy soil |
| EA200: Description | 45880-12 - 24-Nov-2017 00:00 | Mid brown sandy soil |
| EA200: Description | 45880-13 - 24-Nov-2017 00:00 | Mid brown sandy soil |
| EA200: Description | 45880-14 - 24-Nov-2017 00:00 | Mid brown sandy soil |
| EA200: Description | 45880-27 - 24-Nov-2017 00:00 | Mid brown sandy soil |



Surrogate Control Limits

| Sub-Matrix: SOIL | | Recovery Limits (%) | |
|---|------------|---------------------|------|
| Compound | CAS Number | Low | High |
| EP066S: PCB Surrogate | | | |
| Decachlorobiphenyl | 2051-24-3 | 39 | 149 |
| EP068S: Organochlorine Pesticide Surrogate | | | |
| Dibromo-DDE | 21655-73-2 | 49 | 147 |
| EP068T: Organophosphorus Pesticide Surrogate | | | |
| DEF | 78-48-8 | 35 | 143 |
| EP075(SIM)S: Phenolic Compound Surrogates | | | |
| Phenol-d6 | 13127-88-3 | 63 | 123 |
| 2-Chlorophenol-D4 | 93951-73-6 | 66 | 122 |
| 2,4,6-Tribromophenol | 118-79-6 | 40 | 138 |
| EP075(SIM)T: PAH Surrogates | | | |
| 2-Fluorobiphenyl | 321-60-8 | 70 | 122 |
| Anthracene-d10 | 1719-06-8 | 66 | 128 |
| 4-Terphenyl-d14 | 1718-51-0 | 65 | 129 |
| EP080S: TPH(V)/BTEX Surrogates | | | |
| 1,2-Dichloroethane-D4 | 17060-07-0 | 73 | 133 |
| Toluene-D8 | 2037-26-5 | 74 | 132 |
| 4-Bromofluorobenzene | 460-00-4 | 72 | 130 |

QUALITY CONTROL REPORT

| | | | |
|--------------------------------|---|--------------------------------|--|
| Work Order | : ES1729769 | Page | : 1 of 19 |
| Client | : SESL Australia Pty Ltd | Laboratory | : Environmental Division Sydney |
| Contact | : Harrison Leake (SUBSAMPLES) | Contact | : Customer Services ES |
| Address | : PO BOX 357 PENNANT HILLS NSW, AUSTRALIA 1715 | Address | : 277-289 Woodpark Road Smithfield NSW Australia 2164 |
| Telephone | : +61 02 9980 6554 | Telephone | : +61-2-8784 8555 |
| Project | : 45880 | Date Samples Received | : 24-Nov-2017 |
| Order number | : ---- | Date Analysis Commenced | : 27-Nov-2017 |
| C-O-C number | : 25133 | Issue Date | : 01-Dec-2017 |
| Sampler | : ---- | | |
| Site | : ---- | | |
| Quote number | : SYBQ/259/16 | | |
| No. of samples received | : 28 | | |
| No. of samples analysed | : 28 | | |



This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

| <i>Signatories</i> | <i>Position</i> | <i>Accreditation Category</i> |
|--------------------|--------------------------|--|
| Alex Rossi | Organic Chemist | Sydney Organics, Smithfield, NSW |
| Celine Conceicao | Senior Spectroscopist | Sydney Inorganics, Smithfield, NSW |
| Christopher Owler | Team Leader - Asbestos | Newcastle - Asbestos, Mayfield West, NSW |
| Edwandy Fadjjar | Organic Coordinator | Sydney Inorganics, Smithfield, NSW |
| Edwandy Fadjjar | Organic Coordinator | Sydney Organics, Smithfield, NSW |
| Sanjeshni Jyoti | Senior Chemist Volatiles | Sydney Organics, Smithfield, NSW |

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
= Indicates failed QC

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

| Sub-Matrix: SOIL | | | | Laboratory Duplicate (DUP) Report | | | | | |
|---|------------------|-------------------------|------------|-----------------------------------|-------|-----------------|------------------|---------|---------------------|
| Laboratory sample ID | Client sample ID | Method: Compound | CAS Number | LOR | Unit | Original Result | Duplicate Result | RPD (%) | Recovery Limits (%) |
| EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 1275009) | | | | | | | | | |
| ES1729754-003 | Anonymous | EA055: Moisture Content | ---- | 1 | % | 26.0 | 28.1 | 7.48 | 0% - 20% |
| ES1729768-002 | Anonymous | EA055: Moisture Content | ---- | 1 | % | 17.8 | 16.4 | 7.72 | 0% - 50% |
| EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 1275010) | | | | | | | | | |
| ES1729769-004 | 45880-4 | EA055: Moisture Content | ---- | 1 | % | 14.6 | 14.4 | 1.45 | 0% - 50% |
| ES1729769-015 | 45880-15 | EA055: Moisture Content | ---- | 1 | % | 7.8 | 8.0 | 2.45 | No Limit |
| EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 1275011) | | | | | | | | | |
| ES1729769-024 | 45880-24 | EA055: Moisture Content | ---- | 1 | % | 11.3 | 11.2 | 0.00 | 0% - 50% |
| ES1729793-002 | Anonymous | EA055: Moisture Content | ---- | 1 | % | 12.1 | 13.7 | 12.8 | 0% - 50% |
| EG005T: Total Metals by ICP-AES (QC Lot: 1277855) | | | | | | | | | |
| ES1729384-001 | Anonymous | EG005T: Cadmium | 7440-43-9 | 1 | mg/kg | <1 | <1 | 0.00 | No Limit |
| | | EG005T: Chromium | 7440-47-3 | 2 | mg/kg | 11 | 11 | 0.00 | No Limit |
| | | EG005T: Nickel | 7440-02-0 | 2 | mg/kg | 3 | 4 | 0.00 | No Limit |
| | | EG005T: Arsenic | 7440-38-2 | 5 | mg/kg | <5 | <5 | 0.00 | No Limit |
| | | EG005T: Copper | 7440-50-8 | 5 | mg/kg | 16 | 13 | 15.4 | No Limit |
| | | EG005T: Lead | 7439-92-1 | 5 | mg/kg | 51 | 38 | 29.8 | 0% - 50% |
| | | EG005T: Zinc | 7440-66-6 | 5 | mg/kg | 58 | 48 | 19.4 | 0% - 50% |
| ES1729769-007 | 45880-7 | EG005T: Cadmium | 7440-43-9 | 1 | mg/kg | <1 | <1 | 0.00 | No Limit |
| | | EG005T: Chromium | 7440-47-3 | 2 | mg/kg | 14 | 14 | 0.00 | No Limit |
| | | EG005T: Nickel | 7440-02-0 | 2 | mg/kg | 15 | 15 | 0.00 | No Limit |
| | | EG005T: Arsenic | 7440-38-2 | 5 | mg/kg | 6 | 5 | 0.00 | No Limit |
| | | EG005T: Copper | 7440-50-8 | 5 | mg/kg | 15 | 16 | 0.00 | No Limit |
| | | EG005T: Lead | 7439-92-1 | 5 | mg/kg | 14 | 13 | 0.00 | No Limit |
| | | EG005T: Zinc | 7440-66-6 | 5 | mg/kg | 41 | 41 | 0.00 | No Limit |
| EG005T: Total Metals by ICP-AES (QC Lot: 1277858) | | | | | | | | | |



| Sub-Matrix: SOIL | | | | Laboratory Duplicate (DUP) Report | | | | | |
|---|------------------|--|------------|-----------------------------------|-------|-----------------|------------------|---------|---------------------|
| Laboratory sample ID | Client sample ID | Method: Compound | CAS Number | LOR | Unit | Original Result | Duplicate Result | RPD (%) | Recovery Limits (%) |
| EG005T: Total Metals by ICP-AES (QC Lot: 1277858) - continued | | | | | | | | | |
| ES1729769-017 | 45880-17 | EG005T: Cadmium | 7440-43-9 | 1 | mg/kg | <1 | <1 | 0.00 | No Limit |
| | | EG005T: Chromium | 7440-47-3 | 2 | mg/kg | 17 | 17 | 0.00 | No Limit |
| | | EG005T: Nickel | 7440-02-0 | 2 | mg/kg | 13 | 14 | 0.00 | No Limit |
| | | EG005T: Arsenic | 7440-38-2 | 5 | mg/kg | 6 | 6 | 0.00 | No Limit |
| | | EG005T: Copper | 7440-50-8 | 5 | mg/kg | 22 | 23 | 0.00 | No Limit |
| | | EG005T: Lead | 7439-92-1 | 5 | mg/kg | 79 | 79 | 0.00 | 0% - 50% |
| | | EG005T: Zinc | 7440-66-6 | 5 | mg/kg | 95 | 99 | 4.13 | 0% - 50% |
| ES1729769-027 | 45880-27 | EG005T: Cadmium | 7440-43-9 | 1 | mg/kg | <1 | <1 | 0.00 | No Limit |
| | | EG005T: Chromium | 7440-47-3 | 2 | mg/kg | 50 | 47 | 6.74 | 0% - 20% |
| | | EG005T: Nickel | 7440-02-0 | 2 | mg/kg | 25 | 26 | 0.00 | 0% - 50% |
| | | EG005T: Arsenic | 7440-38-2 | 5 | mg/kg | <5 | <5 | 0.00 | No Limit |
| | | EG005T: Copper | 7440-50-8 | 5 | mg/kg | 18 | 18 | 0.00 | No Limit |
| | | EG005T: Lead | 7439-92-1 | 5 | mg/kg | 517 | 524 | 1.31 | 0% - 20% |
| | | EG005T: Zinc | 7440-66-6 | 5 | mg/kg | 335 | 349 | 4.13 | 0% - 20% |
| EG035T: Total Recoverable Mercury by FIMS (QC Lot: 1277856) | | | | | | | | | |
| ES1729384-001 | Anonymous | EG035T: Mercury | 7439-97-6 | 0.1 | mg/kg | <0.1 | <0.1 | 0.00 | No Limit |
| ES1729769-007 | 45880-7 | EG035T: Mercury | 7439-97-6 | 0.1 | mg/kg | <0.1 | <0.1 | 0.00 | No Limit |
| EG035T: Total Recoverable Mercury by FIMS (QC Lot: 1277857) | | | | | | | | | |
| ES1729769-017 | 45880-17 | EG035T: Mercury | 7439-97-6 | 0.1 | mg/kg | <0.1 | <0.1 | 0.00 | No Limit |
| ES1729769-027 | 45880-27 | EG035T: Mercury | 7439-97-6 | 0.1 | mg/kg | <0.1 | <0.1 | 0.00 | No Limit |
| EP066: Polychlorinated Biphenyls (PCB) (QC Lot: 1271302) | | | | | | | | | |
| ES1729769-001 | 45880-1 | EP066: Total Polychlorinated biphenyls | ---- | 0.1 | mg/kg | <0.1 | <0.1 | 0.00 | No Limit |
| ES1729769-011 | 45880-11 | EP066: Total Polychlorinated biphenyls | ---- | 0.1 | mg/kg | <0.1 | <0.1 | 0.00 | No Limit |
| EP066: Polychlorinated Biphenyls (PCB) (QC Lot: 1271343) | | | | | | | | | |
| ES1729737-001 | Anonymous | EP066: Total Polychlorinated biphenyls | ---- | 0.1 | mg/kg | <0.1 | <0.1 | 0.00 | No Limit |
| ES1729769-025 | 45880-25 | EP066: Total Polychlorinated biphenyls | ---- | 0.1 | mg/kg | <0.1 | <0.1 | 0.00 | No Limit |
| EP068A: Organochlorine Pesticides (OC) (QC Lot: 1271301) | | | | | | | | | |
| ES1729769-001 | 45880-1 | EP068: alpha-BHC | 319-84-6 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |
| | | EP068: Hexachlorobenzene (HCB) | 118-74-1 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |
| | | EP068: beta-BHC | 319-85-7 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |
| | | EP068: gamma-BHC | 58-89-9 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |
| | | EP068: delta-BHC | 319-86-8 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |
| | | EP068: Heptachlor | 76-44-8 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |
| | | EP068: Aldrin | 309-00-2 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |
| | | EP068: Heptachlor epoxide | 1024-57-3 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |
| | | EP068: trans-Chlordane | 5103-74-2 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |
| | | EP068: alpha-Endosulfan | 959-98-8 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |
| | | EP068: cis-Chlordane | 5103-71-9 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |
| | | EP068: Dieldrin | 60-57-1 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |



| Sub-Matrix: SOIL | | | | Laboratory Duplicate (DUP) Report | | | | | | | |
|--|------------------|--|------------|-----------------------------------|----------|-----------------|------------------|---------|---------------------|------|----------|
| Laboratory sample ID | Client sample ID | Method: Compound | CAS Number | LOR | Unit | Original Result | Duplicate Result | RPD (%) | Recovery Limits (%) | | |
| EP068A: Organochlorine Pesticides (OC) (QC Lot: 1271301) - continued | | | | | | | | | | | |
| ES1729769-001 | 45880-1 | EP068: 4,4'-DDE | 72-55-9 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit | | |
| | | EP068: Endrin | 72-20-8 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit | | |
| | | EP068: beta-Endosulfan | 33213-65-9 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit | | |
| | | EP068: 4,4'-DDD | 72-54-8 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit | | |
| | | EP068: Endrin aldehyde | 7421-93-4 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit | | |
| | | EP068: Endosulfan sulfate | 1031-07-8 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit | | |
| | | EP068: Endrin ketone | 53494-70-5 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit | | |
| | | EP068: 4,4'-DDT | 50-29-3 | 0.2 | mg/kg | <0.2 | <0.2 | 0.00 | No Limit | | |
| | | EP068: Methoxychlor | 72-43-5 | 0.2 | mg/kg | <0.2 | <0.2 | 0.00 | No Limit | | |
| ES1729769-011 | 45880-11 | EP068: alpha-BHC | 319-84-6 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit | | |
| | | EP068: Hexachlorobenzene (HCB) | 118-74-1 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit | | |
| | | EP068: beta-BHC | 319-85-7 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit | | |
| | | EP068: gamma-BHC | 58-89-9 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit | | |
| | | EP068: delta-BHC | 319-86-8 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit | | |
| | | EP068: Heptachlor | 76-44-8 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit | | |
| | | EP068: Aldrin | 309-00-2 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit | | |
| | | EP068: Heptachlor epoxide | 1024-57-3 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit | | |
| | | EP068: trans-Chlordane | 5103-74-2 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit | | |
| | | EP068: alpha-Endosulfan | 959-98-8 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit | | |
| | | EP068: cis-Chlordane | 5103-71-9 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit | | |
| | | EP068: Dieldrin | 60-57-1 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit | | |
| | | EP068: 4,4'-DDE | 72-55-9 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit | | |
| | | EP068: Endrin | 72-20-8 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit | | |
| | | EP068: beta-Endosulfan | 33213-65-9 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit | | |
| | | EP068: 4,4'-DDD | 72-54-8 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit | | |
| | | EP068: Endrin aldehyde | 7421-93-4 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit | | |
| | | EP068: Endosulfan sulfate | 1031-07-8 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit | | |
| | | EP068: Endrin ketone | 53494-70-5 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit | | |
| | | EP068: 4,4'-DDT | 50-29-3 | 0.2 | mg/kg | <0.2 | <0.2 | 0.00 | No Limit | | |
| | | EP068: Methoxychlor | 72-43-5 | 0.2 | mg/kg | <0.2 | <0.2 | 0.00 | No Limit | | |
| | | EP068A: Organochlorine Pesticides (OC) (QC Lot: 1271342) | | | | | | | | | |
| | | ES1729737-001 | Anonymous | EP068: alpha-BHC | 319-84-6 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |
| | | | | EP068: Hexachlorobenzene (HCB) | 118-74-1 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |
| EP068: beta-BHC | 319-85-7 | | | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit | | |
| EP068: gamma-BHC | 58-89-9 | | | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit | | |
| EP068: delta-BHC | 319-86-8 | | | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit | | |
| EP068: Heptachlor | 76-44-8 | | | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit | | |
| EP068: Aldrin | 309-00-2 | | | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit | | |
| EP068: Heptachlor epoxide | 1024-57-3 | | | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit | | |
| EP068: trans-Chlordane | 5103-74-2 | | | 0.05 | mg/kg | 0.06 | 0.06 | 0.00 | No Limit | | |



| Sub-Matrix: SOIL | | | | Laboratory Duplicate (DUP) Report | | | | | | | |
|--|------------------|--|------------|-----------------------------------|---------|-----------------|------------------|---------|---------------------|------|----------|
| Laboratory sample ID | Client sample ID | Method: Compound | CAS Number | LOR | Unit | Original Result | Duplicate Result | RPD (%) | Recovery Limits (%) | | |
| EP068A: Organochlorine Pesticides (OC) (QC Lot: 1271342) - continued | | | | | | | | | | | |
| ES1729737-001 | Anonymous | EP068: alpha-Endosulfan | 959-98-8 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit | | |
| | | EP068: cis-Chlordane | 5103-71-9 | 0.05 | mg/kg | 0.05 | 0.06 | 0.00 | No Limit | | |
| | | EP068: Dieldrin | 60-57-1 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit | | |
| | | EP068: 4,4`-DDE | 72-55-9 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit | | |
| | | EP068: Endrin | 72-20-8 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit | | |
| | | EP068: beta-Endosulfan | 33213-65-9 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit | | |
| | | EP068: 4,4`-DDD | 72-54-8 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit | | |
| | | EP068: Endrin aldehyde | 7421-93-4 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit | | |
| | | EP068: Endosulfan sulfate | 1031-07-8 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit | | |
| | | EP068: Endrin ketone | 53494-70-5 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit | | |
| | | EP068: 4,4`-DDT | 50-29-3 | 0.2 | mg/kg | <0.2 | <0.2 | 0.00 | No Limit | | |
| | | EP068: Methoxychlor | 72-43-5 | 0.2 | mg/kg | <0.2 | <0.2 | 0.00 | No Limit | | |
| ES1729769-025 | 45880-25 | EP068: alpha-BHC | 319-84-6 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit | | |
| | | EP068: Hexachlorobenzene (HCB) | 118-74-1 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit | | |
| | | EP068: beta-BHC | 319-85-7 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit | | |
| | | EP068: gamma-BHC | 58-89-9 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit | | |
| | | EP068: delta-BHC | 319-86-8 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit | | |
| | | EP068: Heptachlor | 76-44-8 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit | | |
| | | EP068: Aldrin | 309-00-2 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit | | |
| | | EP068: Heptachlor epoxide | 1024-57-3 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit | | |
| | | EP068: trans-Chlordane | 5103-74-2 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit | | |
| | | EP068: alpha-Endosulfan | 959-98-8 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit | | |
| | | EP068: cis-Chlordane | 5103-71-9 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit | | |
| | | EP068: Dieldrin | 60-57-1 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit | | |
| | | EP068: 4,4`-DDE | 72-55-9 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit | | |
| | | EP068: Endrin | 72-20-8 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit | | |
| | | EP068: beta-Endosulfan | 33213-65-9 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit | | |
| | | EP068: 4,4`-DDD | 72-54-8 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit | | |
| | | EP068: Endrin aldehyde | 7421-93-4 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit | | |
| | | EP068: Endosulfan sulfate | 1031-07-8 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit | | |
| | | EP068: Endrin ketone | 53494-70-5 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit | | |
| | | EP068: 4,4`-DDT | 50-29-3 | 0.2 | mg/kg | <0.2 | <0.2 | 0.00 | No Limit | | |
| | | EP068: Methoxychlor | 72-43-5 | 0.2 | mg/kg | <0.2 | <0.2 | 0.00 | No Limit | | |
| | | EP068B: Organophosphorus Pesticides (OP) (QC Lot: 1271301) | | | | | | | | | |
| | | ES1729769-001 | 45880-1 | EP068: Dichlorvos | 62-73-7 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |
| EP068: Demeton-S-methyl | 919-86-8 | | | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit | | |
| EP068: Dimethoate | 60-51-5 | | | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit | | |
| EP068: Diazinon | 333-41-5 | | | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit | | |
| EP068: Chlorpyrifos-methyl | 5598-13-0 | | | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit | | |
| EP068: Malathion | 121-75-5 | | | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit | | |



| Sub-Matrix: SOIL | | | | Laboratory Duplicate (DUP) Report | | | | | |
|--|------------------|--|------------|-----------------------------------|-------|-----------------|------------------|---------|---------------------|
| Laboratory sample ID | Client sample ID | Method: Compound | CAS Number | LOR | Unit | Original Result | Duplicate Result | RPD (%) | Recovery Limits (%) |
| EP068B: Organophosphorus Pesticides (OP) (QC Lot: 1271301) - continued | | | | | | | | | |
| ES1729769-001 | 45880-1 | EP068: Fenthion | 55-38-9 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |
| | | EP068: Chlorpyrifos | 2921-88-2 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |
| | | EP068: Pirimphos-ethyl | 23505-41-1 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |
| | | EP068: Chlorfenvinphos | 470-90-6 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |
| | | EP068: Bromophos-ethyl | 4824-78-6 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |
| | | EP068: Fenamiphos | 22224-92-6 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |
| | | EP068: Prothiofos | 34643-46-4 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |
| | | EP068: Ethion | 563-12-2 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |
| | | EP068: Carbophenothion | 786-19-6 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |
| | | EP068: Azinphos Methyl | 86-50-0 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |
| | | EP068: Monocrotophos | 6923-22-4 | 0.2 | mg/kg | <0.2 | <0.2 | 0.00 | No Limit |
| | | EP068: Parathion-methyl | 298-00-0 | 0.2 | mg/kg | <0.2 | <0.2 | 0.00 | No Limit |
| | | EP068: Parathion | 56-38-2 | 0.2 | mg/kg | <0.2 | <0.2 | 0.00 | No Limit |
| ES1729769-011 | 45880-11 | EP068: Dichlorvos | 62-73-7 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |
| | | EP068: Demeton-S-methyl | 919-86-8 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |
| | | EP068: Dimethoate | 60-51-5 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |
| | | EP068: Diazinon | 333-41-5 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |
| | | EP068: Chlorpyrifos-methyl | 5598-13-0 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |
| | | EP068: Malathion | 121-75-5 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |
| | | EP068: Fenthion | 55-38-9 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |
| | | EP068: Chlorpyrifos | 2921-88-2 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |
| | | EP068: Pirimphos-ethyl | 23505-41-1 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |
| | | EP068: Chlorfenvinphos | 470-90-6 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |
| | | EP068: Bromophos-ethyl | 4824-78-6 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |
| | | EP068: Fenamiphos | 22224-92-6 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |
| | | EP068: Prothiofos | 34643-46-4 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |
| | | EP068: Ethion | 563-12-2 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |
| | | EP068: Carbophenothion | 786-19-6 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |
| | | EP068: Azinphos Methyl | 86-50-0 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |
| | | EP068: Monocrotophos | 6923-22-4 | 0.2 | mg/kg | <0.2 | <0.2 | 0.00 | No Limit |
| | | EP068: Parathion-methyl | 298-00-0 | 0.2 | mg/kg | <0.2 | <0.2 | 0.00 | No Limit |
| | | EP068: Parathion | 56-38-2 | 0.2 | mg/kg | <0.2 | <0.2 | 0.00 | No Limit |
| | | EP068B: Organophosphorus Pesticides (OP) (QC Lot: 1271342) | | | | | | | |
| ES1729737-001 | Anonymous | EP068: Dichlorvos | 62-73-7 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |
| | | EP068: Demeton-S-methyl | 919-86-8 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |
| | | EP068: Dimethoate | 60-51-5 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |
| | | EP068: Diazinon | 333-41-5 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |
| | | EP068: Chlorpyrifos-methyl | 5598-13-0 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |
| | | EP068: Malathion | 121-75-5 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |
| | | EP068: Fenthion | 55-38-9 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |



| Sub-Matrix: SOIL | | | | Laboratory Duplicate (DUP) Report | | | | | |
|--|------------------|--|------------|-----------------------------------|-------|-----------------|------------------|---------|---------------------|
| Laboratory sample ID | Client sample ID | Method: Compound | CAS Number | LOR | Unit | Original Result | Duplicate Result | RPD (%) | Recovery Limits (%) |
| EP068B: Organophosphorus Pesticides (OP) (QC Lot: 1271342) - continued | | | | | | | | | |
| ES1729737-001 | Anonymous | EP068: Chlorpyrifos | 2921-88-2 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |
| | | EP068: Pirimphos-ethyl | 23505-41-1 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |
| | | EP068: Chlorfenvinphos | 470-90-6 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |
| | | EP068: Bromophos-ethyl | 4824-78-6 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |
| | | EP068: Fenamiphos | 22224-92-6 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |
| | | EP068: Prothiofos | 34643-46-4 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |
| | | EP068: Ethion | 563-12-2 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |
| | | EP068: Carbophenothion | 786-19-6 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |
| | | EP068: Azinphos Methyl | 86-50-0 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |
| | | EP068: Monocrotophos | 6923-22-4 | 0.2 | mg/kg | <0.2 | <0.2 | 0.00 | No Limit |
| | | EP068: Parathion-methyl | 298-00-0 | 0.2 | mg/kg | <0.2 | <0.2 | 0.00 | No Limit |
| | | EP068: Parathion | 56-38-2 | 0.2 | mg/kg | <0.2 | <0.2 | 0.00 | No Limit |
| ES1729769-025 | 45880-25 | EP068: Dichlorvos | 62-73-7 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |
| | | EP068: Demeton-S-methyl | 919-86-8 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |
| | | EP068: Dimethoate | 60-51-5 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |
| | | EP068: Diazinon | 333-41-5 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |
| | | EP068: Chlorpyrifos-methyl | 5598-13-0 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |
| | | EP068: Malathion | 121-75-5 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |
| | | EP068: Fenthion | 55-38-9 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |
| | | EP068: Chlorpyrifos | 2921-88-2 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |
| | | EP068: Pirimphos-ethyl | 23505-41-1 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |
| | | EP068: Chlorfenvinphos | 470-90-6 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |
| | | EP068: Bromophos-ethyl | 4824-78-6 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |
| | | EP068: Fenamiphos | 22224-92-6 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |
| | | EP068: Prothiofos | 34643-46-4 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |
| | | EP068: Ethion | 563-12-2 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |
| | | EP068: Carbophenothion | 786-19-6 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |
| | | EP068: Azinphos Methyl | 86-50-0 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |
| | | EP068: Monocrotophos | 6923-22-4 | 0.2 | mg/kg | <0.2 | <0.2 | 0.00 | No Limit |
| | | EP068: Parathion-methyl | 298-00-0 | 0.2 | mg/kg | <0.2 | <0.2 | 0.00 | No Limit |
| | | EP068: Parathion | 56-38-2 | 0.2 | mg/kg | <0.2 | <0.2 | 0.00 | No Limit |
| | | EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 1271300) | | | | | | | |
| ES1729769-001 | 45880-1 | EP075(SIM): Naphthalene | 91-20-3 | 0.5 | mg/kg | <0.5 | <0.5 | 0.00 | No Limit |
| | | EP075(SIM): Acenaphthylene | 208-96-8 | 0.5 | mg/kg | <0.5 | <0.5 | 0.00 | No Limit |
| | | EP075(SIM): Acenaphthene | 83-32-9 | 0.5 | mg/kg | <0.5 | <0.5 | 0.00 | No Limit |
| | | EP075(SIM): Fluorene | 86-73-7 | 0.5 | mg/kg | <0.5 | <0.5 | 0.00 | No Limit |
| | | EP075(SIM): Phenanthrene | 85-01-8 | 0.5 | mg/kg | <0.5 | <0.5 | 0.00 | No Limit |
| | | EP075(SIM): Anthracene | 120-12-7 | 0.5 | mg/kg | <0.5 | <0.5 | 0.00 | No Limit |
| | | EP075(SIM): Fluoranthene | 206-44-0 | 0.5 | mg/kg | <0.5 | <0.5 | 0.00 | No Limit |
| | | EP075(SIM): Pyrene | 129-00-0 | 0.5 | mg/kg | <0.5 | <0.5 | 0.00 | No Limit |



| Sub-Matrix: SOIL | | | | Laboratory Duplicate (DUP) Report | | | | | | |
|--|---------------------------------------|--|---------------------------------------|-----------------------------------|-------|-----------------|------------------|----------|---------------------|----------|
| Laboratory sample ID | Client sample ID | Method: Compound | CAS Number | LOR | Unit | Original Result | Duplicate Result | RPD (%) | Recovery Limits (%) | |
| EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 1271300) - continued | | | | | | | | | | |
| ES1729769-001 | 45880-1 | EP075(SIM): Benz(a)anthracene | 56-55-3 | 0.5 | mg/kg | <0.5 | <0.5 | 0.00 | No Limit | |
| | | EP075(SIM): Chrysene | 218-01-9 | 0.5 | mg/kg | <0.5 | <0.5 | 0.00 | No Limit | |
| | | EP075(SIM): Benzo(b+j)fluoranthene | 205-99-2 | 0.5 | mg/kg | <0.5 | <0.5 | 0.00 | No Limit | |
| | | | 205-82-3 | | | | | | | |
| | | EP075(SIM): Benzo(k)fluoranthene | 207-08-9 | 0.5 | mg/kg | <0.5 | <0.5 | 0.00 | No Limit | |
| | | EP075(SIM): Benzo(a)pyrene | 50-32-8 | 0.5 | mg/kg | <0.5 | <0.5 | 0.00 | No Limit | |
| | | EP075(SIM): Indeno(1.2.3.cd)pyrene | 193-39-5 | 0.5 | mg/kg | <0.5 | <0.5 | 0.00 | No Limit | |
| | | EP075(SIM): Dibenz(a.h)anthracene | 53-70-3 | 0.5 | mg/kg | <0.5 | <0.5 | 0.00 | No Limit | |
| | | EP075(SIM): Benzo(g.h.i)perylene | 191-24-2 | 0.5 | mg/kg | <0.5 | <0.5 | 0.00 | No Limit | |
| | | EP075(SIM): Sum of polycyclic aromatic hydrocarbons | ---- | 0.5 | mg/kg | <0.5 | <0.5 | 0.00 | No Limit | |
| | EP075(SIM): Benzo(a)pyrene TEQ (zero) | ---- | 0.5 | mg/kg | <0.5 | <0.5 | 0.00 | No Limit | | |
| ES1729769-011 | 45880-11 | EP075(SIM): Naphthalene | 91-20-3 | 0.5 | mg/kg | <0.5 | <0.5 | 0.00 | No Limit | |
| | | EP075(SIM): Acenaphthylene | 208-96-8 | 0.5 | mg/kg | <0.5 | <0.5 | 0.00 | No Limit | |
| | | EP075(SIM): Acenaphthene | 83-32-9 | 0.5 | mg/kg | <0.5 | <0.5 | 0.00 | No Limit | |
| | | EP075(SIM): Fluorene | 86-73-7 | 0.5 | mg/kg | <0.5 | <0.5 | 0.00 | No Limit | |
| | | EP075(SIM): Phenanthrene | 85-01-8 | 0.5 | mg/kg | 1.0 | 0.8 | 20.1 | No Limit | |
| | | EP075(SIM): Anthracene | 120-12-7 | 0.5 | mg/kg | <0.5 | <0.5 | 0.00 | No Limit | |
| | | EP075(SIM): Fluoranthene | 206-44-0 | 0.5 | mg/kg | 1.1 | 1.0 | 0.00 | No Limit | |
| | | EP075(SIM): Pyrene | 129-00-0 | 0.5 | mg/kg | 0.7 | 0.6 | 0.00 | No Limit | |
| | | EP075(SIM): Benz(a)anthracene | 56-55-3 | 0.5 | mg/kg | <0.5 | <0.5 | 0.00 | No Limit | |
| | | EP075(SIM): Chrysene | 218-01-9 | 0.5 | mg/kg | <0.5 | <0.5 | 0.00 | No Limit | |
| | | EP075(SIM): Benzo(b+j)fluoranthene | 205-99-2 | 0.5 | mg/kg | <0.5 | <0.5 | 0.00 | No Limit | |
| | | | 205-82-3 | | | | | | | |
| | | EP075(SIM): Benzo(k)fluoranthene | 207-08-9 | 0.5 | mg/kg | <0.5 | <0.5 | 0.00 | No Limit | |
| | | EP075(SIM): Benzo(a)pyrene | 50-32-8 | 0.5 | mg/kg | <0.5 | <0.5 | 0.00 | No Limit | |
| | | EP075(SIM): Indeno(1.2.3.cd)pyrene | 193-39-5 | 0.5 | mg/kg | <0.5 | <0.5 | 0.00 | No Limit | |
| | | EP075(SIM): Dibenz(a.h)anthracene | 53-70-3 | 0.5 | mg/kg | <0.5 | <0.5 | 0.00 | No Limit | |
| | | EP075(SIM): Benzo(g.h.i)perylene | 191-24-2 | 0.5 | mg/kg | <0.5 | <0.5 | 0.00 | No Limit | |
| | | EP075(SIM): Sum of polycyclic aromatic hydrocarbons | ---- | 0.5 | mg/kg | 2.8 | 2.4 | 15.4 | No Limit | |
| | | | EP075(SIM): Benzo(a)pyrene TEQ (zero) | ---- | 0.5 | mg/kg | <0.5 | <0.5 | 0.00 | No Limit |
| | | EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 1271340) | | | | | | | | |
| ES1729737-001 | Anonymous | EP075(SIM): Naphthalene | 91-20-3 | 0.5 | mg/kg | <0.5 | <0.5 | 0.00 | No Limit | |
| | | EP075(SIM): Acenaphthylene | 208-96-8 | 0.5 | mg/kg | <0.5 | <0.5 | 0.00 | No Limit | |
| | | EP075(SIM): Acenaphthene | 83-32-9 | 0.5 | mg/kg | <0.5 | <0.5 | 0.00 | No Limit | |
| | | EP075(SIM): Fluorene | 86-73-7 | 0.5 | mg/kg | <0.5 | <0.5 | 0.00 | No Limit | |
| | | EP075(SIM): Phenanthrene | 85-01-8 | 0.5 | mg/kg | <0.5 | <0.5 | 0.00 | No Limit | |
| | | EP075(SIM): Anthracene | 120-12-7 | 0.5 | mg/kg | <0.5 | <0.5 | 0.00 | No Limit | |
| | | EP075(SIM): Fluoranthene | 206-44-0 | 0.5 | mg/kg | <0.5 | <0.5 | 0.00 | No Limit | |

| Sub-Matrix: SOIL | | | | Laboratory Duplicate (DUP) Report | | | | | | | |
|--|------------------|---|------------|-----------------------------------|-------|-----------------|------------------|---------|---------------------|------|----------|
| Laboratory sample ID | Client sample ID | Method: Compound | CAS Number | LOR | Unit | Original Result | Duplicate Result | RPD (%) | Recovery Limits (%) | | |
| EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 1271340) - continued | | | | | | | | | | | |
| ES1729737-001 | Anonymous | EP075(SIM): Pyrene | 129-00-0 | 0.5 | mg/kg | <0.5 | <0.5 | 0.00 | No Limit | | |
| | | EP075(SIM): Benz(a)anthracene | 56-55-3 | 0.5 | mg/kg | <0.5 | <0.5 | 0.00 | No Limit | | |
| | | EP075(SIM): Chrysene | 218-01-9 | 0.5 | mg/kg | <0.5 | <0.5 | 0.00 | No Limit | | |
| | | EP075(SIM): Benzo(b+j)fluoranthene | 205-99-2 | 0.5 | mg/kg | <0.5 | <0.5 | 0.00 | No Limit | | |
| | | | 205-82-3 | | | | | | | | |
| | | EP075(SIM): Benzo(k)fluoranthene | 207-08-9 | 0.5 | mg/kg | <0.5 | <0.5 | 0.00 | No Limit | | |
| | | EP075(SIM): Benzo(a)pyrene | 50-32-8 | 0.5 | mg/kg | <0.5 | <0.5 | 0.00 | No Limit | | |
| | | EP075(SIM): Indeno(1.2.3.cd)pyrene | 193-39-5 | 0.5 | mg/kg | <0.5 | <0.5 | 0.00 | No Limit | | |
| | | EP075(SIM): Dibenz(a.h)anthracene | 53-70-3 | 0.5 | mg/kg | <0.5 | <0.5 | 0.00 | No Limit | | |
| | | EP075(SIM): Benzo(g.h.i)perylene | 191-24-2 | 0.5 | mg/kg | <0.5 | <0.5 | 0.00 | No Limit | | |
| | | EP075(SIM): Sum of polycyclic aromatic hydrocarbons | ---- | 0.5 | mg/kg | <0.5 | <0.5 | 0.00 | No Limit | | |
| | | EP075(SIM): Benzo(a)pyrene TEQ (zero) | ---- | 0.5 | mg/kg | <0.5 | <0.5 | 0.00 | No Limit | | |
| ES1729769-025 | 45880-25 | EP075(SIM): Naphthalene | 91-20-3 | 0.5 | mg/kg | <0.5 | <0.5 | 0.00 | No Limit | | |
| | | EP075(SIM): Acenaphthylene | 208-96-8 | 0.5 | mg/kg | <0.5 | <0.5 | 0.00 | No Limit | | |
| | | EP075(SIM): Acenaphthene | 83-32-9 | 0.5 | mg/kg | <0.5 | <0.5 | 0.00 | No Limit | | |
| | | EP075(SIM): Fluorene | 86-73-7 | 0.5 | mg/kg | <0.5 | <0.5 | 0.00 | No Limit | | |
| | | EP075(SIM): Phenanthrene | 85-01-8 | 0.5 | mg/kg | <0.5 | <0.5 | 0.00 | No Limit | | |
| | | EP075(SIM): Anthracene | 120-12-7 | 0.5 | mg/kg | <0.5 | <0.5 | 0.00 | No Limit | | |
| | | EP075(SIM): Fluoranthene | 206-44-0 | 0.5 | mg/kg | <0.5 | <0.5 | 0.00 | No Limit | | |
| | | EP075(SIM): Pyrene | 129-00-0 | 0.5 | mg/kg | <0.5 | <0.5 | 0.00 | No Limit | | |
| | | EP075(SIM): Benz(a)anthracene | 56-55-3 | 0.5 | mg/kg | <0.5 | <0.5 | 0.00 | No Limit | | |
| | | EP075(SIM): Chrysene | 218-01-9 | 0.5 | mg/kg | <0.5 | <0.5 | 0.00 | No Limit | | |
| | | EP075(SIM): Benzo(b+j)fluoranthene | 205-99-2 | 0.5 | mg/kg | <0.5 | <0.5 | 0.00 | No Limit | | |
| | | | 205-82-3 | | | | | | | | |
| | | EP075(SIM): Benzo(k)fluoranthene | 207-08-9 | 0.5 | mg/kg | <0.5 | <0.5 | 0.00 | No Limit | | |
| | | EP075(SIM): Benzo(a)pyrene | 50-32-8 | 0.5 | mg/kg | <0.5 | <0.5 | 0.00 | No Limit | | |
| | | EP075(SIM): Indeno(1.2.3.cd)pyrene | 193-39-5 | 0.5 | mg/kg | <0.5 | <0.5 | 0.00 | No Limit | | |
| | | EP075(SIM): Dibenz(a.h)anthracene | 53-70-3 | 0.5 | mg/kg | <0.5 | <0.5 | 0.00 | No Limit | | |
| | | EP075(SIM): Benzo(g.h.i)perylene | 191-24-2 | 0.5 | mg/kg | <0.5 | <0.5 | 0.00 | No Limit | | |
| | | EP075(SIM): Sum of polycyclic aromatic hydrocarbons | ---- | 0.5 | mg/kg | <0.5 | <0.5 | 0.00 | No Limit | | |
| | | EP075(SIM): Benzo(a)pyrene TEQ (zero) | ---- | 0.5 | mg/kg | <0.5 | <0.5 | 0.00 | No Limit | | |
| | | EP080/071: Total Petroleum Hydrocarbons (QC Lot: 1271143) | | | | | | | | | |
| | | ES1729769-001 | 45880-1 | EP080: C6 - C9 Fraction | ---- | 10 | mg/kg | <10 | <10 | 0.00 | No Limit |
| | | ES1729769-011 | 45880-11 | EP080: C6 - C9 Fraction | ---- | 10 | mg/kg | <10 | <10 | 0.00 | No Limit |
| EP080/071: Total Petroleum Hydrocarbons (QC Lot: 1271149) | | | | | | | | | | | |
| ES1729768-001 | Anonymous | EP080: C6 - C9 Fraction | ---- | 10 | mg/kg | <10 | <10 | 0.00 | No Limit | | |
| ES1729769-023 | 45880-23 | EP080: C6 - C9 Fraction | ---- | 10 | mg/kg | <10 | <10 | 0.00 | No Limit | | |
| EP080/071: Total Petroleum Hydrocarbons (QC Lot: 1271299) | | | | | | | | | | | |



| Sub-Matrix: SOIL | | | | Laboratory Duplicate (DUP) Report | | | | | |
|---|------------------|----------------------------|----------------------|-----------------------------------|-------|-----------------|------------------|---------|---------------------|
| Laboratory sample ID | Client sample ID | Method: Compound | CAS Number | LOR | Unit | Original Result | Duplicate Result | RPD (%) | Recovery Limits (%) |
| EP080/071: Total Petroleum Hydrocarbons (QC Lot: 1271299) - continued | | | | | | | | | |
| ES1729769-001 | 45880-1 | EP071: C15 - C28 Fraction | ---- | 100 | mg/kg | <100 | <100 | 0.00 | No Limit |
| | | EP071: C29 - C36 Fraction | ---- | 100 | mg/kg | <100 | <100 | 0.00 | No Limit |
| | | EP071: C10 - C14 Fraction | ---- | 50 | mg/kg | <50 | <50 | 0.00 | No Limit |
| ES1729769-011 | 45880-11 | EP071: C15 - C28 Fraction | ---- | 100 | mg/kg | <100 | <100 | 0.00 | No Limit |
| | | EP071: C29 - C36 Fraction | ---- | 100 | mg/kg | <100 | <100 | 0.00 | No Limit |
| | | EP071: C10 - C14 Fraction | ---- | 50 | mg/kg | <50 | <50 | 0.00 | No Limit |
| EP080/071: Total Petroleum Hydrocarbons (QC Lot: 1271341) | | | | | | | | | |
| ES1729737-001 | Anonymous | EP071: C15 - C28 Fraction | ---- | 100 | mg/kg | <100 | <100 | 0.00 | No Limit |
| | | EP071: C29 - C36 Fraction | ---- | 100 | mg/kg | <100 | <100 | 0.00 | No Limit |
| | | EP071: C10 - C14 Fraction | ---- | 50 | mg/kg | <50 | <50 | 0.00 | No Limit |
| ES1729769-025 | 45880-25 | EP071: C15 - C28 Fraction | ---- | 100 | mg/kg | <100 | <100 | 0.00 | No Limit |
| | | EP071: C29 - C36 Fraction | ---- | 100 | mg/kg | <100 | <100 | 0.00 | No Limit |
| | | EP071: C10 - C14 Fraction | ---- | 50 | mg/kg | <50 | <50 | 0.00 | No Limit |
| EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 1271143) | | | | | | | | | |
| ES1729769-001 | 45880-1 | EP080: C6 - C10 Fraction | C6_C10 | 10 | mg/kg | <10 | <10 | 0.00 | No Limit |
| ES1729769-011 | 45880-11 | EP080: C6 - C10 Fraction | C6_C10 | 10 | mg/kg | <10 | <10 | 0.00 | No Limit |
| EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 1271149) | | | | | | | | | |
| ES1729768-001 | Anonymous | EP080: C6 - C10 Fraction | C6_C10 | 10 | mg/kg | <10 | <10 | 0.00 | No Limit |
| ES1729769-023 | 45880-23 | EP080: C6 - C10 Fraction | C6_C10 | 10 | mg/kg | <10 | <10 | 0.00 | No Limit |
| EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 1271299) | | | | | | | | | |
| ES1729769-001 | 45880-1 | EP071: >C16 - C34 Fraction | ---- | 100 | mg/kg | <100 | <100 | 0.00 | No Limit |
| | | EP071: >C34 - C40 Fraction | ---- | 100 | mg/kg | <100 | <100 | 0.00 | No Limit |
| | | EP071: >C10 - C16 Fraction | ---- | 50 | mg/kg | <50 | <50 | 0.00 | No Limit |
| ES1729769-011 | 45880-11 | EP071: >C16 - C34 Fraction | ---- | 100 | mg/kg | 100 | 120 | 13.5 | No Limit |
| | | EP071: >C34 - C40 Fraction | ---- | 100 | mg/kg | <100 | <100 | 0.00 | No Limit |
| | | EP071: >C10 - C16 Fraction | ---- | 50 | mg/kg | <50 | <50 | 0.00 | No Limit |
| EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 1271341) | | | | | | | | | |
| ES1729737-001 | Anonymous | EP071: >C16 - C34 Fraction | ---- | 100 | mg/kg | <100 | <100 | 0.00 | No Limit |
| | | EP071: >C34 - C40 Fraction | ---- | 100 | mg/kg | <100 | <100 | 0.00 | No Limit |
| | | EP071: >C10 - C16 Fraction | ---- | 50 | mg/kg | <50 | <50 | 0.00 | No Limit |
| ES1729769-025 | 45880-25 | EP071: >C16 - C34 Fraction | ---- | 100 | mg/kg | <100 | <100 | 0.00 | No Limit |
| | | EP071: >C34 - C40 Fraction | ---- | 100 | mg/kg | <100 | <100 | 0.00 | No Limit |
| | | EP071: >C10 - C16 Fraction | ---- | 50 | mg/kg | <50 | <50 | 0.00 | No Limit |
| EP080: BTEXN (QC Lot: 1271143) | | | | | | | | | |
| ES1729769-001 | 45880-1 | EP080: Benzene | 71-43-2 | 0.2 | mg/kg | <0.2 | <0.2 | 0.00 | No Limit |
| | | EP080: Toluene | 108-88-3 | 0.5 | mg/kg | <0.5 | <0.5 | 0.00 | No Limit |
| | | EP080: Ethylbenzene | 100-41-4 | 0.5 | mg/kg | <0.5 | <0.5 | 0.00 | No Limit |
| | | EP080: meta- & para-Xylene | 108-38-3 106-42-3 | 0.5 | mg/kg | <0.5 | <0.5 | 0.00 | No Limit |

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 Work Order : ES1729769
 Client : SESL Australia Pty Ltd
 Project : 45880



| Sub-Matrix: SOIL | | | | Laboratory Duplicate (DUP) Report | | | | | |
|--|------------------|--------------------------------|------------|-----------------------------------|-------|-----------------|------------------|---------|---------------------|
| Laboratory sample ID | Client sample ID | Method: Compound | CAS Number | LOR | Unit | Original Result | Duplicate Result | RPD (%) | Recovery Limits (%) |
| EP080: BTEXN (QC Lot: 1271143) - continued | | | | | | | | | |
| ES1729769-001 | 45880-1 | EP080: ortho-Xylene | 95-47-6 | 0.5 | mg/kg | <0.5 | <0.5 | 0.00 | No Limit |
| | | EP080: Naphthalene | 91-20-3 | 1 | mg/kg | <1 | <1 | 0.00 | No Limit |
| ES1729769-011 | 45880-11 | EP080: Benzene | 71-43-2 | 0.2 | mg/kg | <0.2 | <0.2 | 0.00 | No Limit |
| | | EP080: Toluene | 108-88-3 | 0.5 | mg/kg | <0.5 | <0.5 | 0.00 | No Limit |
| | | EP080: Ethylbenzene | 100-41-4 | 0.5 | mg/kg | <0.5 | <0.5 | 0.00 | No Limit |
| | | EP080: meta- & para-Xylene | 108-38-3 | 0.5 | mg/kg | <0.5 | <0.5 | 0.00 | No Limit |
| | | | 106-42-3 | | | | | | |
| | | EP080: ortho-Xylene | 95-47-6 | 0.5 | mg/kg | <0.5 | <0.5 | 0.00 | No Limit |
| | | EP080: Naphthalene | 91-20-3 | 1 | mg/kg | <1 | <1 | 0.00 | No Limit |
| | | EP080: BTEXN (QC Lot: 1271149) | | | | | | | |
| ES1729768-001 | Anonymous | EP080: Benzene | 71-43-2 | 0.2 | mg/kg | <0.2 | <0.2 | 0.00 | No Limit |
| | | EP080: Toluene | 108-88-3 | 0.5 | mg/kg | <0.5 | <0.5 | 0.00 | No Limit |
| | | EP080: Ethylbenzene | 100-41-4 | 0.5 | mg/kg | <0.5 | <0.5 | 0.00 | No Limit |
| | | EP080: meta- & para-Xylene | 108-38-3 | 0.5 | mg/kg | <0.5 | <0.5 | 0.00 | No Limit |
| | | | 106-42-3 | | | | | | |
| | | EP080: ortho-Xylene | 95-47-6 | 0.5 | mg/kg | <0.5 | <0.5 | 0.00 | No Limit |
| | | EP080: Naphthalene | 91-20-3 | 1 | mg/kg | <1 | <1 | 0.00 | No Limit |
| ES1729769-023 | 45880-23 | EP080: Benzene | 71-43-2 | 0.2 | mg/kg | <0.2 | <0.2 | 0.00 | No Limit |
| | | EP080: Toluene | 108-88-3 | 0.5 | mg/kg | <0.5 | <0.5 | 0.00 | No Limit |
| | | EP080: Ethylbenzene | 100-41-4 | 0.5 | mg/kg | <0.5 | <0.5 | 0.00 | No Limit |
| | | EP080: meta- & para-Xylene | 108-38-3 | 0.5 | mg/kg | <0.5 | <0.5 | 0.00 | No Limit |
| | | | 106-42-3 | | | | | | |
| | | EP080: ortho-Xylene | 95-47-6 | 0.5 | mg/kg | <0.5 | <0.5 | 0.00 | No Limit |
| | | EP080: Naphthalene | 91-20-3 | 1 | mg/kg | <1 | <1 | 0.00 | No Limit |



Method Blank (MB) and Laboratory Control Spike (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Spike (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

| Sub-Matrix: SOIL | | | | Method Blank (MB) Report | Laboratory Control Spike (LCS) Report | | | |
|--|------------|------|-------|-----------------------------|---------------------------------------|---------------------------|---------------------------------|-----|
| | | | | | Spike Concentration | Spike Recovery (%) LCS | Recovery Limits (%) Low High | |
| Method: Compound | CAS Number | LOR | Unit | Result | | | | |
| EG005T: Total Metals by ICP-AES (QCLot: 1277855) | | | | | | | | |
| EG005T: Arsenic | 7440-38-2 | 5 | mg/kg | <5 | 21.7 mg/kg | 97.1 | 86 | 126 |
| EG005T: Cadmium | 7440-43-9 | 1 | mg/kg | <1 | 4.64 mg/kg | 99.2 | 83 | 113 |
| EG005T: Chromium | 7440-47-3 | 2 | mg/kg | <2 | 43.9 mg/kg | 91.4 | 76 | 128 |
| EG005T: Copper | 7440-50-8 | 5 | mg/kg | <5 | 32 mg/kg | 101 | 86 | 120 |
| EG005T: Lead | 7439-92-1 | 5 | mg/kg | <5 | 40 mg/kg | 101 | 80 | 114 |
| EG005T: Nickel | 7440-02-0 | 2 | mg/kg | <2 | 55 mg/kg | 101 | 87 | 123 |
| EG005T: Zinc | 7440-66-6 | 5 | mg/kg | <5 | 60.8 mg/kg | 104 | 80 | 122 |
| EG005T: Total Metals by ICP-AES (QCLot: 1277858) | | | | | | | | |
| EG005T: Arsenic | 7440-38-2 | 5 | mg/kg | <5 | 21.7 mg/kg | 97.8 | 86 | 126 |
| EG005T: Cadmium | 7440-43-9 | 1 | mg/kg | <1 | 4.64 mg/kg | 105 | 83 | 113 |
| EG005T: Chromium | 7440-47-3 | 2 | mg/kg | <2 | 43.9 mg/kg | 99.8 | 76 | 128 |
| EG005T: Copper | 7440-50-8 | 5 | mg/kg | <5 | 32 mg/kg | 107 | 86 | 120 |
| EG005T: Lead | 7439-92-1 | 5 | mg/kg | <5 | 40 mg/kg | 102 | 80 | 114 |
| EG005T: Nickel | 7440-02-0 | 2 | mg/kg | <2 | 55 mg/kg | 109 | 87 | 123 |
| EG005T: Zinc | 7440-66-6 | 5 | mg/kg | <5 | 60.8 mg/kg | 109 | 80 | 122 |
| EG035T: Total Recoverable Mercury by FIMS (QCLot: 1277856) | | | | | | | | |
| EG035T: Mercury | 7439-97-6 | 0.1 | mg/kg | <0.1 | 2.57 mg/kg | 76.6 | 70 | 105 |
| EG035T: Total Recoverable Mercury by FIMS (QCLot: 1277857) | | | | | | | | |
| EG035T: Mercury | 7439-97-6 | 0.1 | mg/kg | <0.1 | 2.57 mg/kg | 72.6 | 70 | 105 |
| EP066: Polychlorinated Biphenyls (PCB) (QCLot: 1271302) | | | | | | | | |
| EP066: Total Polychlorinated biphenyls | ---- | 0.1 | mg/kg | <0.1 | 1 mg/kg | 87.0 | 62 | 126 |
| EP066: Polychlorinated Biphenyls (PCB) (QCLot: 1271343) | | | | | | | | |
| EP066: Total Polychlorinated biphenyls | ---- | 0.1 | mg/kg | <0.1 | 1 mg/kg | 87.0 | 62 | 126 |
| EP068A: Organochlorine Pesticides (OC) (QCLot: 1271301) | | | | | | | | |
| EP068: alpha-BHC | 319-84-6 | 0.05 | mg/kg | <0.05 | 0.5 mg/kg | 85.4 | 69 | 113 |
| EP068: Hexachlorobenzene (HCB) | 118-74-1 | 0.05 | mg/kg | <0.05 | 0.5 mg/kg | 84.3 | 65 | 117 |
| EP068: beta-BHC | 319-85-7 | 0.05 | mg/kg | <0.05 | 0.5 mg/kg | 86.5 | 67 | 119 |
| EP068: gamma-BHC | 58-89-9 | 0.05 | mg/kg | <0.05 | 0.5 mg/kg | 90.2 | 68 | 116 |
| EP068: delta-BHC | 319-86-8 | 0.05 | mg/kg | <0.05 | 0.5 mg/kg | 84.0 | 65 | 117 |
| EP068: Heptachlor | 76-44-8 | 0.05 | mg/kg | <0.05 | 0.5 mg/kg | 88.6 | 67 | 115 |
| EP068: Aldrin | 309-00-2 | 0.05 | mg/kg | <0.05 | 0.5 mg/kg | 87.4 | 69 | 115 |
| EP068: Heptachlor epoxide | 1024-57-3 | 0.05 | mg/kg | <0.05 | 0.5 mg/kg | 85.8 | 62 | 118 |
| EP068: trans-Chlordane | 5103-74-2 | 0.05 | mg/kg | <0.05 | 0.5 mg/kg | 78.7 | 63 | 117 |



| Sub-Matrix: SOIL | | | | Method Blank (MB) Report | Laboratory Control Spike (LCS) Report | | | |
|---|------------|------|-------|-----------------------------|---------------------------------------|--------------------|---------------------|------|
| Method: Compound | CAS Number | LOR | Unit | | Spike | Spike Recovery (%) | Recovery Limits (%) | |
| | | | | | Concentration | LCS | Low | High |
| EP068A: Organochlorine Pesticides (OC) (QCLot: 1271301) - continued | | | | | | | | |
| EP068: alpha-Endosulfan | 959-98-8 | 0.05 | mg/kg | <0.05 | 0.5 mg/kg | 80.8 | 66 | 116 |
| EP068: cis-Chlordane | 5103-71-9 | 0.05 | mg/kg | <0.05 | 0.5 mg/kg | 75.7 | 64 | 116 |
| EP068: Dieldrin | 60-57-1 | 0.05 | mg/kg | <0.05 | 0.5 mg/kg | 80.5 | 66 | 116 |
| EP068: 4,4`-DDE | 72-55-9 | 0.05 | mg/kg | <0.05 | 0.5 mg/kg | 84.0 | 67 | 115 |
| EP068: Endrin | 72-20-8 | 0.05 | mg/kg | <0.05 | 0.5 mg/kg | 78.0 | 67 | 123 |
| EP068: beta-Endosulfan | 33213-65-9 | 0.05 | mg/kg | <0.05 | 0.5 mg/kg | 81.6 | 69 | 115 |
| EP068: 4,4`-DDD | 72-54-8 | 0.05 | mg/kg | <0.05 | 0.5 mg/kg | 79.8 | 69 | 121 |
| EP068: Endrin aldehyde | 7421-93-4 | 0.05 | mg/kg | <0.05 | 0.5 mg/kg | 87.1 | 56 | 120 |
| EP068: Endosulfan sulfate | 1031-07-8 | 0.05 | mg/kg | <0.05 | 0.5 mg/kg | 83.2 | 62 | 124 |
| EP068: 4,4`-DDT | 50-29-3 | 0.2 | mg/kg | <0.2 | 0.5 mg/kg | 79.3 | 66 | 120 |
| EP068: Endrin ketone | 53494-70-5 | 0.05 | mg/kg | <0.05 | 0.5 mg/kg | 84.4 | 64 | 122 |
| EP068: Methoxychlor | 72-43-5 | 0.2 | mg/kg | <0.2 | 0.5 mg/kg | 78.8 | 54 | 130 |
| EP068A: Organochlorine Pesticides (OC) (QCLot: 1271342) | | | | | | | | |
| EP068: alpha-BHC | 319-84-6 | 0.05 | mg/kg | <0.05 | 0.5 mg/kg | 96.2 | 69 | 113 |
| EP068: Hexachlorobenzene (HCB) | 118-74-1 | 0.05 | mg/kg | <0.05 | 0.5 mg/kg | 97.1 | 65 | 117 |
| EP068: beta-BHC | 319-85-7 | 0.05 | mg/kg | <0.05 | 0.5 mg/kg | 93.3 | 67 | 119 |
| EP068: gamma-BHC | 58-89-9 | 0.05 | mg/kg | <0.05 | 0.5 mg/kg | 96.4 | 68 | 116 |
| EP068: delta-BHC | 319-86-8 | 0.05 | mg/kg | <0.05 | 0.5 mg/kg | 90.0 | 65 | 117 |
| EP068: Heptachlor | 76-44-8 | 0.05 | mg/kg | <0.05 | 0.5 mg/kg | 81.5 | 67 | 115 |
| EP068: Aldrin | 309-00-2 | 0.05 | mg/kg | <0.05 | 0.5 mg/kg | 82.9 | 69 | 115 |
| EP068: Heptachlor epoxide | 1024-57-3 | 0.05 | mg/kg | <0.05 | 0.5 mg/kg | 97.1 | 62 | 118 |
| EP068: trans-Chlordane | 5103-74-2 | 0.05 | mg/kg | <0.05 | 0.5 mg/kg | 80.9 | 63 | 117 |
| EP068: alpha-Endosulfan | 959-98-8 | 0.05 | mg/kg | <0.05 | 0.5 mg/kg | 92.3 | 66 | 116 |
| EP068: cis-Chlordane | 5103-71-9 | 0.05 | mg/kg | <0.05 | 0.5 mg/kg | 79.3 | 64 | 116 |
| EP068: Dieldrin | 60-57-1 | 0.05 | mg/kg | <0.05 | 0.5 mg/kg | 77.8 | 66 | 116 |
| EP068: 4,4`-DDE | 72-55-9 | 0.05 | mg/kg | <0.05 | 0.5 mg/kg | 99.5 | 67 | 115 |
| EP068: Endrin | 72-20-8 | 0.05 | mg/kg | <0.05 | 0.5 mg/kg | 89.3 | 67 | 123 |
| EP068: beta-Endosulfan | 33213-65-9 | 0.05 | mg/kg | <0.05 | 0.5 mg/kg | 80.3 | 69 | 115 |
| EP068: 4,4`-DDD | 72-54-8 | 0.05 | mg/kg | <0.05 | 0.5 mg/kg | 80.0 | 69 | 121 |
| EP068: Endrin aldehyde | 7421-93-4 | 0.05 | mg/kg | <0.05 | 0.5 mg/kg | 104 | 56 | 120 |
| EP068: Endosulfan sulfate | 1031-07-8 | 0.05 | mg/kg | <0.05 | 0.5 mg/kg | 104 | 62 | 124 |
| EP068: 4,4`-DDT | 50-29-3 | 0.2 | mg/kg | <0.2 | 0.5 mg/kg | 83.6 | 66 | 120 |
| EP068: Endrin ketone | 53494-70-5 | 0.05 | mg/kg | <0.05 | 0.5 mg/kg | 107 | 64 | 122 |
| EP068: Methoxychlor | 72-43-5 | 0.2 | mg/kg | <0.2 | 0.5 mg/kg | 77.8 | 54 | 130 |
| EP068B: Organophosphorus Pesticides (OP) (QCLot: 1271301) | | | | | | | | |
| EP068: Dichlorvos | 62-73-7 | 0.05 | mg/kg | <0.05 | 0.5 mg/kg | 79.0 | 59 | 119 |
| EP068: Demeton-S-methyl | 919-86-8 | 0.05 | mg/kg | <0.05 | 0.5 mg/kg | 84.0 | 62 | 128 |
| EP068: Monocrotophos | 6923-22-4 | 0.2 | mg/kg | <0.2 | 0.5 mg/kg | 87.9 | 54 | 126 |
| EP068: Dimethoate | 60-51-5 | 0.05 | mg/kg | <0.05 | 0.5 mg/kg | 98.4 | 67 | 119 |



Sub-Matrix: **SOIL**

| Sub-Matrix: SOIL | | | | Method Blank (MB) Report | Laboratory Control Spike (LCS) Report | | | |
|---|------------|------|-------|-----------------------------|---------------------------------------|---------------------------|---------------------------------|-----|
| | | | | | Spike Concentration | Spike Recovery (%) LCS | Recovery Limits (%) Low High | |
| Method: Compound | CAS Number | LOR | Unit | Result | | | | |
| EP068B: Organophosphorus Pesticides (OP) (QCLot: 1271301) - continued | | | | | | | | |
| EP068: Diazinon | 333-41-5 | 0.05 | mg/kg | <0.05 | 0.5 mg/kg | 77.3 | 70 | 120 |
| EP068: Chlorpyrifos-methyl | 5598-13-0 | 0.05 | mg/kg | <0.05 | 0.5 mg/kg | 77.0 | 72 | 120 |
| EP068: Parathion-methyl | 298-00-0 | 0.2 | mg/kg | <0.2 | 0.5 mg/kg | 77.0 | 68 | 120 |
| EP068: Malathion | 121-75-5 | 0.05 | mg/kg | <0.05 | 0.5 mg/kg | 79.4 | 68 | 122 |
| EP068: Fenthion | 55-38-9 | 0.05 | mg/kg | <0.05 | 0.5 mg/kg | 80.8 | 69 | 117 |
| EP068: Chlorpyrifos | 2921-88-2 | 0.05 | mg/kg | <0.05 | 0.5 mg/kg | 87.5 | 76 | 118 |
| EP068: Parathion | 56-38-2 | 0.2 | mg/kg | <0.2 | 0.5 mg/kg | 80.6 | 64 | 122 |
| EP068: Pirimphos-ethyl | 23505-41-1 | 0.05 | mg/kg | <0.05 | 0.5 mg/kg | 80.4 | 70 | 116 |
| EP068: Chlorfenvinphos | 470-90-6 | 0.05 | mg/kg | <0.05 | 0.5 mg/kg | 76.8 | 69 | 121 |
| EP068: Bromophos-ethyl | 4824-78-6 | 0.05 | mg/kg | <0.05 | 0.5 mg/kg | 74.8 | 66 | 118 |
| EP068: Fenamiphos | 22224-92-6 | 0.05 | mg/kg | <0.05 | 0.5 mg/kg | 95.2 | 68 | 124 |
| EP068: Prothiofos | 34643-46-4 | 0.05 | mg/kg | <0.05 | 0.5 mg/kg | 77.0 | 62 | 112 |
| EP068: Ethion | 563-12-2 | 0.05 | mg/kg | <0.05 | 0.5 mg/kg | 74.5 | 68 | 120 |
| EP068: Carbophenothion | 786-19-6 | 0.05 | mg/kg | <0.05 | 0.5 mg/kg | 80.4 | 65 | 127 |
| EP068: Azinphos Methyl | 86-50-0 | 0.05 | mg/kg | <0.05 | 0.5 mg/kg | 62.3 | 41 | 123 |
| EP068B: Organophosphorus Pesticides (OP) (QCLot: 1271342) | | | | | | | | |
| EP068: Dichlorvos | 62-73-7 | 0.05 | mg/kg | <0.05 | 0.5 mg/kg | 80.1 | 59 | 119 |
| EP068: Demeton-S-methyl | 919-86-8 | 0.05 | mg/kg | <0.05 | 0.5 mg/kg | 80.7 | 62 | 128 |
| EP068: Monocrotophos | 6923-22-4 | 0.2 | mg/kg | <0.2 | 0.5 mg/kg | 81.4 | 54 | 126 |
| EP068: Dimethoate | 60-51-5 | 0.05 | mg/kg | <0.05 | 0.5 mg/kg | 83.7 | 67 | 119 |
| EP068: Diazinon | 333-41-5 | 0.05 | mg/kg | <0.05 | 0.5 mg/kg | 85.8 | 70 | 120 |
| EP068: Chlorpyrifos-methyl | 5598-13-0 | 0.05 | mg/kg | <0.05 | 0.5 mg/kg | 77.5 | 72 | 120 |
| EP068: Parathion-methyl | 298-00-0 | 0.2 | mg/kg | <0.2 | 0.5 mg/kg | 79.1 | 68 | 120 |
| EP068: Malathion | 121-75-5 | 0.05 | mg/kg | <0.05 | 0.5 mg/kg | 82.2 | 68 | 122 |
| EP068: Fenthion | 55-38-9 | 0.05 | mg/kg | <0.05 | 0.5 mg/kg | 80.4 | 69 | 117 |
| EP068: Chlorpyrifos | 2921-88-2 | 0.05 | mg/kg | <0.05 | 0.5 mg/kg | 81.3 | 76 | 118 |
| EP068: Parathion | 56-38-2 | 0.2 | mg/kg | <0.2 | 0.5 mg/kg | 88.5 | 64 | 122 |
| EP068: Pirimphos-ethyl | 23505-41-1 | 0.05 | mg/kg | <0.05 | 0.5 mg/kg | 83.0 | 70 | 116 |
| EP068: Chlorfenvinphos | 470-90-6 | 0.05 | mg/kg | <0.05 | 0.5 mg/kg | 99.0 | 69 | 121 |
| EP068: Bromophos-ethyl | 4824-78-6 | 0.05 | mg/kg | <0.05 | 0.5 mg/kg | 95.3 | 66 | 118 |
| EP068: Fenamiphos | 22224-92-6 | 0.05 | mg/kg | <0.05 | 0.5 mg/kg | 74.1 | 68 | 124 |
| EP068: Prothiofos | 34643-46-4 | 0.05 | mg/kg | <0.05 | 0.5 mg/kg | 81.6 | 62 | 112 |
| EP068: Ethion | 563-12-2 | 0.05 | mg/kg | <0.05 | 0.5 mg/kg | 85.1 | 68 | 120 |
| EP068: Carbophenothion | 786-19-6 | 0.05 | mg/kg | <0.05 | 0.5 mg/kg | 97.0 | 65 | 127 |
| EP068: Azinphos Methyl | 86-50-0 | 0.05 | mg/kg | <0.05 | 0.5 mg/kg | 63.0 | 41 | 123 |
| EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 1271300) | | | | | | | | |
| EP075(SIM): Naphthalene | 91-20-3 | 0.5 | mg/kg | <0.5 | 6 mg/kg | 114 | 77 | 125 |
| EP075(SIM): Acenaphthylene | 208-96-8 | 0.5 | mg/kg | <0.5 | 6 mg/kg | 109 | 72 | 124 |
| EP075(SIM): Acenaphthene | 83-32-9 | 0.5 | mg/kg | <0.5 | 6 mg/kg | 108 | 73 | 127 |



Sub-Matrix: **SOIL**

| Sub-Matrix: SOIL | | | | Method Blank (MB) Report | Laboratory Control Spike (LCS) Report | | | |
|---|------------|-----|-------|-----------------------------|---------------------------------------|---------------------------|--------------------------------------|-----|
| | | | | | Spike Concentration | Spike Recovery (%) LCS | Recovery Limits (%) Low High | |
| Method: Compound | CAS Number | LOR | Unit | Result | | | | |
| EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 1271300) - continued | | | | | | | | |
| EP075(SIM): Fluorene | 86-73-7 | 0.5 | mg/kg | <0.5 | 6 mg/kg | 111 | 72 | 126 |
| EP075(SIM): Phenanthrene | 85-01-8 | 0.5 | mg/kg | <0.5 | 6 mg/kg | 114 | 75 | 127 |
| EP075(SIM): Anthracene | 120-12-7 | 0.5 | mg/kg | <0.5 | 6 mg/kg | 114 | 77 | 127 |
| EP075(SIM): Fluoranthene | 206-44-0 | 0.5 | mg/kg | <0.5 | 6 mg/kg | 112 | 73 | 127 |
| EP075(SIM): Pyrene | 129-00-0 | 0.5 | mg/kg | <0.5 | 6 mg/kg | 114 | 74 | 128 |
| EP075(SIM): Benz(a)anthracene | 56-55-3 | 0.5 | mg/kg | <0.5 | 6 mg/kg | 99.2 | 69 | 123 |
| EP075(SIM): Chrysene | 218-01-9 | 0.5 | mg/kg | <0.5 | 6 mg/kg | 108 | 75 | 127 |
| EP075(SIM): Benzo(b+j)fluoranthene | 205-99-2 | 0.5 | mg/kg | <0.5 | 6 mg/kg | 98.9 | 68 | 116 |
| | 205-82-3 | | | | | | | |
| EP075(SIM): Benzo(k)fluoranthene | 207-08-9 | 0.5 | mg/kg | <0.5 | 6 mg/kg | 103 | 74 | 126 |
| EP075(SIM): Benzo(a)pyrene | 50-32-8 | 0.5 | mg/kg | <0.5 | 6 mg/kg | 103 | 70 | 126 |
| EP075(SIM): Indeno(1.2.3.cd)pyrene | 193-39-5 | 0.5 | mg/kg | <0.5 | 6 mg/kg | 97.3 | 61 | 121 |
| EP075(SIM): Dibenz(a,h)anthracene | 53-70-3 | 0.5 | mg/kg | <0.5 | 6 mg/kg | 100 | 62 | 118 |
| EP075(SIM): Benzo(g,h,i)perylene | 191-24-2 | 0.5 | mg/kg | <0.5 | 6 mg/kg | 95.4 | 63 | 121 |
| EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 1271340) | | | | | | | | |
| EP075(SIM): Naphthalene | 91-20-3 | 0.5 | mg/kg | <0.5 | 6 mg/kg | 108 | 77 | 125 |
| EP075(SIM): Acenaphthylene | 208-96-8 | 0.5 | mg/kg | <0.5 | 6 mg/kg | 105 | 72 | 124 |
| EP075(SIM): Acenaphthene | 83-32-9 | 0.5 | mg/kg | <0.5 | 6 mg/kg | 109 | 73 | 127 |
| EP075(SIM): Fluorene | 86-73-7 | 0.5 | mg/kg | <0.5 | 6 mg/kg | 106 | 72 | 126 |
| EP075(SIM): Phenanthrene | 85-01-8 | 0.5 | mg/kg | <0.5 | 6 mg/kg | 109 | 75 | 127 |
| EP075(SIM): Anthracene | 120-12-7 | 0.5 | mg/kg | <0.5 | 6 mg/kg | 110 | 77 | 127 |
| EP075(SIM): Fluoranthene | 206-44-0 | 0.5 | mg/kg | <0.5 | 6 mg/kg | 111 | 73 | 127 |
| EP075(SIM): Pyrene | 129-00-0 | 0.5 | mg/kg | <0.5 | 6 mg/kg | 111 | 74 | 128 |
| EP075(SIM): Benz(a)anthracene | 56-55-3 | 0.5 | mg/kg | <0.5 | 6 mg/kg | 98.1 | 69 | 123 |
| EP075(SIM): Chrysene | 218-01-9 | 0.5 | mg/kg | <0.5 | 6 mg/kg | 102 | 75 | 127 |
| EP075(SIM): Benzo(b+j)fluoranthene | 205-99-2 | 0.5 | mg/kg | <0.5 | 6 mg/kg | 94.7 | 68 | 116 |
| | 205-82-3 | | | | | | | |
| EP075(SIM): Benzo(k)fluoranthene | 207-08-9 | 0.5 | mg/kg | <0.5 | 6 mg/kg | 101 | 74 | 126 |
| EP075(SIM): Benzo(a)pyrene | 50-32-8 | 0.5 | mg/kg | <0.5 | 6 mg/kg | 105 | 70 | 126 |
| EP075(SIM): Indeno(1.2.3.cd)pyrene | 193-39-5 | 0.5 | mg/kg | <0.5 | 6 mg/kg | 82.9 | 61 | 121 |
| EP075(SIM): Dibenz(a,h)anthracene | 53-70-3 | 0.5 | mg/kg | <0.5 | 6 mg/kg | 84.6 | 62 | 118 |
| EP075(SIM): Benzo(g,h,i)perylene | 191-24-2 | 0.5 | mg/kg | <0.5 | 6 mg/kg | 76.2 | 63 | 121 |
| EP080/071: Total Petroleum Hydrocarbons (QCLot: 1271143) | | | | | | | | |
| EP080: C6 - C9 Fraction | ---- | 10 | mg/kg | <10 | 26 mg/kg | 84.9 | 68 | 128 |
| EP080/071: Total Petroleum Hydrocarbons (QCLot: 1271149) | | | | | | | | |
| EP080: C6 - C9 Fraction | ---- | 10 | mg/kg | <10 | 26 mg/kg | 91.6 | 68 | 128 |
| EP080/071: Total Petroleum Hydrocarbons (QCLot: 1271299) | | | | | | | | |
| EP071: C10 - C14 Fraction | ---- | 50 | mg/kg | <50 | 200 mg/kg | 104 | 75 | 129 |



Sub-Matrix: **SOIL**

| | | | | Method Blank (MB) Report | Laboratory Control Spike (LCS) Report | | | |
|---|----------------------|-----|-------|-----------------------------|---------------------------------------|---------------------------|---------------------|------|
| | | | | | Spike Concentration | Spike Recovery (%) LCS | Recovery Limits (%) | |
| Method: Compound | CAS Number | LOR | Unit | Result | | | Low | High |
| EP080/071: Total Petroleum Hydrocarbons (QCLot: 1271299) - continued | | | | | | | | |
| EP071: C15 - C28 Fraction | ---- | 100 | mg/kg | <100 | 300 mg/kg | 103 | 77 | 131 |
| EP071: C29 - C36 Fraction | ---- | 100 | mg/kg | <100 | 200 mg/kg | 103 | 71 | 129 |
| EP080/071: Total Petroleum Hydrocarbons (QCLot: 1271341) | | | | | | | | |
| EP071: C10 - C14 Fraction | ---- | 50 | mg/kg | <50 | 200 mg/kg | 100 | 75 | 129 |
| EP071: C15 - C28 Fraction | ---- | 100 | mg/kg | <100 | 300 mg/kg | 110 | 77 | 131 |
| EP071: C29 - C36 Fraction | ---- | 100 | mg/kg | <100 | 200 mg/kg | 100 | 71 | 129 |
| EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 1271143) | | | | | | | | |
| EP080: C6 - C10 Fraction | C6_C10 | 10 | mg/kg | <10 | 31 mg/kg | 84.5 | 68 | 128 |
| EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 1271149) | | | | | | | | |
| EP080: C6 - C10 Fraction | C6_C10 | 10 | mg/kg | <10 | 31 mg/kg | 91.0 | 68 | 128 |
| EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 1271299) | | | | | | | | |
| EP071: >C10 - C16 Fraction | ---- | 50 | mg/kg | <50 | 250 mg/kg | 107 | 77 | 125 |
| EP071: >C16 - C34 Fraction | ---- | 100 | mg/kg | <100 | 350 mg/kg | 108 | 74 | 138 |
| EP071: >C34 - C40 Fraction | ---- | 100 | mg/kg | <100 | 150 mg/kg | 96.1 | 63 | 131 |
| EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 1271341) | | | | | | | | |
| EP071: >C10 - C16 Fraction | ---- | 50 | mg/kg | <50 | 250 mg/kg | 106 | 77 | 125 |
| EP071: >C16 - C34 Fraction | ---- | 100 | mg/kg | <100 | 350 mg/kg | 103 | 74 | 138 |
| EP071: >C34 - C40 Fraction | ---- | 100 | mg/kg | <100 | 150 mg/kg | 91.7 | 63 | 131 |
| EP080: BTEXN (QCLot: 1271143) | | | | | | | | |
| EP080: Benzene | 71-43-2 | 0.2 | mg/kg | <0.2 | 1 mg/kg | 90.5 | 62 | 116 |
| EP080: Toluene | 108-88-3 | 0.5 | mg/kg | <0.5 | 1 mg/kg | 94.7 | 67 | 121 |
| EP080: Ethylbenzene | 100-41-4 | 0.5 | mg/kg | <0.5 | 1 mg/kg | 92.9 | 65 | 117 |
| EP080: meta- & para-Xylene | 108-38-3 106-42-3 | 0.5 | mg/kg | <0.5 | 2 mg/kg | 91.9 | 66 | 118 |
| EP080: ortho-Xylene | 95-47-6 | 0.5 | mg/kg | <0.5 | 1 mg/kg | 93.3 | 68 | 120 |
| EP080: Naphthalene | 91-20-3 | 1 | mg/kg | <1 | 1 mg/kg | 88.6 | 63 | 119 |
| EP080: BTEXN (QCLot: 1271149) | | | | | | | | |
| EP080: Benzene | 71-43-2 | 0.2 | mg/kg | <0.2 | 1 mg/kg | 92.9 | 62 | 116 |
| EP080: Toluene | 108-88-3 | 0.5 | mg/kg | <0.5 | 1 mg/kg | 78.3 | 67 | 121 |
| EP080: Ethylbenzene | 100-41-4 | 0.5 | mg/kg | <0.5 | 1 mg/kg | 90.3 | 65 | 117 |
| EP080: meta- & para-Xylene | 108-38-3 106-42-3 | 0.5 | mg/kg | <0.5 | 2 mg/kg | 94.4 | 66 | 118 |
| EP080: ortho-Xylene | 95-47-6 | 0.5 | mg/kg | <0.5 | 1 mg/kg | 97.4 | 68 | 120 |
| EP080: Naphthalene | 91-20-3 | 1 | mg/kg | <1 | 1 mg/kg | 85.2 | 63 | 119 |

Matrix Spike (MS) Report



The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **SOIL**

| Sub-Matrix: SOIL | | | | Matrix Spike (MS) Report | | | |
|--|------------------|--|------------|--------------------------|------------------|---------------------|------|
| | | | | Spike | SpikeRecovery(%) | Recovery Limits (%) | |
| Laboratory sample ID | Client sample ID | Method: Compound | CAS Number | Concentration | MS | Low | High |
| EG005T: Total Metals by ICP-AES (QCLot: 1277855) | | | | | | | |
| ES1729384-001 | Anonymous | EG005T: Arsenic | 7440-38-2 | 50 mg/kg | 93.5 | 70 | 130 |
| | | EG005T: Cadmium | 7440-43-9 | 50 mg/kg | 93.9 | 70 | 130 |
| | | EG005T: Chromium | 7440-47-3 | 50 mg/kg | 94.3 | 70 | 130 |
| | | EG005T: Copper | 7440-50-8 | 250 mg/kg | 94.1 | 70 | 130 |
| | | EG005T: Lead | 7439-92-1 | 250 mg/kg | 92.3 | 70 | 130 |
| | | EG005T: Nickel | 7440-02-0 | 50 mg/kg | 94.7 | 70 | 130 |
| | | EG005T: Zinc | 7440-66-6 | 250 mg/kg | 97.6 | 70 | 130 |
| EG005T: Total Metals by ICP-AES (QCLot: 1277858) | | | | | | | |
| ES1729769-017 | 45880-17 | EG005T: Arsenic | 7440-38-2 | 50 mg/kg | 98.2 | 70 | 130 |
| | | EG005T: Cadmium | 7440-43-9 | 50 mg/kg | 93.2 | 70 | 130 |
| | | EG005T: Chromium | 7440-47-3 | 50 mg/kg | 92.9 | 70 | 130 |
| | | EG005T: Copper | 7440-50-8 | 250 mg/kg | 94.0 | 70 | 130 |
| | | EG005T: Lead | 7439-92-1 | 250 mg/kg | 93.4 | 70 | 130 |
| | | EG005T: Nickel | 7440-02-0 | 50 mg/kg | 92.4 | 70 | 130 |
| | | EG005T: Zinc | 7440-66-6 | 250 mg/kg | 92.0 | 70 | 130 |
| EG035T: Total Recoverable Mercury by FIMS (QCLot: 1277856) | | | | | | | |
| ES1729384-001 | Anonymous | EG035T: Mercury | 7439-97-6 | 5 mg/kg | 98.1 | 70 | 130 |
| EG035T: Total Recoverable Mercury by FIMS (QCLot: 1277857) | | | | | | | |
| ES1729769-017 | 45880-17 | EG035T: Mercury | 7439-97-6 | 5 mg/kg | 98.9 | 70 | 130 |
| EP066: Polychlorinated Biphenyls (PCB) (QCLot: 1271302) | | | | | | | |
| ES1729769-001 | 45880-1 | EP066: Total Polychlorinated biphenyls | ---- | 1 mg/kg | 104 | 70 | 130 |
| EP066: Polychlorinated Biphenyls (PCB) (QCLot: 1271343) | | | | | | | |
| ES1729737-001 | Anonymous | EP066: Total Polychlorinated biphenyls | ---- | 1 mg/kg | 112 | 70 | 130 |
| EP068A: Organochlorine Pesticides (OC) (QCLot: 1271301) | | | | | | | |
| ES1729769-001 | 45880-1 | EP068: gamma-BHC | 58-89-9 | 0.5 mg/kg | 87.9 | 70 | 130 |
| | | EP068: Heptachlor | 76-44-8 | 0.5 mg/kg | 89.1 | 70 | 130 |
| | | EP068: Aldrin | 309-00-2 | 0.5 mg/kg | 81.0 | 70 | 130 |
| | | EP068: Dieldrin | 60-57-1 | 0.5 mg/kg | 77.3 | 70 | 130 |
| | | EP068: Endrin | 72-20-8 | 2 mg/kg | 88.9 | 70 | 130 |
| | | EP068: 4,4`-DDT | 50-29-3 | 2 mg/kg | 89.6 | 70 | 130 |
| EP068A: Organochlorine Pesticides (OC) (QCLot: 1271342) | | | | | | | |
| ES1729737-001 | Anonymous | EP068: gamma-BHC | 58-89-9 | 0.5 mg/kg | 88.5 | 70 | 130 |
| | | EP068: Heptachlor | 76-44-8 | 0.5 mg/kg | 92.2 | 70 | 130 |
| | | EP068: Aldrin | 309-00-2 | 0.5 mg/kg | 87.0 | 70 | 130 |
| | | EP068: Dieldrin | 60-57-1 | 0.5 mg/kg | 101 | 70 | 130 |



Sub-Matrix: **SOIL**

| Sub-Matrix: SOIL | | | | Matrix Spike (MS) Report | | | |
|--|------------------|----------------------------|------------|--------------------------|------------------|---------------------|------|
| | | | | Spike | SpikeRecovery(%) | Recovery Limits (%) | |
| Laboratory sample ID | Client sample ID | Method: Compound | CAS Number | Concentration | MS | Low | High |
| EP068A: Organochlorine Pesticides (OC) (QCLot: 1271342) - continued | | | | | | | |
| ES1729737-001 | Anonymous | EP068: Endrin | 72-20-8 | 2 mg/kg | 91.1 | 70 | 130 |
| | | EP068: 4,4`-DDT | 50-29-3 | 2 mg/kg | 91.7 | 70 | 130 |
| EP068B: Organophosphorus Pesticides (OP) (QCLot: 1271301) | | | | | | | |
| ES1729769-001 | 45880-1 | EP068: Diazinon | 333-41-5 | 0.5 mg/kg | 106 | 70 | 130 |
| | | EP068: Chlorpyrifos-methyl | 5598-13-0 | 0.5 mg/kg | 77.2 | 70 | 130 |
| | | EP068: Pirimphos-ethyl | 23505-41-1 | 0.5 mg/kg | 85.3 | 70 | 130 |
| | | EP068: Bromophos-ethyl | 4824-78-6 | 0.5 mg/kg | 82.1 | 70 | 130 |
| | | EP068: Prothiofos | 34643-46-4 | 0.5 mg/kg | 92.2 | 70 | 130 |
| EP068B: Organophosphorus Pesticides (OP) (QCLot: 1271342) | | | | | | | |
| ES1729737-001 | Anonymous | EP068: Diazinon | 333-41-5 | 0.5 mg/kg | 75.9 | 70 | 130 |
| | | EP068: Chlorpyrifos-methyl | 5598-13-0 | 0.5 mg/kg | 86.3 | 70 | 130 |
| | | EP068: Pirimphos-ethyl | 23505-41-1 | 0.5 mg/kg | 83.7 | 70 | 130 |
| | | EP068: Bromophos-ethyl | 4824-78-6 | 0.5 mg/kg | 88.6 | 70 | 130 |
| | | EP068: Prothiofos | 34643-46-4 | 0.5 mg/kg | 80.2 | 70 | 130 |
| EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 1271300) | | | | | | | |
| ES1729769-001 | 45880-1 | EP075(SIM): Acenaphthene | 83-32-9 | 10 mg/kg | 116 | 70 | 130 |
| | | EP075(SIM): Pyrene | 129-00-0 | 10 mg/kg | 115 | 70 | 130 |
| EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 1271340) | | | | | | | |
| ES1729737-001 | Anonymous | EP075(SIM): Acenaphthene | 83-32-9 | 10 mg/kg | 89.5 | 70 | 130 |
| | | EP075(SIM): Pyrene | 129-00-0 | 10 mg/kg | 86.8 | 70 | 130 |
| EP080/071: Total Petroleum Hydrocarbons (QCLot: 1271143) | | | | | | | |
| ES1729769-001 | 45880-1 | EP080: C6 - C9 Fraction | ---- | 32.5 mg/kg | 103 | 70 | 130 |
| EP080/071: Total Petroleum Hydrocarbons (QCLot: 1271149) | | | | | | | |
| ES1729768-001 | Anonymous | EP080: C6 - C9 Fraction | ---- | 32.5 mg/kg | 102 | 70 | 130 |
| EP080/071: Total Petroleum Hydrocarbons (QCLot: 1271299) | | | | | | | |
| ES1729769-001 | 45880-1 | EP071: C10 - C14 Fraction | ---- | 523 mg/kg | 74.0 | 73 | 137 |
| | | EP071: C15 - C28 Fraction | ---- | 2319 mg/kg | 100 | 53 | 131 |
| | | EP071: C29 - C36 Fraction | ---- | 1714 mg/kg | 113 | 52 | 132 |
| EP080/071: Total Petroleum Hydrocarbons (QCLot: 1271341) | | | | | | | |
| ES1729737-001 | Anonymous | EP071: C10 - C14 Fraction | ---- | 523 mg/kg | 107 | 73 | 137 |
| | | EP071: C15 - C28 Fraction | ---- | 2319 mg/kg | 110 | 53 | 131 |
| | | EP071: C29 - C36 Fraction | ---- | 1714 mg/kg | 124 | 52 | 132 |
| EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 1271143) | | | | | | | |
| ES1729769-001 | 45880-1 | EP080: C6 - C10 Fraction | C6_C10 | 37.5 mg/kg | 97.8 | 70 | 130 |
| EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 1271149) | | | | | | | |
| ES1729768-001 | Anonymous | | | | | | |



| Sub-Matrix: SOIL | | | | Matrix Spike (MS) Report | | | |
|--|------------------|----------------------------|------------|--------------------------|------------------|---------------------|------|
| | | | | Spike | SpikeRecovery(%) | Recovery Limits (%) | |
| Laboratory sample ID | Client sample ID | Method: Compound | CAS Number | Concentration | MS | Low | High |
| EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 1271149) - continued | | | | | | | |
| ES1729768-001 | Anonymous | EP080: C6 - C10 Fraction | C6_C10 | 37.5 mg/kg | 97.8 | 70 | 130 |
| EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 1271299) | | | | | | | |
| ES1729769-001 | 45880-1 | EP071: >C10 - C16 Fraction | ---- | 860 mg/kg | 86.5 | 73 | 137 |
| | | EP071: >C16 - C34 Fraction | ---- | 3223 mg/kg | 111 | 53 | 131 |
| | | EP071: >C34 - C40 Fraction | ---- | 1058 mg/kg | 109 | 52 | 132 |
| EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 1271341) | | | | | | | |
| ES1729737-001 | Anonymous | EP071: >C10 - C16 Fraction | ---- | 860 mg/kg | 104 | 73 | 137 |
| | | EP071: >C16 - C34 Fraction | ---- | 3223 mg/kg | 114 | 53 | 131 |
| | | EP071: >C34 - C40 Fraction | ---- | 1058 mg/kg | 121 | 52 | 132 |
| EP080: BTEXN (QCLot: 1271143) | | | | | | | |
| ES1729769-001 | 45880-1 | EP080: Benzene | 71-43-2 | 2.5 mg/kg | 96.2 | 70 | 130 |
| | | EP080: Toluene | 108-88-3 | 2.5 mg/kg | 95.6 | 70 | 130 |
| | | EP080: Ethylbenzene | 100-41-4 | 2.5 mg/kg | 93.3 | 70 | 130 |
| | | EP080: meta- & para-Xylene | 108-38-3 | 2.5 mg/kg | 95.0 | 70 | 130 |
| | | | 106-42-3 | | | | |
| | | EP080: ortho-Xylene | 95-47-6 | 2.5 mg/kg | 96.3 | 70 | 130 |
| EP080: BTEXN (QCLot: 1271149) | Anonymous | EP080: Naphthalene | 91-20-3 | 2.5 mg/kg | 92.2 | 70 | 130 |
| | | EP080: Benzene | 71-43-2 | 2.5 mg/kg | 102 | 70 | 130 |
| | | EP080: Toluene | 108-88-3 | 2.5 mg/kg | 90.5 | 70 | 130 |
| | | EP080: Ethylbenzene | 100-41-4 | 2.5 mg/kg | 97.2 | 70 | 130 |
| | | EP080: meta- & para-Xylene | 108-38-3 | 2.5 mg/kg | 101 | 70 | 130 |
| | | | 106-42-3 | | | | |
| ES1729768-001 | Anonymous | EP080: ortho-Xylene | 95-47-6 | 2.5 mg/kg | 97.3 | 70 | 130 |
| | | EP080: Naphthalene | 91-20-3 | 2.5 mg/kg | 88.1 | 70 | 130 |

QA/QC Compliance Assessment to assist with Quality Review

| | | | |
|--------------|-------------------------------|-------------------------|---------------------------------|
| Work Order | : ES1729769 | Page | : 1 of 11 |
| Client | : SESL Australia Pty Ltd | Laboratory | : Environmental Division Sydney |
| Contact | : Harrison Leake (SUBSAMPLES) | Telephone | : +61-2-8784 8555 |
| Project | : 45880 | Date Samples Received | : 24-Nov-2017 |
| Site | : ---- | Issue Date | : 01-Dec-2017 |
| Sampler | : ---- | No. of samples received | : 28 |
| Order number | : ---- | No. of samples analysed | : 28 |

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO** Method Blank value outliers occur.
- **NO** Duplicate outliers occur.
- **NO** Laboratory Control outliers occur.
- **NO** Matrix Spike outliers occur.
- For all regular sample matrices, **NO** surrogate recovery outliers occur.

Outliers : Analysis Holding Time Compliance

- **NO** Analysis Holding Time Outliers exist.

Outliers : Frequency of Quality Control Samples

- **NO** Quality Control Sample Frequency Outliers exist.

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results. This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein. Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters. Holding times for VOC in soils vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **SOIL** Evaluation: ✖ = Holding time breach ; ✔ = Within holding time.

| Method | Sample Date | Extraction / Preparation | | | Analysis | | | |
|--|-------------|--------------------------|--------------------|------------|---------------|------------------|------------|-----------|
| Container / Client Sample ID(s) | | Date extracted | Due for extraction | Evaluation | Date analysed | Due for analysis | Evaluation | |
| EA055: Moisture Content (Dried @ 105-110°C) | | | | | | | | |
| Soil Glass Jar - Unpreserved (EA055) | 24-Nov-2017 | ---- | ---- | ---- | 28-Nov-2017 | 08-Dec-2017 | ✓ | |
| 45880-1, | | | | | | | | 45880-2, |
| 45880-3, | | | | | | | | 45880-4, |
| 45880-5, | | | | | | | | 45880-6, |
| 45880-7, | | | | | | | | 45880-8, |
| 45880-9, | | | | | | | | 45880-10, |
| 45880-11, | | | | | | | | 45880-12, |
| 45880-13, | | | | | | | | 45880-14, |
| 45880-15, | | | | | | | | 45880-16, |
| 45880-17, | | | | | | | | 45880-18, |
| 45880-19, | | | | | | | | 45880-20, |
| 45880-21, | | | | | | | | 45880-22, |
| 45880-23, | | | | | | | | 45880-24, |
| 45880-25, | | | | | | | | 45880-26, |
| 45880-27, | | | | | | | | 45880-28 |
| EA200: AS 4964 - 2004 Identification of Asbestos in bulk samples | | | | | | | | |
| Snap Lock Bag - Subsampled by ALS (EA200) | 24-Nov-2017 | ---- | ---- | ---- | 29-Nov-2017 | 23-May-2018 | ✓ | |
| 45880-8, | | | | | | | | 45880-11, |
| 45880-12, | | | | | | | | 45880-13, |
| 45880-14, | 45880-27 | | | | | | | |
| EA200: AS 4964 - 2004 Identification of Asbestos in Soils | | | | | | | | |
| Snap Lock Bag - Subsampled by ALS (EA200) | 24-Nov-2017 | ---- | ---- | ---- | 29-Nov-2017 | 23-May-2018 | ✓ | |
| 45880-8, | | | | | | | | 45880-11, |
| 45880-12, | | | | | | | | 45880-13, |
| 45880-14, | | | | | | | | 45880-27 |



Matrix: **SOIL**

Evaluation: ✖ = Holding time breach ; ✔ = Within holding time.

| Method | | Sample Date | Extraction / Preparation | | | Analysis | | | | | | | | | |
|---|-----------|-------------|--------------------------|--------------------|------------|---------------|------------------|------------|-------------|-------------|-------------|---|-------------|-------------|---|
| Container / Client Sample ID(s) | | | Date extracted | Due for extraction | Evaluation | Date analysed | Due for analysis | Evaluation | | | | | | | |
| EG005T: Total Metals by ICP-AES | | | | | | | | | | | | | | | |
| Soil Glass Jar - Unpreserved (EG005T) | | 24-Nov-2017 | 29-Nov-2017 | 23-May-2018 | ✔ | 29-Nov-2017 | 23-May-2018 | ✔ | | | | | | | |
| 45880-1, | 45880-2, | | | | | | | | | | | | | | |
| 45880-3, | 45880-4, | | | | | | | | | | | | | | |
| 45880-5, | 45880-6, | | | | | | | | | | | | | | |
| 45880-7, | 45880-8, | | | | | | | | | | | | | | |
| 45880-9, | 45880-10, | | | | | | | | | | | | | | |
| 45880-11, | 45880-12, | | | | | | | | | | | | | | |
| 45880-13, | 45880-14, | | | | | | | | | | | | | | |
| 45880-15, | 45880-16, | | | | | | | | | | | | | | |
| 45880-17, | 45880-18, | | | | | | | | | | | | | | |
| 45880-19, | 45880-20, | | | | | | | | | | | | | | |
| 45880-21, | 45880-22, | | | | | | | | | | | | | | |
| 45880-23, | 45880-24, | | | | | | | | | | | | | | |
| 45880-25, | 45880-26, | | | | | | | | | | | | | | |
| 45880-27, | 45880-28 | | | | | | | | | | | | | | |
| EG035T: Total Recoverable Mercury by FIMS | | | | | | | | | | | | | | | |
| Soil Glass Jar - Unpreserved (EG035T) | | | | | | | | | 24-Nov-2017 | 29-Nov-2017 | 22-Dec-2017 | ✔ | 29-Nov-2017 | 22-Dec-2017 | ✔ |
| 45880-1, | 45880-2, | | | | | | | | | | | | | | |
| 45880-3, | 45880-4, | | | | | | | | | | | | | | |
| 45880-5, | 45880-6, | | | | | | | | | | | | | | |
| 45880-7, | 45880-8, | | | | | | | | | | | | | | |
| 45880-9, | 45880-10, | | | | | | | | | | | | | | |
| 45880-11, | 45880-12, | | | | | | | | | | | | | | |
| 45880-13, | 45880-14, | | | | | | | | | | | | | | |
| 45880-15, | 45880-16, | | | | | | | | | | | | | | |
| 45880-17, | 45880-18, | | | | | | | | | | | | | | |
| 45880-19, | 45880-20, | | | | | | | | | | | | | | |
| 45880-21, | 45880-22, | | | | | | | | | | | | | | |
| 45880-23, | 45880-24, | | | | | | | | | | | | | | |
| 45880-25, | 45880-26, | | | | | | | | | | | | | | |
| 45880-27, | 45880-28 | | | | | | | | | | | | | | |

Evaluation: ✖ = Holding time breach ; ✔ = Within holding time.

| Method | | Sample Date | Extraction / Preparation | | | Analysis | | |
|--|-----------|-------------|--------------------------|--------------------|------------|---------------|------------------|------------|
| Container / Client Sample ID(s) | | | Date extracted | Due for extraction | Evaluation | Date analysed | Due for analysis | Evaluation |
| EP066: Polychlorinated Biphenyls (PCB) | | | | | | | | |
| Soil Glass Jar - Unpreserved (EP066) | | 24-Nov-2017 | 28-Nov-2017 | 08-Dec-2017 | ✓ | 28-Nov-2017 | 07-Jan-2018 | ✓ |
| 45880-1, | 45880-2, | | | | | | | |
| 45880-3, | 45880-4, | | | | | | | |
| 45880-5, | 45880-6, | | | | | | | |
| 45880-7, | 45880-8, | | | | | | | |
| 45880-9, | 45880-10, | | | | | | | |
| 45880-11, | 45880-12, | | | | | | | |
| 45880-13, | 45880-14, | | | | | | | |
| 45880-15, | 45880-16, | | | | | | | |
| 45880-17, | 45880-18, | | | | | | | |
| 45880-19, | 45880-20 | | | | | | | |
| Soil Glass Jar - Unpreserved (EP066) | | 24-Nov-2017 | 28-Nov-2017 | 08-Dec-2017 | ✓ | 29-Nov-2017 | 07-Jan-2018 | ✓ |
| 45880-21, | 45880-22, | | | | | | | |
| 45880-23, | 45880-24, | | | | | | | |
| 45880-25, | 45880-26, | | | | | | | |
| 45880-27, | 45880-28 | | | | | | | |
| EP068A: Organochlorine Pesticides (OC) | | | | | | | | |
| Soil Glass Jar - Unpreserved (EP068) | | 24-Nov-2017 | 28-Nov-2017 | 08-Dec-2017 | ✓ | 28-Nov-2017 | 07-Jan-2018 | ✓ |
| 45880-1, | 45880-2, | | | | | | | |
| 45880-3, | 45880-4, | | | | | | | |
| 45880-5, | 45880-6, | | | | | | | |
| 45880-7, | 45880-8, | | | | | | | |
| 45880-9, | 45880-10, | | | | | | | |
| 45880-11, | 45880-12, | | | | | | | |
| 45880-13, | 45880-14, | | | | | | | |
| 45880-15, | 45880-16, | | | | | | | |
| 45880-17, | 45880-18, | | | | | | | |
| 45880-19, | 45880-20 | | | | | | | |
| Soil Glass Jar - Unpreserved (EP068) | | 24-Nov-2017 | 28-Nov-2017 | 08-Dec-2017 | ✓ | 29-Nov-2017 | 07-Jan-2018 | ✓ |
| 45880-21, | 45880-22, | | | | | | | |
| 45880-23, | 45880-24, | | | | | | | |
| 45880-25, | 45880-26, | | | | | | | |
| 45880-27, | 45880-28 | | | | | | | |

Evaluation: ✖ = Holding time breach ; ✔ = Within holding time.

| Method | | Sample Date | Extraction / Preparation | | | Analysis | | |
|---|---|-------------|--------------------------|--------------------|------------|---------------|------------------|------------|
| Container / Client Sample ID(s) | | | Date extracted | Due for extraction | Evaluation | Date analysed | Due for analysis | Evaluation |
| EP068B: Organophosphorus Pesticides (OP) | | | | | | | | |
| Soil Glass Jar - Unpreserved (EP068) | | | | | | | | |
| 45880-1, 45880-3, 45880-5, 45880-7, 45880-9, 45880-11, 45880-13, 45880-15, 45880-17, 45880-19, | 45880-2, 45880-4, 45880-6, 45880-8, 45880-10, 45880-12, 45880-14, 45880-16, 45880-18, 45880-20 | 24-Nov-2017 | 28-Nov-2017 | 08-Dec-2017 | ✓ | 28-Nov-2017 | 07-Jan-2018 | ✓ |
| Soil Glass Jar - Unpreserved (EP068) | | | | | | | | |
| 45880-21, 45880-23, 45880-25, 45880-27, | 45880-22, 45880-24, 45880-26, 45880-28 | 24-Nov-2017 | 28-Nov-2017 | 08-Dec-2017 | ✓ | 29-Nov-2017 | 07-Jan-2018 | ✓ |
| EP075(SIM)B: Polynuclear Aromatic Hydrocarbons | | | | | | | | |
| Soil Glass Jar - Unpreserved (EP075(SIM)) | | | | | | | | |
| 45880-1, 45880-3, 45880-5, 45880-7, 45880-9, 45880-11, 45880-13, 45880-15, 45880-17, 45880-19, 45880-21, 45880-23, 45880-25, 45880-27, | 45880-2, 45880-4, 45880-6, 45880-8, 45880-10, 45880-12, 45880-14, 45880-16, 45880-18, 45880-20, 45880-22, 45880-24, 45880-26, 45880-28 | 24-Nov-2017 | 28-Nov-2017 | 08-Dec-2017 | ✓ | 28-Nov-2017 | 07-Jan-2018 | ✓ |

Evaluation: ✖ = Holding time breach ; ✔ = Within holding time.

| Method | | Sample Date | Extraction / Preparation | | | Analysis | | |
|---|-----------|-------------|--------------------------|--------------------|------------|---------------|------------------|------------|
| Container / Client Sample ID(s) | | | Date extracted | Due for extraction | Evaluation | Date analysed | Due for analysis | Evaluation |
| EP080/071: Total Petroleum Hydrocarbons | | | | | | | | |
| Soil Glass Jar - Unpreserved (EP080) | | 24-Nov-2017 | 27-Nov-2017 | 08-Dec-2017 | ✓ | 28-Nov-2017 | 08-Dec-2017 | ✓ |
| 45880-1, | 45880-2, | | | | | | | |
| 45880-3, | 45880-4, | | | | | | | |
| 45880-5, | 45880-6, | | | | | | | |
| 45880-7, | 45880-8, | | | | | | | |
| 45880-9, | 45880-10, | | | | | | | |
| 45880-11, | 45880-12, | | | | | | | |
| 45880-13, | 45880-14, | | | | | | | |
| 45880-15, | 45880-16, | | | | | | | |
| 45880-17, | 45880-18, | | | | | | | |
| 45880-19, | 45880-20 | | | | | | | |
| Soil Glass Jar - Unpreserved (EP080) | | 24-Nov-2017 | 28-Nov-2017 | 08-Dec-2017 | ✓ | 28-Nov-2017 | 08-Dec-2017 | ✓ |
| 45880-1, | 45880-2, | | | | | | | |
| 45880-3, | 45880-4, | | | | | | | |
| 45880-5, | 45880-6, | | | | | | | |
| 45880-7, | 45880-8, | | | | | | | |
| 45880-9, | 45880-10, | | | | | | | |
| 45880-11, | 45880-12, | | | | | | | |
| 45880-13, | 45880-14, | | | | | | | |
| 45880-15, | 45880-16, | | | | | | | |
| 45880-17, | 45880-18, | | | | | | | |
| 45880-19, | 45880-20, | | | | | | | |
| 45880-21, | 45880-22, | | | | | | | |
| 45880-23, | 45880-24, | | | | | | | |
| 45880-25, | 45880-26, | | | | | | | |
| 45880-27, | 45880-28 | | | | | | | |

Evaluation: ✖ = Holding time breach ; ✔ = Within holding time.

| Method | Sample Date | Extraction / Preparation | | | Analysis | | |
|--|-------------|--------------------------|--------------------|------------|---------------|------------------|------------|
| Container / Client Sample ID(s) | | Date extracted | Due for extraction | Evaluation | Date analysed | Due for analysis | Evaluation |
| EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions | | | | | | | |
| Soil Glass Jar - Unpreserved (EP080) | | | | | | | |
| 45880-1, 45880-2, | 24-Nov-2017 | 27-Nov-2017 | 08-Dec-2017 | ✓ | 28-Nov-2017 | 08-Dec-2017 | ✓ |
| 45880-3, 45880-4, | | | | | | | |
| 45880-5, 45880-6, | | | | | | | |
| 45880-7, 45880-8, | | | | | | | |
| 45880-9, 45880-10, | | | | | | | |
| 45880-11, 45880-12, | | | | | | | |
| 45880-13, 45880-14, | | | | | | | |
| 45880-15, 45880-16, | | | | | | | |
| 45880-17, 45880-18, | | | | | | | |
| 45880-19, 45880-20 | | | | | | | |
| Soil Glass Jar - Unpreserved (EP080) | | | | | | | |
| 45880-1, 45880-2, | 24-Nov-2017 | 28-Nov-2017 | 08-Dec-2017 | ✓ | 28-Nov-2017 | 08-Dec-2017 | ✓ |
| 45880-3, 45880-4, | | | | | | | |
| 45880-5, 45880-6, | | | | | | | |
| 45880-7, 45880-8, | | | | | | | |
| 45880-9, 45880-10, | | | | | | | |
| 45880-11, 45880-12, | | | | | | | |
| 45880-13, 45880-14, | | | | | | | |
| 45880-15, 45880-16, | | | | | | | |
| 45880-17, 45880-18, | | | | | | | |
| 45880-19, 45880-20, | | | | | | | |
| 45880-21, 45880-22, | | | | | | | |
| 45880-23, 45880-24, | | | | | | | |
| 45880-25, 45880-26, | | | | | | | |
| 45880-27, 45880-28 | | | | | | | |

Evaluation: ✖ = Holding time breach ; ✔ = Within holding time.

| Method | | Sample Date | Extraction / Preparation | | | Analysis | | |
|--------------------------------------|-----------|-------------|--------------------------|--------------------|------------|---------------|------------------|------------|
| Container / Client Sample ID(s) | | | Date extracted | Due for extraction | Evaluation | Date analysed | Due for analysis | Evaluation |
| EP080: BTEXN | | | | | | | | |
| Soil Glass Jar - Unpreserved (EP080) | | 24-Nov-2017 | 27-Nov-2017 | 08-Dec-2017 | ✓ | 28-Nov-2017 | 08-Dec-2017 | ✓ |
| 45880-1, | 45880-2, | | | | | | | |
| 45880-3, | 45880-4, | | | | | | | |
| 45880-5, | 45880-6, | | | | | | | |
| 45880-7, | 45880-8, | | | | | | | |
| 45880-9, | 45880-10, | | | | | | | |
| 45880-11, | 45880-12, | | | | | | | |
| 45880-13, | 45880-14, | | | | | | | |
| 45880-15, | 45880-16, | | | | | | | |
| 45880-17, | 45880-18, | | | | | | | |
| 45880-19, | 45880-20 | | | | | | | |
| Soil Glass Jar - Unpreserved (EP080) | | 24-Nov-2017 | 28-Nov-2017 | 08-Dec-2017 | ✓ | 28-Nov-2017 | 08-Dec-2017 | ✓ |
| 45880-21, | 45880-22, | | | | | | | |
| 45880-23, | 45880-24, | | | | | | | |
| 45880-25, | 45880-26, | | | | | | | |
| 45880-27, | 45880-28 | | | | | | | |



Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **SOIL**

Evaluation: * = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

| Quality Control Sample Type | | Count | | Rate (%) | | | Quality Control Specification |
|----------------------------------|------------|-------|---------|----------|----------|------------|--------------------------------|
| Analytical Methods | Method | QC | Regular | Actual | Expected | Evaluation | |
| Laboratory Duplicates (DUP) | | | | | | | |
| Moisture Content | EA055 | 6 | 59 | 10.17 | 10.00 | ✓ | NEPM 2013 B3 & ALS QC Standard |
| PAH/Phenols (SIM) | EP075(SIM) | 4 | 40 | 10.00 | 10.00 | ✓ | NEPM 2013 B3 & ALS QC Standard |
| Pesticides by GCMS | EP068 | 4 | 38 | 10.53 | 10.00 | ✓ | NEPM 2013 B3 & ALS QC Standard |
| Polychlorinated Biphenyls (PCB) | EP066 | 4 | 38 | 10.53 | 10.00 | ✓ | NEPM 2013 B3 & ALS QC Standard |
| Total Mercury by FIMS | EG035T | 4 | 40 | 10.00 | 10.00 | ✓ | NEPM 2013 B3 & ALS QC Standard |
| Total Metals by ICP-AES | EG005T | 4 | 40 | 10.00 | 10.00 | ✓ | NEPM 2013 B3 & ALS QC Standard |
| TRH - Semivolatile Fraction | EP071 | 4 | 40 | 10.00 | 10.00 | ✓ | NEPM 2013 B3 & ALS QC Standard |
| TRH Volatiles/BTEX | EP080 | 4 | 40 | 10.00 | 10.00 | ✓ | NEPM 2013 B3 & ALS QC Standard |
| Laboratory Control Samples (LCS) | | | | | | | |
| PAH/Phenols (SIM) | EP075(SIM) | 2 | 40 | 5.00 | 5.00 | ✓ | NEPM 2013 B3 & ALS QC Standard |
| Pesticides by GCMS | EP068 | 2 | 38 | 5.26 | 5.00 | ✓ | NEPM 2013 B3 & ALS QC Standard |
| Polychlorinated Biphenyls (PCB) | EP066 | 2 | 38 | 5.26 | 5.00 | ✓ | NEPM 2013 B3 & ALS QC Standard |
| Total Mercury by FIMS | EG035T | 2 | 40 | 5.00 | 5.00 | ✓ | NEPM 2013 B3 & ALS QC Standard |
| Total Metals by ICP-AES | EG005T | 2 | 40 | 5.00 | 5.00 | ✓ | NEPM 2013 B3 & ALS QC Standard |
| TRH - Semivolatile Fraction | EP071 | 2 | 40 | 5.00 | 5.00 | ✓ | NEPM 2013 B3 & ALS QC Standard |
| TRH Volatiles/BTEX | EP080 | 2 | 40 | 5.00 | 5.00 | ✓ | NEPM 2013 B3 & ALS QC Standard |
| Method Blanks (MB) | | | | | | | |
| PAH/Phenols (SIM) | EP075(SIM) | 2 | 40 | 5.00 | 5.00 | ✓ | NEPM 2013 B3 & ALS QC Standard |
| Pesticides by GCMS | EP068 | 2 | 38 | 5.26 | 5.00 | ✓ | NEPM 2013 B3 & ALS QC Standard |
| Polychlorinated Biphenyls (PCB) | EP066 | 2 | 38 | 5.26 | 5.00 | ✓ | NEPM 2013 B3 & ALS QC Standard |
| Total Mercury by FIMS | EG035T | 2 | 40 | 5.00 | 5.00 | ✓ | NEPM 2013 B3 & ALS QC Standard |
| Total Metals by ICP-AES | EG005T | 2 | 40 | 5.00 | 5.00 | ✓ | NEPM 2013 B3 & ALS QC Standard |
| TRH - Semivolatile Fraction | EP071 | 2 | 40 | 5.00 | 5.00 | ✓ | NEPM 2013 B3 & ALS QC Standard |
| TRH Volatiles/BTEX | EP080 | 2 | 40 | 5.00 | 5.00 | ✓ | NEPM 2013 B3 & ALS QC Standard |
| Matrix Spikes (MS) | | | | | | | |
| PAH/Phenols (SIM) | EP075(SIM) | 2 | 40 | 5.00 | 5.00 | ✓ | NEPM 2013 B3 & ALS QC Standard |
| Pesticides by GCMS | EP068 | 2 | 38 | 5.26 | 5.00 | ✓ | NEPM 2013 B3 & ALS QC Standard |
| Polychlorinated Biphenyls (PCB) | EP066 | 2 | 38 | 5.26 | 5.00 | ✓ | NEPM 2013 B3 & ALS QC Standard |
| Total Mercury by FIMS | EG035T | 2 | 40 | 5.00 | 5.00 | ✓ | NEPM 2013 B3 & ALS QC Standard |
| Total Metals by ICP-AES | EG005T | 2 | 40 | 5.00 | 5.00 | ✓ | NEPM 2013 B3 & ALS QC Standard |
| TRH - Semivolatile Fraction | EP071 | 2 | 40 | 5.00 | 5.00 | ✓ | NEPM 2013 B3 & ALS QC Standard |
| TRH Volatiles/BTEX | EP080 | 2 | 40 | 5.00 | 5.00 | ✓ | NEPM 2013 B3 & ALS QC Standard |



Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

| Analytical Methods | Method | Matrix | Method Descriptions |
|--|------------|--------|--|
| Moisture Content | EA055 | SOIL | In house: A gravimetric procedure based on weight loss over a 12 hour drying period at 105-110 degrees C. This method is compliant with NEPM (2013) Schedule B(3) Section 7.1 and Table 1 (14 day holding time). |
| Asbestos Identification in Soils | EA200 | SOIL | AS 4964 - 2004 Method for the qualitative identification of asbestos in bulk samples Analysis by Polarised Light Microscopy including dispersion staining |
| Total Metals by ICP-AES | EG005T | SOIL | In house: Referenced to APHA 3120; USEPA SW 846 - 6010. Metals are determined following an appropriate acid digestion of the soil. The ICPAES technique ionises samples in a plasma, emitting a characteristic spectrum based on metals present. Intensities at selected wavelengths are compared against those of matrix matched standards. This method is compliant with NEPM (2013) Schedule B(3) |
| Total Mercury by FIMS | EG035T | SOIL | In house: Referenced to AS 3550, APHA 3112 Hg - B (Flow-injection (SnCl ₂) (Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. Mercury in solids are determined following an appropriate acid digestion. Ionic mercury is reduced online to atomic mercury vapour by SnCl ₂ which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM (2013) Schedule B(3) |
| Polychlorinated Biphenyls (PCB) | EP066 | SOIL | In house: Referenced to USEPA SW 846 - 8270D Extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (2013) Schedule B(3) (Method 504) |
| Pesticides by GCMS | EP068 | SOIL | In house: Referenced to USEPA SW 846 - 8270D Extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This technique is compliant with NEPM (2013) Schedule B(3) (Method 504,505) |
| TRH - Semivolatile Fraction | EP071 | SOIL | In house: Referenced to USEPA SW 846 - 8015A Sample extracts are analysed by Capillary GC/FID and quantified against alkane standards over the range C10 - C40. Compliant with NEPM amended 2013. |
| PAH/Phenols (SIM) | EP075(SIM) | SOIL | In house: Referenced to USEPA SW 846 - 8270D. Extracts are analysed by Capillary GC/MS in Selective Ion Mode (SIM) and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (2013) Schedule B(3) (Method 502 and 507) |
| TRH Volatiles/BTEX | EP080 | SOIL | In house: Referenced to USEPA SW 846 - 8260B. Extracts are analysed by Purge and Trap, Capillary GC/MS. Quantification is by comparison against an established 5 point calibration curve. Compliant with NEPM amended 2013. |
| Preparation Methods | Method | Matrix | Method Descriptions |
| Hot Block Digest for metals in soils sediments and sludges | EN69 | SOIL | In house: Referenced to USEPA 200.2. Hot Block Acid Digestion 1.0g of sample is heated with Nitric and Hydrochloric acids, then cooled. Peroxide is added and samples heated and cooled again before being filtered and bulked to volume for analysis. Digest is appropriate for determination of selected metals in sludge, sediments, and soils. This method is compliant with NEPM (2013) Schedule B(3) (Method 202) |
| Methanolic Extraction of Soils for Purge and Trap | * ORG16 | SOIL | In house: Referenced to USEPA SW 846 - 5030A. 5g of solid is shaken with surrogate and 10mL methanol prior to analysis by Purge and Trap - GC/MS. |

Page : 11 of 11
Work Order : ES1729769
Client : SESL Australia Pty Ltd
Project : 45880



| Preparation Methods | Method | Matrix | Method Descriptions |
|------------------------------|--------|--------|--|
| Tumbler Extraction of Solids | ORG17 | SOIL | In house: Mechanical agitation (tumbler). 10g of sample, Na2SO4 and surrogate are extracted with 30mL 1:1 DCM/Acetone by end over end tumble. The solvent is decanted, dehydrated and concentrated (by KD) to the desired volume for analysis. |

Chain of Custody

CoC N°: 25234

QUOTE N°: sy60713

SESL PO #:

BATCH N°:

46092

REPORTING REQUIREMENTS

 REPORT FORMAT: ☐ Hardcopy (mail) ☒ Email PDF ☒ Email Excel ☐ Fax

SEND REPORT TO: Harrison Leake subsamples@sesl.com.au

CC TO: Andrew Jacovides andrewj@sesl.com.au

URGENCY REQ'D: Urgent

 DATE REQ'D: Tue, 12 Dec 2017
By 4pm

RELINQUISHED BY:

NAME: SESL Sample Receipt

OF: SESL Australia

DATE: 11-12-17

TIME: 8:30:55 AM

DISPATCH TO:

Jennifer Cullen

ALS Laboratory Group

277-289 Woodpark Rd

Smithfield NSW 2164

| SAMPLE DESCRIPTION | DATE SAMPLED | MATRIX | TEMP °C | PRES. | CONTAINER TYPE* | N° | ANALYSIS REQUIRED |
|---------------------------|--------------|--------|---------|-------|-----------------|----|-------------------|
| 1: 46092 - BH1A Surface | 11/12/2017 | Soil | 18.00 | Ice | G | 1 | 1 - S-16 |
| 2: 46092 - BH2A Surface | 11/12/2017 | Soil | | | | 1 | 2 - S-16 |
| 3: 46092 - BH3A Surface | 11/12/2017 | Soil | | | | 1 | 3 - S-16, EA200 |
| 4: 46092 - BH3A 300 | 11/12/2017 | Soil | | | | 1 | 4 - S-16 |
| 5: 46092 - BH4A Surface | 11/12/2017 | Soil | | | | 1 | 5 - S-16 |
| 6: 46092 - BH4A 500 | 11/12/2017 | Soil | | | | 1 | 6 - S-16 |
| 7: 46092 - BH5A Surface | 11/12/2017 | Soil | | | | 1 | 7 - S-16 |
| 8: 46092 - BH6A Surface | 11/12/2017 | Soil | | | | 1 | 8 - S-16 |
| 9: 46092 - BH7A Surface | 11/12/2017 | Soil | | | | 1 | 9 - S-16 |
| 10: 46092 - BH8A Surface | 11/12/2017 | Soil | | | | 1 | 10 - S-16 |
| 11: 46092 - BH9A Surface | 11/12/2017 | Soil | | | | 1 | 11 - S-16 |
| 12: 46092 - BH10A Surface | 11/12/2017 | Soil | | | | 1 | 12 - S-16 |
| 13: 46092 - BH11A Surface | 11/12/2017 | Soil | | | | 1 | 13 - S-16 |
| 14: 46092 - BH12A Surface | 11/12/2017 | Soil | | | | 1 | 14 - S-16 |
| 15: 46092 - BH13A Surface | 11/12/2017 | Soil | | | | 1 | 15 - S-16 |
| 16: 46092 - BH14A Surface | 11/12/2017 | Soil | | | | 1 | 16 - S-16 |
| 17: 46092 - BH15A Surface | 11/12/2017 | Soil | | | | 1 | 17 - S-16 |
| 18: 46092 - BH16A Surface | 11/12/2017 | Soil | | | | 1 | 18 - S-16 |
| 19: 46092 - BH17A Surface | 11/12/2017 | Soil | | | | 1 | 19 - S-16 |
| 20: 46092 - BH18A Surface | 11/12/2017 | Soil | | | | 1 | 20 - S-16 |

ANALYSIS REQUIRED

 Environmental Division
Sydney

 Work Order Reference
ES1731292


Telephone : + 61-2-8784 6556

TAT

Subcon / Forward Lab / Split WO
 Lab / Analysis: Asbestos - Newcastle
 Organised By / Date: _____
 Relinquished By / Date: _____

Courier: _____

ALL WATER FOR METALS, OCP/OPP LOW LEVEL in ug/L

RECEIVED BY:

 NAME: Jessie

 DATE: 11/12/17

 COMPANY: ACS

 TIME: 09:45

SAMPLE CONDITION

 SAMPLE CONTAINERS: ☐ Intact ☐ Broken

 TEMPERATURE: ☐ Cold ☐ Room ☐ Other _____

Attach By: _____

Container Sheet:

| | | | |
|-----|---------------------|---|-----------|
| B61 | Bottle, amber glass | G | Glass jar |
| B62 | Bottle, plastic | S | Stemle |
| B61 | Bag, plastic | V | Vial |
| B62 | Bag, paper | O | Other |

Chain of Custody

CoC N°: 25235

QUOTE N°: sy60713

SESL PO #:

BATCH N°:

46092

REPORTING REQUIREMENTS

 REPORT FORMAT: ☐ Hardcopy (mail) ☒ Email PDF ☒ Email Excel ☐ Fax

SEND REPORT TO: Harrison Leake subsamples@sesl.com.au

CC TO: Andrew Jacovides andrewj@sesl.com.au

URGENCY REQ'D: Urgent

 DATE REQ'D: Tue, 12 Dec 2017
By 4pm

RELINQUISHED BY:

NAME: SESL Sample Receipt

OF: SESL Australia

DATE: 11-12-17

TIME: 8:30:55 AM

DISPATCH TO:

Jennifer Cullen

ALS Laboratory Group

277-289 Woodpark Rd

Smithfield NSW 2164

| SAMPLE DESCRIPTION | DATE SAMPLED | MATRIX | TEMP °C | PRES. | CONTAINER TYPE* | N° | ANALYSIS REQUIRED |
|---------------------------|--------------|--------|---------|-------|-----------------|----|-------------------|
| 21: 46092 - BH19A Surface | 11/12/2017 | Soil | 18.00 | Ice | G | 1 | 21 - S-16 |
| 22: 46092 - BH20A Surface | 11/12/2017 | Soil | | | | 1 | 22 - S-16 |
| 23: 46092 - BH21A Surface | 11/12/2017 | Soil | | | | 1 | 23 - S-16 |
| 24: 46092 - BH22A Surface | 11/12/2017 | Soil | | | | 1 | 24 - S-16 |
| 25: 46092 - BH23A Surface | 11/12/2017 | Soil | | | | 1 | 25 - S-16, EA200 |
| 26: 46092 - BH24A Surface | 11/12/2017 | Soil | | | | 1 | 26 - S-16 |
| 27: 46092 - BH25A Surface | 11/12/2017 | Soil | | | | 1 | 27 - S-16 |
| 28: 46092 - BH26A Surface | 11/12/2017 | Soil | | | | 1 | 28 - S-16 |
| 29: 46092 - QA1 | 11/12/2017 | Soil | | | | 1 | 29 - S-16 |
| 30: 46092 - QA2 | 11/12/2017 | Soil | | | | 1 | 30 - S-16, EA200 |
| 31: 46092 - QA3 | 11/12/2017 | Soil | | | | 1 | 31 - S-16 |
| 32: 46092 - Rinsate | 11/12/2017 | Water | | | | 1 | 32 - W-18 |

ALL WATER FOR METALS, OCP/OPP LOW LEVEL in ug/L

RECEIVED BY:

NAME: DATE:

COMPANY: TIME:

SAMPLE CONDITION

 SAMPLE CONTAINERS: ☐ Intact ☐ Broken

 TEMPERATURE: ☐ Cold ☐ Room ☐ Other _____

*Containers Guide

| | | | |
|-----------|---------------------|---------|-----------|
| Bb1 | Bottle, amber glass | G | Glass jar |
| Bb2 | Bottle, plastic | S | Sterile |
| Bg1 | Bag, plastic | V | Vial |
| Bg2 | Bag, paper | O | Other |

CERTIFICATE OF ANALYSIS

Work Order : **ES1731292**
Client : **SESL Australia Pty Ltd**
Contact : Harrison Leake (SUBSAMPLES)
Address : PO BOX 357
 PENNANT HILLS NSW, AUSTRALIA 1715
Telephone : +61 02 9980 6554
Project : 46092
Order number : ----
C-O-C number : 25234
Sampler : ----
Site : ----
Quote number : SYBQ/404/17
No. of samples received : 32
No. of samples analysed : 32

Page : 1 of 32
Laboratory : Environmental Division Sydney
Contact : Customer Services ES
Address : 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone : +61-2-8784 8555
Date Samples Received : 11-Dec-2017 09:45
Date Analysis Commenced : 11-Dec-2017
Issue Date : 12-Dec-2017 19:13



This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Descriptive Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

| <i>Signatories</i> | <i>Position</i> | <i>Accreditation Category</i> |
|--------------------|---------------------|--|
| Edwandy Fadjjar | Organic Coordinator | Sydney Inorganics, Smithfield, NSW |
| Edwandy Fadjjar | Organic Coordinator | Sydney Organics, Smithfield, NSW |
| Ivan Taylor | Analyst | Sydney Inorganics, Smithfield, NSW |
| Shaun Spooner | Asbestos Identifier | Newcastle - Asbestos, Mayfield West, NSW |



General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contact for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- EP068: Positive results has been confirmed by re-extraction and re-analysis.
- EP068: Particular samples required dilution due to sample matrix interferences. LOR values have been adjusted accordingly.
- EA200 'Am' Amosite (brown asbestos)
- EA200 'Cr' Crocidolite (blue asbestos)
- EA200 'Trace' - Asbestos fibres ("Free Fibres") detected by trace analysis per AS4964. The result can be interpreted that the sample contains detectable 'respirable' asbestos fibres
- EA200: Asbestos Identification Samples were analysed by Polarised Light Microscopy including dispersion staining.
- EA200 Legend
- EA200 'Ch' Chrysotile (white asbestos)
- EA200: 'UMF' Unknown Mineral Fibres. "-" indicates fibres detected may or may not be asbestos fibres. Confirmation by alternative techniques is recommended.
- EA200: Negative results for vinyl tiles should be confirmed by an independent analytical technique.
- Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenzo(a,h)anthracene (1.0), Benzo(g,h,i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero, for 'TEQ 1/2LOR' are treated as half the reported LOR, and for 'TEQ LOR' are treated as being equal to the reported LOR.
Note: TEQ 1/2LOR and TEQ LOR will calculate as 0.6mg/Kg and 1.2mg/Kg respectively for samples with non-detects for all of the eight TEQ PAHs.
- EA200: For samples larger than 30g, the <2mm fraction may be sub-sampled prior to trace analysis as outlined in ISO23909:2008(E) Sect 6.3.2-2
- EA200: 'Yes' - Asbestos detected by polarised light microscopy including dispersion staining.
- EA200: 'No*' - No asbestos found, at the reporting limit of 0.1g/kg, by polarised light microscopy including dispersion staining. Asbestos material was detected and positively identified at concentrations estimated to be below 0.1g/kg.
- EA200: 'No' - No asbestos found at the reporting limit 0.1g/kg, by polarised light microscopy including dispersion staining.



Analytical Results

| Sub-Matrix: SOIL (Matrix: SOIL) | | | | Client sample ID | 46092-1 | 46092-2 | 46092-3 | 46092-4 | 46092-5 |
|---|------------|------|--------|------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Client sampling date / time | | | | | 11-Dec-2017 00:00 | 11-Dec-2017 00:00 | 11-Dec-2017 00:00 | 11-Dec-2017 00:00 | 11-Dec-2017 00:00 |
| Compound | CAS Number | LOR | Unit | | ES1731292-001 | ES1731292-002 | ES1731292-003 | ES1731292-004 | ES1731292-005 |
| | | | | Result | Result | Result | Result | Result | Result |
| EA055: Moisture Content (Dried @ 105-110°C) | | | | | | | | | |
| Moisture Content | ---- | 1.0 | % | | 11.5 | 12.8 | 8.8 | 8.9 | 9.3 |
| EA200: AS 4964 - 2004 Identification of Asbestos in bulk samples | | | | | | | | | |
| Asbestos (Trace) | 1332-21-4 | 5 | Fibres | ---- | ---- | No | ---- | ---- | ---- |
| EA200: AS 4964 - 2004 Identification of Asbestos in Soils | | | | | | | | | |
| Asbestos Detected | 1332-21-4 | 0.1 | g/kg | ---- | ---- | No | ---- | ---- | ---- |
| Asbestos Type | 1332-21-4 | - | -- | ---- | ---- | - | ---- | ---- | ---- |
| Sample weight (dry) | ---- | 0.01 | g | ---- | ---- | 16.5 | ---- | ---- | ---- |
| APPROVED IDENTIFIER: | ---- | - | -- | ---- | ---- | S.SPOONER | ---- | ---- | ---- |
| EG005T: Total Metals by ICP-AES | | | | | | | | | |
| Arsenic | 7440-38-2 | 5 | mg/kg | <5 | <5 | 7 | <5 | <5 | <5 |
| Cadmium | 7440-43-9 | 1 | mg/kg | <1 | <1 | <1 | <1 | <1 | <1 |
| Chromium | 7440-47-3 | 2 | mg/kg | 67 | 58 | 14 | 37 | 36 | 36 |
| Copper | 7440-50-8 | 5 | mg/kg | 32 | 40 | 59 | 29 | 32 | 32 |
| Lead | 7439-92-1 | 5 | mg/kg | 70 | 69 | 126 | 5 | 6 | 6 |
| Nickel | 7440-02-0 | 2 | mg/kg | 50 | 40 | 7 | 42 | 44 | 44 |
| Zinc | 7440-66-6 | 5 | mg/kg | 198 | 142 | 84 | 62 | 76 | 76 |
| EG035T: Total Recoverable Mercury by FIMS | | | | | | | | | |
| Mercury | 7439-97-6 | 0.1 | mg/kg | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| EP066: Polychlorinated Biphenyls (PCB) | | | | | | | | | |
| Total Polychlorinated biphenyls | ---- | 0.1 | mg/kg | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| EP068A: Organochlorine Pesticides (OC) | | | | | | | | | |
| alpha-BHC | 319-84-6 | 0.05 | mg/kg | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Hexachlorobenzene (HCB) | 118-74-1 | 0.05 | mg/kg | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| beta-BHC | 319-85-7 | 0.05 | mg/kg | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| gamma-BHC | 58-89-9 | 0.05 | mg/kg | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| delta-BHC | 319-86-8 | 0.05 | mg/kg | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Heptachlor | 76-44-8 | 0.05 | mg/kg | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Aldrin | 309-00-2 | 0.05 | mg/kg | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Heptachlor epoxide | 1024-57-3 | 0.05 | mg/kg | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| ^ Total Chlordane (sum) | ---- | 0.05 | mg/kg | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| trans-Chlordane | 5103-74-2 | 0.05 | mg/kg | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| alpha-Endosulfan | 959-98-8 | 0.05 | mg/kg | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| cis-Chlordane | 5103-71-9 | 0.05 | mg/kg | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Dieldrin | 60-57-1 | 0.05 | mg/kg | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |



Analytical Results

| Sub-Matrix: SOIL (Matrix: SOIL) | | | | Client sample ID | 46092-1 | 46092-2 | 46092-3 | 46092-4 | 46092-5 |
|---|----------------------|------|-------|------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Client sampling date / time | | | | | 11-Dec-2017 00:00 | 11-Dec-2017 00:00 | 11-Dec-2017 00:00 | 11-Dec-2017 00:00 | 11-Dec-2017 00:00 |
| Compound | CAS Number | LOR | Unit | | ES1731292-001 | ES1731292-002 | ES1731292-003 | ES1731292-004 | ES1731292-005 |
| | | | | | Result | Result | Result | Result | Result |
| EP068A: Organochlorine Pesticides (OC) - Continued | | | | | | | | | |
| 4.4'-DDE | 72-55-9 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Endrin | 72-20-8 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| beta-Endosulfan | 33213-65-9 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| ^ Endosulfan (sum) | 115-29-7 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| 4.4'-DDD | 72-54-8 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Endrin aldehyde | 7421-93-4 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Endosulfan sulfate | 1031-07-8 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| 4.4'-DDT | 50-29-3 | 0.2 | mg/kg | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| Endrin ketone | 53494-70-5 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Methoxychlor | 72-43-5 | 0.2 | mg/kg | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| ^ Sum of Aldrin + Dieldrin | 309-00-2/60-57-1 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| ^ Sum of DDD + DDE + DDT | 72-54-8/72-55-9/50-2 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| EP068B: Organophosphorus Pesticides (OP) | | | | | | | | | |
| Dichlorvos | 62-73-7 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Demeton-S-methyl | 919-86-8 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Monocrotophos | 6923-22-4 | 0.2 | mg/kg | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| Dimethoate | 60-51-5 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Diazinon | 333-41-5 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Chlorpyrifos-methyl | 5598-13-0 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Parathion-methyl | 298-00-0 | 0.2 | mg/kg | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| Malathion | 121-75-5 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Fenthion | 55-38-9 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Chlorpyrifos | 2921-88-2 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Parathion | 56-38-2 | 0.2 | mg/kg | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| Pirimphos-ethyl | 23505-41-1 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Chlorfenvinphos | 470-90-6 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Bromophos-ethyl | 4824-78-6 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Fenamiphos | 22224-92-6 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Prothiofos | 34643-46-4 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Ethion | 563-12-2 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Carbophenothion | 786-19-6 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Azinphos Methyl | 86-50-0 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| EP075(SIM)B: Polynuclear Aromatic Hydrocarbons | | | | | | | | | |
| Naphthalene | 91-20-3 | 0.5 | mg/kg | | <0.5 | <0.5 | 0.5 | <0.5 | <0.5 |



Analytical Results

| Sub-Matrix: SOIL (Matrix: SOIL) | | | | Client sample ID | 46092-1 | 46092-2 | 46092-3 | 46092-4 | 46092-5 |
|--|-------------------|-----|-------|------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Client sampling date / time | | | | | 11-Dec-2017 00:00 | 11-Dec-2017 00:00 | 11-Dec-2017 00:00 | 11-Dec-2017 00:00 | 11-Dec-2017 00:00 |
| Compound | CAS Number | LOR | Unit | | ES1731292-001 | ES1731292-002 | ES1731292-003 | ES1731292-004 | ES1731292-005 |
| | | | | | Result | Result | Result | Result | Result |
| EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued | | | | | | | | | |
| Acenaphthylene | 208-96-8 | 0.5 | mg/kg | | <0.5 | <0.5 | 3.5 | <0.5 | <0.5 |
| Acenaphthene | 83-32-9 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Fluorene | 86-73-7 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Phenanthrene | 85-01-8 | 0.5 | mg/kg | | <0.5 | <0.5 | 12.8 | <0.5 | <0.5 |
| Anthracene | 120-12-7 | 0.5 | mg/kg | | <0.5 | <0.5 | 4.5 | <0.5 | <0.5 |
| Fluoranthene | 206-44-0 | 0.5 | mg/kg | | 0.5 | 0.6 | 27.6 | <0.5 | <0.5 |
| Pyrene | 129-00-0 | 0.5 | mg/kg | | 0.6 | 0.6 | 29.7 | <0.5 | <0.5 |
| Benz(a)anthracene | 56-55-3 | 0.5 | mg/kg | | <0.5 | <0.5 | 14.5 | <0.5 | <0.5 |
| Chrysene | 218-01-9 | 0.5 | mg/kg | | <0.5 | <0.5 | 13.9 | <0.5 | <0.5 |
| Benzo(b+j)fluoranthene | 205-99-2 205-82-3 | 0.5 | mg/kg | | <0.5 | <0.5 | 17.9 | <0.5 | <0.5 |
| Benzo(k)fluoranthene | 207-08-9 | 0.5 | mg/kg | | <0.5 | <0.5 | 6.5 | <0.5 | <0.5 |
| Benzo(a)pyrene | 50-32-8 | 0.5 | mg/kg | | <0.5 | <0.5 | 12.9 | <0.5 | <0.5 |
| Indeno(1.2.3.cd)pyrene | 193-39-5 | 0.5 | mg/kg | | <0.5 | <0.5 | 6.4 | <0.5 | <0.5 |
| Dibenz(a,h)anthracene | 53-70-3 | 0.5 | mg/kg | | <0.5 | <0.5 | 1.5 | <0.5 | <0.5 |
| Benzo(g,h,i)perylene | 191-24-2 | 0.5 | mg/kg | | <0.5 | <0.5 | 7.9 | <0.5 | <0.5 |
| ^ Sum of polycyclic aromatic hydrocarbons | ---- | 0.5 | mg/kg | | 1.1 | 1.2 | 160 | <0.5 | <0.5 |
| ^ Benzo(a)pyrene TEQ (zero) | ---- | 0.5 | mg/kg | | <0.5 | <0.5 | 19.1 | <0.5 | <0.5 |
| ^ Benzo(a)pyrene TEQ (half LOR) | ---- | 0.5 | mg/kg | | 0.6 | 0.6 | 19.1 | 0.6 | 0.6 |
| ^ Benzo(a)pyrene TEQ (LOR) | ---- | 0.5 | mg/kg | | 1.2 | 1.2 | 19.1 | 1.2 | 1.2 |
| EP080/071: Total Petroleum Hydrocarbons | | | | | | | | | |
| C6 - C9 Fraction | ---- | 10 | mg/kg | | <10 | <10 | <10 | <10 | <10 |
| C10 - C14 Fraction | ---- | 50 | mg/kg | | <50 | <50 | <50 | <50 | <50 |
| C15 - C28 Fraction | ---- | 100 | mg/kg | | <100 | <100 | 380 | <100 | <100 |
| C29 - C36 Fraction | ---- | 100 | mg/kg | | <100 | <100 | 270 | <100 | <100 |
| ^ C10 - C36 Fraction (sum) | ---- | 50 | mg/kg | | <50 | <50 | 650 | <50 | <50 |
| EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions | | | | | | | | | |
| C6 - C10 Fraction | C6_C10 | 10 | mg/kg | | <10 | <10 | <10 | <10 | <10 |
| ^ C6 - C10 Fraction minus BTEX (F1) | C6_C10-BTEX | 10 | mg/kg | | <10 | <10 | <10 | <10 | <10 |
| >C10 - C16 Fraction | ---- | 50 | mg/kg | | <50 | <50 | <50 | <50 | <50 |
| >C16 - C34 Fraction | ---- | 100 | mg/kg | | <100 | <100 | 570 | <100 | <100 |
| >C34 - C40 Fraction | ---- | 100 | mg/kg | | <100 | <100 | 180 | <100 | <100 |
| ^ >C10 - C40 Fraction (sum) | ---- | 50 | mg/kg | | <50 | <50 | 750 | <50 | <50 |
| ^ >C10 - C16 Fraction minus Naphthalene (F2) | ---- | 50 | mg/kg | | <50 | <50 | <50 | <50 | <50 |



Analytical Results

| Sub-Matrix: SOIL (Matrix: SOIL) | | | | Client sample ID | 46092-1 | 46092-2 | 46092-3 | 46092-4 | 46092-5 |
|--|-------------------|------|-------|------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Client sampling date / time | | | | | 11-Dec-2017 00:00 | 11-Dec-2017 00:00 | 11-Dec-2017 00:00 | 11-Dec-2017 00:00 | 11-Dec-2017 00:00 |
| Compound | CAS Number | LOR | Unit | | ES1731292-001 | ES1731292-002 | ES1731292-003 | ES1731292-004 | ES1731292-005 |
| | | | | | Result | Result | Result | Result | Result |
| EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions - Continued | | | | | | | | | |
| EP080: BTEXN | | | | | | | | | |
| Benzene | 71-43-2 | 0.2 | mg/kg | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| Toluene | 108-88-3 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Ethylbenzene | 100-41-4 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| meta- & para-Xylene | 108-38-3 106-42-3 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| ortho-Xylene | 95-47-6 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| ^ Sum of BTEX | ---- | 0.2 | mg/kg | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| ^ Total Xylenes | 1330-20-7 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Naphthalene | 91-20-3 | 1 | mg/kg | | <1 | <1 | <1 | <1 | <1 |
| EP066S: PCB Surrogate | | | | | | | | | |
| Decachlorobiphenyl | 2051-24-3 | 0.1 | % | | 94.0 | 84.2 | 83.6 | 122 | 115 |
| EP068S: Organochlorine Pesticide Surrogate | | | | | | | | | |
| Dibromo-DDE | 21655-73-2 | 0.05 | % | | 133 | 111 | 90.4 | 122 | 116 |
| EP068T: Organophosphorus Pesticide Surrogate | | | | | | | | | |
| DEF | 78-48-8 | 0.05 | % | | 77.9 | 86.9 | 80.3 | 71.5 | 91.0 |
| EP075(SIM)S: Phenolic Compound Surrogates | | | | | | | | | |
| Phenol-d6 | 13127-88-3 | 0.5 | % | | 84.7 | 85.3 | 83.8 | 85.6 | 85.4 |
| 2-Chlorophenol-D4 | 93951-73-6 | 0.5 | % | | 81.3 | 82.1 | 77.5 | 82.8 | 81.7 |
| 2,4,6-Tribromophenol | 118-79-6 | 0.5 | % | | 97.1 | 100 | 103 | 88.3 | 97.3 |
| EP075(SIM)T: PAH Surrogates | | | | | | | | | |
| 2-Fluorobiphenyl | 321-60-8 | 0.5 | % | | 79.4 | 86.7 | 86.2 | 94.9 | 102 |
| Anthracene-d10 | 1719-06-8 | 0.5 | % | | 88.5 | 91.7 | 87.9 | 98.5 | 92.2 |
| 4-Terphenyl-d14 | 1718-51-0 | 0.5 | % | | 85.7 | 83.2 | 85.4 | 88.3 | 85.8 |
| EP080S: TPH(V)/BTEX Surrogates | | | | | | | | | |
| 1,2-Dichloroethane-D4 | 17060-07-0 | 0.2 | % | | 104 | 101 | 111 | 110 | 92.2 |
| Toluene-D8 | 2037-26-5 | 0.2 | % | | 120 | 118 | 123 | 125 | 117 |
| 4-Bromofluorobenzene | 460-00-4 | 0.2 | % | | 109 | 107 | 117 | 114 | 106 |



Analytical Results

| Sub-Matrix: SOIL (Matrix: SOIL) | | | | Client sample ID | 46092-6 | 46092-7 | 46092-8 | 46092-9 | 46092-10 |
|--|------------|------|-------|------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Client sampling date / time | | | | | 11-Dec-2017 00:00 | 11-Dec-2017 00:00 | 11-Dec-2017 00:00 | 11-Dec-2017 00:00 | 11-Dec-2017 00:00 |
| Compound | CAS Number | LOR | Unit | | ES1731292-006 | ES1731292-007 | ES1731292-008 | ES1731292-009 | ES1731292-010 |
| | | | | | Result | Result | Result | Result | Result |
| EA055: Moisture Content (Dried @ 105-110°C) | | | | | | | | | |
| Moisture Content | ---- | 1.0 | % | | 9.8 | 14.4 | 7.4 | 11.2 | 11.6 |
| EG005T: Total Metals by ICP-AES | | | | | | | | | |
| Arsenic | 7440-38-2 | 5 | mg/kg | | <5 | <5 | <5 | <5 | <5 |
| Cadmium | 7440-43-9 | 1 | mg/kg | | <1 | <1 | <1 | <1 | <1 |
| Chromium | 7440-47-3 | 2 | mg/kg | | 39 | 34 | 32 | 34 | 32 |
| Copper | 7440-50-8 | 5 | mg/kg | | 32 | 32 | 31 | 33 | 28 |
| Lead | 7439-92-1 | 5 | mg/kg | | 5 | 10 | 12 | 7 | 8 |
| Nickel | 7440-02-0 | 2 | mg/kg | | 45 | 40 | 39 | 44 | 38 |
| Zinc | 7440-66-6 | 5 | mg/kg | | 63 | 118 | 95 | 78 | 91 |
| EG035T: Total Recoverable Mercury by FIMS | | | | | | | | | |
| Mercury | 7439-97-6 | 0.1 | mg/kg | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| EP066: Polychlorinated Biphenyls (PCB) | | | | | | | | | |
| Total Polychlorinated biphenyls | ---- | 0.1 | mg/kg | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| EP068A: Organochlorine Pesticides (OC) | | | | | | | | | |
| alpha-BHC | 319-84-6 | 0.05 | mg/kg | | <0.05 | <0.25 | <0.05 | <0.05 | <0.05 |
| Hexachlorobenzene (HCB) | 118-74-1 | 0.05 | mg/kg | | <0.05 | <0.25 | <0.05 | <0.05 | <0.05 |
| beta-BHC | 319-85-7 | 0.05 | mg/kg | | <0.05 | <0.25 | <0.05 | <0.05 | <0.05 |
| gamma-BHC | 58-89-9 | 0.05 | mg/kg | | <0.05 | <0.25 | <0.05 | <0.05 | <0.05 |
| delta-BHC | 319-86-8 | 0.05 | mg/kg | | <0.05 | <0.25 | <0.05 | <0.05 | <0.05 |
| Heptachlor | 76-44-8 | 0.05 | mg/kg | | <0.05 | <0.25 | <0.05 | <0.05 | <0.05 |
| Aldrin | 309-00-2 | 0.05 | mg/kg | | <0.05 | <0.25 | <0.05 | <0.05 | <0.05 |
| Heptachlor epoxide | 1024-57-3 | 0.05 | mg/kg | | <0.05 | <0.25 | <0.05 | <0.05 | <0.05 |
| ^ Total Chlordane (sum) | ---- | 0.05 | mg/kg | | <0.05 | <0.25 | <0.05 | <0.05 | <0.05 |
| trans-Chlordane | 5103-74-2 | 0.05 | mg/kg | | <0.05 | <0.25 | <0.05 | <0.05 | <0.05 |
| alpha-Endosulfan | 959-98-8 | 0.05 | mg/kg | | <0.05 | <0.25 | <0.05 | <0.05 | <0.05 |
| cis-Chlordane | 5103-71-9 | 0.05 | mg/kg | | <0.05 | <0.25 | <0.05 | <0.05 | <0.05 |
| Dieldrin | 60-57-1 | 0.05 | mg/kg | | <0.05 | <0.25 | <0.05 | <0.05 | <0.05 |
| 4,4'-DDE | 72-55-9 | 0.05 | mg/kg | | <0.05 | <0.25 | <0.05 | <0.05 | <0.05 |
| Endrin | 72-20-8 | 0.05 | mg/kg | | <0.05 | <0.25 | <0.05 | <0.05 | <0.05 |
| beta-Endosulfan | 33213-65-9 | 0.05 | mg/kg | | <0.05 | <0.25 | <0.05 | <0.05 | <0.05 |
| ^ Endosulfan (sum) | 115-29-7 | 0.05 | mg/kg | | <0.05 | <0.25 | <0.05 | <0.05 | <0.05 |
| 4,4'-DDD | 72-54-8 | 0.05 | mg/kg | | <0.05 | <0.25 | <0.05 | <0.05 | <0.05 |
| Endrin aldehyde | 7421-93-4 | 0.05 | mg/kg | | <0.05 | <0.25 | <0.05 | <0.05 | <0.05 |
| Endosulfan sulfate | 1031-07-8 | 0.05 | mg/kg | | <0.05 | <0.25 | <0.05 | <0.05 | <0.05 |



Analytical Results

Sub-Matrix: SOIL
 (Matrix: SOIL)

Client sample ID

| | | | | 46092-6 | 46092-7 | 46092-8 | 46092-9 | 46092-10 |
|---|--------------------------|------|-------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Client sampling date / time | | | | 11-Dec-2017 00:00 | 11-Dec-2017 00:00 | 11-Dec-2017 00:00 | 11-Dec-2017 00:00 | 11-Dec-2017 00:00 |
| Compound | CAS Number | LOR | Unit | ES1731292-006 | ES1731292-007 | ES1731292-008 | ES1731292-009 | ES1731292-010 |
| | | | | Result | Result | Result | Result | Result |
| EP068A: Organochlorine Pesticides (OC) - Continued | | | | | | | | |
| 4,4'-DDT | 50-29-3 | 0.2 | mg/kg | <0.2 | <1.0 | <0.2 | <0.2 | <0.2 |
| Endrin ketone | 53494-70-5 | 0.05 | mg/kg | <0.05 | <0.25 | <0.05 | <0.05 | <0.05 |
| Methoxychlor | 72-43-5 | 0.2 | mg/kg | <0.2 | <1.0 | <0.2 | <0.2 | <0.2 |
| ^ Sum of Aldrin + Dieldrin | 309-00-2/60-57-1 | 0.05 | mg/kg | <0.05 | <0.25 | <0.05 | <0.05 | <0.05 |
| ^ Sum of DDD + DDE + DDT | 72-54-8/72-55-9/5 0-2 | 0.05 | mg/kg | <0.05 | <0.25 | <0.05 | <0.05 | <0.05 |
| EP068B: Organophosphorus Pesticides (OP) | | | | | | | | |
| Dichlorvos | 62-73-7 | 0.05 | mg/kg | <0.05 | <0.25 | <0.05 | <0.05 | <0.05 |
| Demeton-S-methyl | 919-86-8 | 0.05 | mg/kg | <0.05 | <0.25 | <0.05 | <0.05 | <0.05 |
| Monocrotophos | 6923-22-4 | 0.2 | mg/kg | <0.2 | <1.0 | <0.2 | <0.2 | <0.2 |
| Dimethoate | 60-51-5 | 0.05 | mg/kg | <0.05 | <0.25 | <0.05 | <0.05 | <0.05 |
| Diazinon | 333-41-5 | 0.05 | mg/kg | <0.05 | <0.25 | <0.05 | <0.05 | <0.05 |
| Chlorpyrifos-methyl | 5598-13-0 | 0.05 | mg/kg | <0.05 | <0.25 | <0.05 | <0.05 | <0.05 |
| Parathion-methyl | 298-00-0 | 0.2 | mg/kg | <0.2 | <1.0 | <0.2 | <0.2 | <0.2 |
| Malathion | 121-75-5 | 0.05 | mg/kg | <0.05 | <0.25 | <0.05 | <0.05 | <0.05 |
| Fenthion | 55-38-9 | 0.05 | mg/kg | <0.05 | <0.25 | <0.05 | <0.05 | <0.05 |
| Chlorpyrifos | 2921-88-2 | 0.05 | mg/kg | <0.05 | <0.25 | <0.05 | <0.05 | <0.05 |
| Parathion | 56-38-2 | 0.2 | mg/kg | <0.2 | <1.0 | <0.2 | <0.2 | <0.2 |
| Pirimphos-ethyl | 23505-41-1 | 0.05 | mg/kg | <0.05 | <0.25 | <0.05 | <0.05 | <0.05 |
| Chlorfenvinphos | 470-90-6 | 0.05 | mg/kg | <0.05 | <0.25 | <0.05 | <0.05 | <0.05 |
| Bromophos-ethyl | 4824-78-6 | 0.05 | mg/kg | <0.05 | <0.25 | <0.05 | <0.05 | <0.05 |
| Fenamiphos | 22224-92-6 | 0.05 | mg/kg | <0.05 | <0.25 | <0.05 | <0.05 | <0.05 |
| Prothiofos | 34643-46-4 | 0.05 | mg/kg | <0.05 | <0.25 | <0.05 | <0.05 | <0.05 |
| Ethion | 563-12-2 | 0.05 | mg/kg | <0.05 | <0.25 | <0.05 | <0.05 | <0.05 |
| Carbophenothion | 786-19-6 | 0.05 | mg/kg | <0.05 | <0.25 | <0.05 | <0.05 | <0.05 |
| Azinphos Methyl | 86-50-0 | 0.05 | mg/kg | <0.05 | <0.25 | <0.05 | <0.05 | <0.05 |
| EP075(SIM)B: Polynuclear Aromatic Hydrocarbons | | | | | | | | |
| Naphthalene | 91-20-3 | 0.5 | mg/kg | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Acenaphthylene | 208-96-8 | 0.5 | mg/kg | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Acenaphthene | 83-32-9 | 0.5 | mg/kg | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Fluorene | 86-73-7 | 0.5 | mg/kg | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Phenanthrene | 85-01-8 | 0.5 | mg/kg | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Anthracene | 120-12-7 | 0.5 | mg/kg | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Fluoranthene | 206-44-0 | 0.5 | mg/kg | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Pyrene | 129-00-0 | 0.5 | mg/kg | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |



Analytical Results

| Sub-Matrix: SOIL (Matrix: SOIL) | | | | Client sample ID | 46092-6 | 46092-7 | 46092-8 | 46092-9 | 46092-10 |
|--|-------------------|-----|-------|------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Client sampling date / time | | | | | 11-Dec-2017 00:00 | 11-Dec-2017 00:00 | 11-Dec-2017 00:00 | 11-Dec-2017 00:00 | 11-Dec-2017 00:00 |
| Compound | CAS Number | LOR | Unit | | ES1731292-006 | ES1731292-007 | ES1731292-008 | ES1731292-009 | ES1731292-010 |
| | | | | | Result | Result | Result | Result | Result |
| EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued | | | | | | | | | |
| Benz(a)anthracene | 56-55-3 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Chrysene | 218-01-9 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Benzo(b+j)fluoranthene | 205-99-2 205-82-3 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Benzo(k)fluoranthene | 207-08-9 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Benzo(a)pyrene | 50-32-8 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Indeno(1.2.3.cd)pyrene | 193-39-5 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Dibenz(a,h)anthracene | 53-70-3 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Benzo(g,h,i)perylene | 191-24-2 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| ^ Sum of polycyclic aromatic hydrocarbons | ---- | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| ^ Benzo(a)pyrene TEQ (zero) | ---- | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| ^ Benzo(a)pyrene TEQ (half LOR) | ---- | 0.5 | mg/kg | | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 |
| ^ Benzo(a)pyrene TEQ (LOR) | ---- | 0.5 | mg/kg | | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 |
| EP080/071: Total Petroleum Hydrocarbons | | | | | | | | | |
| C6 - C9 Fraction | ---- | 10 | mg/kg | | <10 | <10 | <10 | <10 | <10 |
| C10 - C14 Fraction | ---- | 50 | mg/kg | | <50 | <50 | <50 | <50 | <50 |
| C15 - C28 Fraction | ---- | 100 | mg/kg | | <100 | 1820 | <100 | <100 | <100 |
| C29 - C36 Fraction | ---- | 100 | mg/kg | | <100 | 3720 | <100 | <100 | <100 |
| ^ C10 - C36 Fraction (sum) | ---- | 50 | mg/kg | | <50 | 5540 | <50 | <50 | <50 |
| EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions | | | | | | | | | |
| C6 - C10 Fraction | C6_C10 | 10 | mg/kg | | <10 | <10 | <10 | <10 | <10 |
| ^ C6 - C10 Fraction minus BTEX (F1) | C6_C10-BTEX | 10 | mg/kg | | <10 | <10 | <10 | <10 | <10 |
| >C10 - C16 Fraction | ---- | 50 | mg/kg | | <50 | 130 | <50 | <50 | <50 |
| >C16 - C34 Fraction | ---- | 100 | mg/kg | | <100 | 4360 | <100 | <100 | <100 |
| >C34 - C40 Fraction | ---- | 100 | mg/kg | | <100 | 3520 | <100 | <100 | <100 |
| ^ >C10 - C40 Fraction (sum) | ---- | 50 | mg/kg | | <50 | 8010 | <50 | <50 | <50 |
| ^ >C10 - C16 Fraction minus Naphthalene (F2) | ---- | 50 | mg/kg | | <50 | 130 | <50 | <50 | <50 |
| EP080: BTEXN | | | | | | | | | |
| Benzene | 71-43-2 | 0.2 | mg/kg | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| Toluene | 108-88-3 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Ethylbenzene | 100-41-4 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| meta- & para-Xylene | 108-38-3 106-42-3 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| ortho-Xylene | 95-47-6 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |



Analytical Results

| Sub-Matrix: SOIL (Matrix: SOIL) | | | | Client sample ID | 46092-6 | 46092-7 | 46092-8 | 46092-9 | 46092-10 |
|---|------------|------|-------|------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Client sampling date / time | | | | | 11-Dec-2017 00:00 | 11-Dec-2017 00:00 | 11-Dec-2017 00:00 | 11-Dec-2017 00:00 | 11-Dec-2017 00:00 |
| Compound | CAS Number | LOR | Unit | | ES1731292-006 | ES1731292-007 | ES1731292-008 | ES1731292-009 | ES1731292-010 |
| | | | | | Result | Result | Result | Result | Result |
| EP080: BTEXN - Continued | | | | | | | | | |
| ^ Sum of BTEX | ---- | 0.2 | mg/kg | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| ^ Total Xylenes | 1330-20-7 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Naphthalene | 91-20-3 | 1 | mg/kg | | <1 | <1 | <1 | <1 | <1 |
| EP066S: PCB Surrogate | | | | | | | | | |
| Decachlorobiphenyl | 2051-24-3 | 0.1 | % | | 117 | 110 | 111 | 111 | 108 |
| EP068S: Organochlorine Pesticide Surrogate | | | | | | | | | |
| Dibromo-DDE | 21655-73-2 | 0.05 | % | | 123 | 89.6 | 116 | 62.7 | 116 |
| EP068T: Organophosphorus Pesticide Surrogate | | | | | | | | | |
| DEF | 78-48-8 | 0.05 | % | | 72.1 | 89.5 | 96.3 | 89.0 | 102 |
| EP075(SIM)S: Phenolic Compound Surrogates | | | | | | | | | |
| Phenol-d6 | 13127-88-3 | 0.5 | % | | 86.1 | 85.4 | 87.8 | 88.3 | 83.4 |
| 2-Chlorophenol-D4 | 93951-73-6 | 0.5 | % | | 81.3 | 79.8 | 84.1 | 81.2 | 78.2 |
| 2,4,6-Tribromophenol | 118-79-6 | 0.5 | % | | 85.5 | 93.2 | 89.6 | 97.7 | 102 |
| EP075(SIM)T: PAH Surrogates | | | | | | | | | |
| 2-Fluorobiphenyl | 321-60-8 | 0.5 | % | | 92.4 | 90.0 | 93.1 | 92.1 | 91.1 |
| Anthracene-d10 | 1719-06-8 | 0.5 | % | | 96.5 | 95.1 | 99.0 | 96.5 | 94.1 |
| 4-Terphenyl-d14 | 1718-51-0 | 0.5 | % | | 88.8 | 84.6 | 85.2 | 88.2 | 86.5 |
| EP080S: TPH(V)/BTEX Surrogates | | | | | | | | | |
| 1,2-Dichloroethane-D4 | 17060-07-0 | 0.2 | % | | 95.0 | 98.3 | 106 | 104 | 112 |
| Toluene-D8 | 2037-26-5 | 0.2 | % | | 122 | 118 | 124 | 117 | 121 |
| 4-Bromofluorobenzene | 460-00-4 | 0.2 | % | | 112 | 102 | 114 | 108 | 112 |



Analytical Results

| Sub-Matrix: SOIL (Matrix: SOIL) | | | | Client sample ID | 46092-11 | 46092-12 | 46092-13 | 46092-14 | 46092-15 |
|--|------------|------|-------|------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Client sampling date / time | | | | | 11-Dec-2017 00:00 | 11-Dec-2017 00:00 | 11-Dec-2017 00:00 | 11-Dec-2017 00:00 | 11-Dec-2017 00:00 |
| Compound | CAS Number | LOR | Unit | | ES1731292-011 | ES1731292-012 | ES1731292-013 | ES1731292-014 | ES1731292-015 |
| | | | | | Result | Result | Result | Result | Result |
| EA055: Moisture Content (Dried @ 105-110°C) | | | | | | | | | |
| Moisture Content | ---- | 1.0 | % | | 3.7 | 3.8 | 17.3 | 15.5 | 6.5 |
| EG005T: Total Metals by ICP-AES | | | | | | | | | |
| Arsenic | 7440-38-2 | 5 | mg/kg | | <5 | <5 | <5 | <5 | <5 |
| Cadmium | 7440-43-9 | 1 | mg/kg | | <1 | <1 | 1 | <1 | <1 |
| Chromium | 7440-47-3 | 2 | mg/kg | | 26 | 24 | 27 | 32 | 11 |
| Copper | 7440-50-8 | 5 | mg/kg | | 20 | 18 | 24 | 22 | 12 |
| Lead | 7439-92-1 | 5 | mg/kg | | 5 | 6 | 11 | 177 | 7 |
| Nickel | 7440-02-0 | 2 | mg/kg | | 32 | 30 | 32 | 27 | 13 |
| Zinc | 7440-66-6 | 5 | mg/kg | | 57 | 55 | 318 | 184 | 50 |
| EG035T: Total Recoverable Mercury by FIMS | | | | | | | | | |
| Mercury | 7439-97-6 | 0.1 | mg/kg | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| EP066: Polychlorinated Biphenyls (PCB) | | | | | | | | | |
| Total Polychlorinated biphenyls | ---- | 0.1 | mg/kg | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| EP068A: Organochlorine Pesticides (OC) | | | | | | | | | |
| alpha-BHC | 319-84-6 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Hexachlorobenzene (HCB) | 118-74-1 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| beta-BHC | 319-85-7 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| gamma-BHC | 58-89-9 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| delta-BHC | 319-86-8 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Heptachlor | 76-44-8 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Aldrin | 309-00-2 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Heptachlor epoxide | 1024-57-3 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| ^ Total Chlordane (sum) | ---- | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| trans-Chlordane | 5103-74-2 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| alpha-Endosulfan | 959-98-8 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| cis-Chlordane | 5103-71-9 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Dieldrin | 60-57-1 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | 0.11 | <0.05 |
| 4,4'-DDE | 72-55-9 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Endrin | 72-20-8 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| beta-Endosulfan | 33213-65-9 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| ^ Endosulfan (sum) | 115-29-7 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| 4,4'-DDD | 72-54-8 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Endrin aldehyde | 7421-93-4 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Endosulfan sulfate | 1031-07-8 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |



Analytical Results

| Sub-Matrix: SOIL (Matrix: SOIL) | | | | Client sample ID | 46092-11 | 46092-12 | 46092-13 | 46092-14 | 46092-15 |
|---|--------------------------|------|-------|------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Client sampling date / time | | | | | 11-Dec-2017 00:00 | 11-Dec-2017 00:00 | 11-Dec-2017 00:00 | 11-Dec-2017 00:00 | 11-Dec-2017 00:00 |
| Compound | CAS Number | LOR | Unit | | ES1731292-011 | ES1731292-012 | ES1731292-013 | ES1731292-014 | ES1731292-015 |
| | | | | | Result | Result | Result | Result | Result |
| EP068A: Organochlorine Pesticides (OC) - Continued | | | | | | | | | |
| 4,4'-DDT | 50-29-3 | 0.2 | mg/kg | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| Endrin ketone | 53494-70-5 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Methoxychlor | 72-43-5 | 0.2 | mg/kg | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| ^ Sum of Aldrin + Dieldrin | 309-00-2/60-57-1 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | 0.11 | <0.05 |
| ^ Sum of DDD + DDE + DDT | 72-54-8/72-55-9/5 0-2 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| EP068B: Organophosphorus Pesticides (OP) | | | | | | | | | |
| Dichlorvos | 62-73-7 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Demeton-S-methyl | 919-86-8 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Monocrotophos | 6923-22-4 | 0.2 | mg/kg | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| Dimethoate | 60-51-5 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Diazinon | 333-41-5 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Chlorpyrifos-methyl | 5598-13-0 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Parathion-methyl | 298-00-0 | 0.2 | mg/kg | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| Malathion | 121-75-5 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Fenthion | 55-38-9 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Chlorpyrifos | 2921-88-2 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Parathion | 56-38-2 | 0.2 | mg/kg | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| Pirimphos-ethyl | 23505-41-1 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Chlorfenvinphos | 470-90-6 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Bromophos-ethyl | 4824-78-6 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Fenamiphos | 22224-92-6 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Prothiofos | 34643-46-4 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Ethion | 563-12-2 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Carbophenothion | 786-19-6 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Azinphos Methyl | 86-50-0 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| EP075(SIM)B: Polynuclear Aromatic Hydrocarbons | | | | | | | | | |
| Naphthalene | 91-20-3 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Acenaphthylene | 208-96-8 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Acenaphthene | 83-32-9 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Fluorene | 86-73-7 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Phenanthrene | 85-01-8 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Anthracene | 120-12-7 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Fluoranthene | 206-44-0 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Pyrene | 129-00-0 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |



Analytical Results

| Sub-Matrix: SOIL (Matrix: SOIL) | | | | Client sample ID | 46092-11 | 46092-12 | 46092-13 | 46092-14 | 46092-15 |
|--|-------------------|-----|-------|------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Client sampling date / time | | | | | 11-Dec-2017 00:00 | 11-Dec-2017 00:00 | 11-Dec-2017 00:00 | 11-Dec-2017 00:00 | 11-Dec-2017 00:00 |
| Compound | CAS Number | LOR | Unit | | ES1731292-011 | ES1731292-012 | ES1731292-013 | ES1731292-014 | ES1731292-015 |
| | | | | | Result | Result | Result | Result | Result |
| EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued | | | | | | | | | |
| Benz(a)anthracene | 56-55-3 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Chrysene | 218-01-9 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Benzo(b+j)fluoranthene | 205-99-2 205-82-3 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Benzo(k)fluoranthene | 207-08-9 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Benzo(a)pyrene | 50-32-8 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Indeno(1.2.3.cd)pyrene | 193-39-5 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Dibenz(a,h)anthracene | 53-70-3 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Benzo(g,h,i)perylene | 191-24-2 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| ^ Sum of polycyclic aromatic hydrocarbons | ---- | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| ^ Benzo(a)pyrene TEQ (zero) | ---- | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| ^ Benzo(a)pyrene TEQ (half LOR) | ---- | 0.5 | mg/kg | | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 |
| ^ Benzo(a)pyrene TEQ (LOR) | ---- | 0.5 | mg/kg | | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 |
| EP080/071: Total Petroleum Hydrocarbons | | | | | | | | | |
| C6 - C9 Fraction | ---- | 10 | mg/kg | | <10 | <10 | <10 | <10 | <10 |
| C10 - C14 Fraction | ---- | 50 | mg/kg | | <50 | <50 | <50 | <50 | <50 |
| C15 - C28 Fraction | ---- | 100 | mg/kg | | <100 | <100 | <100 | <100 | <100 |
| C29 - C36 Fraction | ---- | 100 | mg/kg | | <100 | <100 | <100 | <100 | <100 |
| ^ C10 - C36 Fraction (sum) | ---- | 50 | mg/kg | | <50 | <50 | <50 | <50 | <50 |
| EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions | | | | | | | | | |
| C6 - C10 Fraction | C6_C10 | 10 | mg/kg | | <10 | <10 | <10 | <10 | <10 |
| ^ C6 - C10 Fraction minus BTEX (F1) | C6_C10-BTEX | 10 | mg/kg | | <10 | <10 | <10 | <10 | <10 |
| >C10 - C16 Fraction | ---- | 50 | mg/kg | | <50 | <50 | <50 | <50 | <50 |
| >C16 - C34 Fraction | ---- | 100 | mg/kg | | <100 | <100 | <100 | <100 | <100 |
| >C34 - C40 Fraction | ---- | 100 | mg/kg | | <100 | <100 | <100 | <100 | <100 |
| ^ >C10 - C40 Fraction (sum) | ---- | 50 | mg/kg | | <50 | <50 | <50 | <50 | <50 |
| ^ >C10 - C16 Fraction minus Naphthalene (F2) | ---- | 50 | mg/kg | | <50 | <50 | <50 | <50 | <50 |
| EP080: BTEXN | | | | | | | | | |
| Benzene | 71-43-2 | 0.2 | mg/kg | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| Toluene | 108-88-3 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Ethylbenzene | 100-41-4 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| meta- & para-Xylene | 108-38-3 106-42-3 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| ortho-Xylene | 95-47-6 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |



Analytical Results

| Sub-Matrix: SOIL (Matrix: SOIL) | | | | Client sample ID | 46092-11 | 46092-12 | 46092-13 | 46092-14 | 46092-15 |
|---|------------|------|-------|------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Client sampling date / time | | | | | 11-Dec-2017 00:00 | 11-Dec-2017 00:00 | 11-Dec-2017 00:00 | 11-Dec-2017 00:00 | 11-Dec-2017 00:00 |
| Compound | CAS Number | LOR | Unit | | ES1731292-011 | ES1731292-012 | ES1731292-013 | ES1731292-014 | ES1731292-015 |
| | | | | | Result | Result | Result | Result | Result |
| EP080: BTEXN - Continued | | | | | | | | | |
| ^ Sum of BTEX | ---- | 0.2 | mg/kg | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| ^ Total Xylenes | 1330-20-7 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Naphthalene | 91-20-3 | 1 | mg/kg | | <1 | <1 | <1 | <1 | <1 |
| EP066S: PCB Surrogate | | | | | | | | | |
| Decachlorobiphenyl | 2051-24-3 | 0.1 | % | | 112 | 80.7 | 111 | 119 | 108 |
| EP068S: Organochlorine Pesticide Surrogate | | | | | | | | | |
| Dibromo-DDE | 21655-73-2 | 0.05 | % | | 120 | 136 | 106 | 97.6 | 114 |
| EP068T: Organophosphorus Pesticide Surrogate | | | | | | | | | |
| DEF | 78-48-8 | 0.05 | % | | 104 | 104 | 85.5 | 94.0 | 108 |
| EP075(SIM)S: Phenolic Compound Surrogates | | | | | | | | | |
| Phenol-d6 | 13127-88-3 | 0.5 | % | | 87.9 | 94.4 | 90.4 | 95.9 | 93.4 |
| 2-Chlorophenol-D4 | 93951-73-6 | 0.5 | % | | 83.9 | 84.0 | 80.2 | 86.4 | 86.1 |
| 2,4,6-Tribromophenol | 118-79-6 | 0.5 | % | | 93.1 | 82.5 | 85.5 | 92.3 | 96.3 |
| EP075(SIM)T: PAH Surrogates | | | | | | | | | |
| 2-Fluorobiphenyl | 321-60-8 | 0.5 | % | | 93.5 | 88.0 | 86.0 | 92.0 | 89.6 |
| Anthracene-d10 | 1719-06-8 | 0.5 | % | | 95.7 | 95.8 | 91.6 | 96.3 | 96.7 |
| 4-Terphenyl-d14 | 1718-51-0 | 0.5 | % | | 93.6 | 86.9 | 84.7 | 89.5 | 91.0 |
| EP080S: TPH(V)/BTEX Surrogates | | | | | | | | | |
| 1,2-Dichloroethane-D4 | 17060-07-0 | 0.2 | % | | 109 | 112 | 101 | 101 | 105 |
| Toluene-D8 | 2037-26-5 | 0.2 | % | | 118 | 126 | 114 | 113 | 120 |
| 4-Bromofluorobenzene | 460-00-4 | 0.2 | % | | 102 | 114 | 106 | 103 | 106 |



Analytical Results

| Sub-Matrix: SOIL (Matrix: SOIL) | | | | Client sample ID | 46092-16 | 46092-17 | 46092-18 | 46092-19 | 46092-20 |
|--|------------|------|-------|------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Client sampling date / time | | | | | 11-Dec-2017 00:00 | 11-Dec-2017 00:00 | 11-Dec-2017 00:00 | 11-Dec-2017 00:00 | 11-Dec-2017 00:00 |
| Compound | CAS Number | LOR | Unit | | ES1731292-016 | ES1731292-017 | ES1731292-018 | ES1731292-019 | ES1731292-020 |
| | | | | | Result | Result | Result | Result | Result |
| EA055: Moisture Content (Dried @ 105-110°C) | | | | | | | | | |
| Moisture Content | ---- | 1.0 | % | | 20.6 | 18.2 | 10.2 | 12.7 | 11.4 |
| EG005T: Total Metals by ICP-AES | | | | | | | | | |
| Arsenic | 7440-38-2 | 5 | mg/kg | | <5 | <5 | <5 | <5 | <5 |
| Cadmium | 7440-43-9 | 1 | mg/kg | | <1 | <1 | <1 | <1 | <1 |
| Chromium | 7440-47-3 | 2 | mg/kg | | 48 | 40 | 38 | 39 | 34 |
| Copper | 7440-50-8 | 5 | mg/kg | | 45 | 40 | 30 | 35 | 28 |
| Lead | 7439-92-1 | 5 | mg/kg | | 8 | 8 | 9 | 9 | 8 |
| Nickel | 7440-02-0 | 2 | mg/kg | | 54 | 47 | 35 | 39 | 28 |
| Zinc | 7440-66-6 | 5 | mg/kg | | 93 | 90 | 98 | 108 | 85 |
| EG035T: Total Recoverable Mercury by FIMS | | | | | | | | | |
| Mercury | 7439-97-6 | 0.1 | mg/kg | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| EP066: Polychlorinated Biphenyls (PCB) | | | | | | | | | |
| Total Polychlorinated biphenyls | ---- | 0.1 | mg/kg | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| EP068A: Organochlorine Pesticides (OC) | | | | | | | | | |
| alpha-BHC | 319-84-6 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Hexachlorobenzene (HCB) | 118-74-1 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| beta-BHC | 319-85-7 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| gamma-BHC | 58-89-9 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| delta-BHC | 319-86-8 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Heptachlor | 76-44-8 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Aldrin | 309-00-2 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Heptachlor epoxide | 1024-57-3 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| ^ Total Chlordane (sum) | ---- | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| trans-Chlordane | 5103-74-2 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| alpha-Endosulfan | 959-98-8 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| cis-Chlordane | 5103-71-9 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Dieldrin | 60-57-1 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| 4,4'-DDE | 72-55-9 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Endrin | 72-20-8 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| beta-Endosulfan | 33213-65-9 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| ^ Endosulfan (sum) | 115-29-7 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| 4,4'-DDD | 72-54-8 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Endrin aldehyde | 7421-93-4 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Endosulfan sulfate | 1031-07-8 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |



Analytical Results

| Sub-Matrix: SOIL (Matrix: SOIL) | | | | Client sample ID | 46092-16 | 46092-17 | 46092-18 | 46092-19 | 46092-20 |
|---|--------------------------|------|-------|------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Client sampling date / time | | | | | 11-Dec-2017 00:00 | 11-Dec-2017 00:00 | 11-Dec-2017 00:00 | 11-Dec-2017 00:00 | 11-Dec-2017 00:00 |
| Compound | CAS Number | LOR | Unit | | ES1731292-016 | ES1731292-017 | ES1731292-018 | ES1731292-019 | ES1731292-020 |
| | | | | | Result | Result | Result | Result | Result |
| EP068A: Organochlorine Pesticides (OC) - Continued | | | | | | | | | |
| 4,4'-DDT | 50-29-3 | 0.2 | mg/kg | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| Endrin ketone | 53494-70-5 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Methoxychlor | 72-43-5 | 0.2 | mg/kg | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| ^ Sum of Aldrin + Dieldrin | 309-00-2/60-57-1 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| ^ Sum of DDD + DDE + DDT | 72-54-8/72-55-9/5 0-2 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| EP068B: Organophosphorus Pesticides (OP) | | | | | | | | | |
| Dichlorvos | 62-73-7 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Demeton-S-methyl | 919-86-8 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Monocrotophos | 6923-22-4 | 0.2 | mg/kg | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| Dimethoate | 60-51-5 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Diazinon | 333-41-5 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Chlorpyrifos-methyl | 5598-13-0 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Parathion-methyl | 298-00-0 | 0.2 | mg/kg | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| Malathion | 121-75-5 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Fenthion | 55-38-9 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Chlorpyrifos | 2921-88-2 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Parathion | 56-38-2 | 0.2 | mg/kg | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| Pirimphos-ethyl | 23505-41-1 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Chlorfenvinphos | 470-90-6 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Bromophos-ethyl | 4824-78-6 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Fenamiphos | 22224-92-6 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Prothiofos | 34643-46-4 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Ethion | 563-12-2 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Carbophenothion | 786-19-6 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Azinphos Methyl | 86-50-0 | 0.05 | mg/kg | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| EP075(SIM)B: Polynuclear Aromatic Hydrocarbons | | | | | | | | | |
| Naphthalene | 91-20-3 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Acenaphthylene | 208-96-8 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Acenaphthene | 83-32-9 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Fluorene | 86-73-7 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Phenanthrene | 85-01-8 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Anthracene | 120-12-7 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Fluoranthene | 206-44-0 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Pyrene | 129-00-0 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |



Analytical Results

Sub-Matrix: SOIL
 (Matrix: SOIL)

Client sample ID

| | | | | 46092-16 | 46092-17 | 46092-18 | 46092-19 | 46092-20 |
|--|-------------------|-----|-------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Client sampling date / time | | | | 11-Dec-2017 00:00 | 11-Dec-2017 00:00 | 11-Dec-2017 00:00 | 11-Dec-2017 00:00 | 11-Dec-2017 00:00 |
| Compound | CAS Number | LOR | Unit | ES1731292-016 | ES1731292-017 | ES1731292-018 | ES1731292-019 | ES1731292-020 |
| | | | | Result | Result | Result | Result | Result |
| EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued | | | | | | | | |
| Benz(a)anthracene | 56-55-3 | 0.5 | mg/kg | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Chrysene | 218-01-9 | 0.5 | mg/kg | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Benzo(b+j)fluoranthene | 205-99-2 205-82-3 | 0.5 | mg/kg | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Benzo(k)fluoranthene | 207-08-9 | 0.5 | mg/kg | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Benzo(a)pyrene | 50-32-8 | 0.5 | mg/kg | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Indeno(1.2.3.cd)pyrene | 193-39-5 | 0.5 | mg/kg | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Dibenz(a,h)anthracene | 53-70-3 | 0.5 | mg/kg | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Benzo(g,h,i)perylene | 191-24-2 | 0.5 | mg/kg | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| ^ Sum of polycyclic aromatic hydrocarbons | ---- | 0.5 | mg/kg | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| ^ Benzo(a)pyrene TEQ (zero) | ---- | 0.5 | mg/kg | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| ^ Benzo(a)pyrene TEQ (half LOR) | ---- | 0.5 | mg/kg | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 |
| ^ Benzo(a)pyrene TEQ (LOR) | ---- | 0.5 | mg/kg | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 |
| EP080/071: Total Petroleum Hydrocarbons | | | | | | | | |
| C6 - C9 Fraction | ---- | 10 | mg/kg | <10 | <10 | <10 | <10 | <10 |
| C10 - C14 Fraction | ---- | 50 | mg/kg | <50 | <50 | <50 | <50 | <50 |
| C15 - C28 Fraction | ---- | 100 | mg/kg | <100 | <100 | <100 | <100 | <100 |
| C29 - C36 Fraction | ---- | 100 | mg/kg | <100 | <100 | <100 | <100 | <100 |
| ^ C10 - C36 Fraction (sum) | ---- | 50 | mg/kg | <50 | <50 | <50 | <50 | <50 |
| EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions | | | | | | | | |
| C6 - C10 Fraction | C6_C10 | 10 | mg/kg | <10 | <10 | <10 | <10 | <10 |
| ^ C6 - C10 Fraction minus BTEX (F1) | C6_C10-BTEX | 10 | mg/kg | <10 | <10 | <10 | <10 | <10 |
| >C10 - C16 Fraction | ---- | 50 | mg/kg | <50 | <50 | <50 | <50 | <50 |
| >C16 - C34 Fraction | ---- | 100 | mg/kg | <100 | <100 | <100 | <100 | <100 |
| >C34 - C40 Fraction | ---- | 100 | mg/kg | <100 | <100 | <100 | <100 | <100 |
| ^ >C10 - C40 Fraction (sum) | ---- | 50 | mg/kg | <50 | <50 | <50 | <50 | <50 |
| ^ >C10 - C16 Fraction minus Naphthalene (F2) | ---- | 50 | mg/kg | <50 | <50 | <50 | <50 | <50 |
| EP080: BTEXN | | | | | | | | |
| Benzene | 71-43-2 | 0.2 | mg/kg | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| Toluene | 108-88-3 | 0.5 | mg/kg | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Ethylbenzene | 100-41-4 | 0.5 | mg/kg | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| meta- & para-Xylene | 108-38-3 106-42-3 | 0.5 | mg/kg | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| ortho-Xylene | 95-47-6 | 0.5 | mg/kg | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |



Analytical Results

| Sub-Matrix: SOIL (Matrix: SOIL) | | | | Client sample ID | 46092-16 | 46092-17 | 46092-18 | 46092-19 | 46092-20 |
|---|------------|------|-------|------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Client sampling date / time | | | | | 11-Dec-2017 00:00 | 11-Dec-2017 00:00 | 11-Dec-2017 00:00 | 11-Dec-2017 00:00 | 11-Dec-2017 00:00 |
| Compound | CAS Number | LOR | Unit | | ES1731292-016 | ES1731292-017 | ES1731292-018 | ES1731292-019 | ES1731292-020 |
| | | | | | Result | Result | Result | Result | Result |
| EP080: BTEXN - Continued | | | | | | | | | |
| ^ Sum of BTEX | ---- | 0.2 | mg/kg | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| ^ Total Xylenes | 1330-20-7 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Naphthalene | 91-20-3 | 1 | mg/kg | | <1 | <1 | <1 | <1 | <1 |
| EP066S: PCB Surrogate | | | | | | | | | |
| Decachlorobiphenyl | 2051-24-3 | 0.1 | % | | 119 | 102 | 106 | 98.7 | 120 |
| EP068S: Organochlorine Pesticide Surrogate | | | | | | | | | |
| Dibromo-DDE | 21655-73-2 | 0.05 | % | | 112 | 116 | 130 | 111 | 103 |
| EP068T: Organophosphorus Pesticide Surrogate | | | | | | | | | |
| DEF | 78-48-8 | 0.05 | % | | 92.9 | 111 | 104 | 94.8 | 73.8 |
| EP075(SIM)S: Phenolic Compound Surrogates | | | | | | | | | |
| Phenol-d6 | 13127-88-3 | 0.5 | % | | 86.8 | 90.4 | 92.7 | 87.2 | 92.4 |
| 2-Chlorophenol-D4 | 93951-73-6 | 0.5 | % | | 79.4 | 82.9 | 86.4 | 81.2 | 85.8 |
| 2,4,6-Tribromophenol | 118-79-6 | 0.5 | % | | 98.2 | 99.3 | 93.8 | 99.4 | 98.8 |
| EP075(SIM)T: PAH Surrogates | | | | | | | | | |
| 2-Fluorobiphenyl | 321-60-8 | 0.5 | % | | 92.1 | 92.3 | 97.0 | 90.2 | 90.1 |
| Anthracene-d10 | 1719-06-8 | 0.5 | % | | 96.5 | 95.9 | 101 | 94.8 | 98.1 |
| 4-Terphenyl-d14 | 1718-51-0 | 0.5 | % | | 89.2 | 89.8 | 95.1 | 87.6 | 88.5 |
| EP080S: TPH(V)/BTEX Surrogates | | | | | | | | | |
| 1,2-Dichloroethane-D4 | 17060-07-0 | 0.2 | % | | 103 | 106 | 118 | 119 | 119 |
| Toluene-D8 | 2037-26-5 | 0.2 | % | | 118 | 119 | 132 | 123 | 106 |
| 4-Bromofluorobenzene | 460-00-4 | 0.2 | % | | 108 | 108 | 121 | 112 | 113 |



Analytical Results

| Sub-Matrix: SOIL (Matrix: SOIL) | | | | Client sample ID | 46092-21 | 46092-22 | 46092-23 | 46092-24 | 46092-25 |
|---|------------|------|--------|------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Client sampling date / time | | | | | 11-Dec-2017 00:00 | 11-Dec-2017 00:00 | 11-Dec-2017 00:00 | 11-Dec-2017 00:00 | 11-Dec-2017 00:00 |
| Compound | CAS Number | LOR | Unit | | ES1731292-021 | ES1731292-022 | ES1731292-023 | ES1731292-024 | ES1731292-025 |
| | | | | Result | Result | Result | Result | Result | Result |
| EA055: Moisture Content (Dried @ 105-110°C) | | | | | | | | | |
| Moisture Content | ---- | 1.0 | % | | 9.8 | 18.4 | 9.9 | 12.3 | 3.6 |
| EA200: AS 4964 - 2004 Identification of Asbestos in bulk samples | | | | | | | | | |
| Asbestos (Trace) | 1332-21-4 | 5 | Fibres | ---- | ---- | ---- | ---- | ---- | No |
| EA200: AS 4964 - 2004 Identification of Asbestos in Soils | | | | | | | | | |
| Asbestos Detected | 1332-21-4 | 0.1 | g/kg | ---- | ---- | ---- | ---- | ---- | No |
| Asbestos Type | 1332-21-4 | - | -- | ---- | ---- | ---- | ---- | ---- | - |
| Sample weight (dry) | ---- | 0.01 | g | ---- | ---- | ---- | ---- | ---- | 35.8 |
| APPROVED IDENTIFIER: | ---- | - | -- | ---- | ---- | ---- | ---- | ---- | S.SPOONER |
| EG005T: Total Metals by ICP-AES | | | | | | | | | |
| Arsenic | 7440-38-2 | 5 | mg/kg | <5 | <5 | <5 | <5 | <5 | <5 |
| Cadmium | 7440-43-9 | 1 | mg/kg | <1 | <1 | <1 | <1 | <1 | <1 |
| Chromium | 7440-47-3 | 2 | mg/kg | 38 | 21 | 40 | 39 | 28 | |
| Copper | 7440-50-8 | 5 | mg/kg | 30 | 24 | 31 | 36 | 33 | |
| Lead | 7439-92-1 | 5 | mg/kg | 9 | 11 | 9 | 12 | 10 | |
| Nickel | 7440-02-0 | 2 | mg/kg | 34 | 21 | 35 | 40 | 70 | |
| Zinc | 7440-66-6 | 5 | mg/kg | 98 | 153 | 112 | 129 | 71 | |
| EG035T: Total Recoverable Mercury by FIMS | | | | | | | | | |
| Mercury | 7439-97-6 | 0.1 | mg/kg | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| EP066: Polychlorinated Biphenyls (PCB) | | | | | | | | | |
| Total Polychlorinated biphenyls | ---- | 0.1 | mg/kg | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| EP068A: Organochlorine Pesticides (OC) | | | | | | | | | |
| alpha-BHC | 319-84-6 | 0.05 | mg/kg | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Hexachlorobenzene (HCB) | 118-74-1 | 0.05 | mg/kg | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| beta-BHC | 319-85-7 | 0.05 | mg/kg | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| gamma-BHC | 58-89-9 | 0.05 | mg/kg | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| delta-BHC | 319-86-8 | 0.05 | mg/kg | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Heptachlor | 76-44-8 | 0.05 | mg/kg | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Aldrin | 309-00-2 | 0.05 | mg/kg | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Heptachlor epoxide | 1024-57-3 | 0.05 | mg/kg | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| ^ Total Chlordane (sum) | ---- | 0.05 | mg/kg | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| trans-Chlordane | 5103-74-2 | 0.05 | mg/kg | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| alpha-Endosulfan | 959-98-8 | 0.05 | mg/kg | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| cis-Chlordane | 5103-71-9 | 0.05 | mg/kg | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Dieldrin | 60-57-1 | 0.05 | mg/kg | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |



Analytical Results

Sub-Matrix: SOIL
 (Matrix: SOIL)

Client sample ID

| | | | | 46092-21 | 46092-22 | 46092-23 | 46092-24 | 46092-25 |
|---|----------------------|------|-------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Client sampling date / time | | | | 11-Dec-2017 00:00 | 11-Dec-2017 00:00 | 11-Dec-2017 00:00 | 11-Dec-2017 00:00 | 11-Dec-2017 00:00 |
| Compound | CAS Number | LOR | Unit | ES1731292-021 | ES1731292-022 | ES1731292-023 | ES1731292-024 | ES1731292-025 |
| | | | | Result | Result | Result | Result | Result |
| EP068A: Organochlorine Pesticides (OC) - Continued | | | | | | | | |
| 4.4'-DDE | 72-55-9 | 0.05 | mg/kg | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Endrin | 72-20-8 | 0.05 | mg/kg | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| beta-Endosulfan | 33213-65-9 | 0.05 | mg/kg | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| ^ Endosulfan (sum) | 115-29-7 | 0.05 | mg/kg | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| 4.4'-DDD | 72-54-8 | 0.05 | mg/kg | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Endrin aldehyde | 7421-93-4 | 0.05 | mg/kg | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Endosulfan sulfate | 1031-07-8 | 0.05 | mg/kg | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| 4.4'-DDT | 50-29-3 | 0.2 | mg/kg | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| Endrin ketone | 53494-70-5 | 0.05 | mg/kg | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Methoxychlor | 72-43-5 | 0.2 | mg/kg | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| ^ Sum of Aldrin + Dieldrin | 309-00-2/60-57-1 | 0.05 | mg/kg | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| ^ Sum of DDD + DDE + DDT | 72-54-8/72-55-9/50-2 | 0.05 | mg/kg | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| EP068B: Organophosphorus Pesticides (OP) | | | | | | | | |
| Dichlorvos | 62-73-7 | 0.05 | mg/kg | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Demeton-S-methyl | 919-86-8 | 0.05 | mg/kg | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Monocrotophos | 6923-22-4 | 0.2 | mg/kg | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| Dimethoate | 60-51-5 | 0.05 | mg/kg | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Diazinon | 333-41-5 | 0.05 | mg/kg | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Chlorpyrifos-methyl | 5598-13-0 | 0.05 | mg/kg | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Parathion-methyl | 298-00-0 | 0.2 | mg/kg | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| Malathion | 121-75-5 | 0.05 | mg/kg | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Fenthion | 55-38-9 | 0.05 | mg/kg | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Chlorpyrifos | 2921-88-2 | 0.05 | mg/kg | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Parathion | 56-38-2 | 0.2 | mg/kg | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| Pirimphos-ethyl | 23505-41-1 | 0.05 | mg/kg | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Chlorfenvinphos | 470-90-6 | 0.05 | mg/kg | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Bromophos-ethyl | 4824-78-6 | 0.05 | mg/kg | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Fenamiphos | 22224-92-6 | 0.05 | mg/kg | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Prothiofos | 34643-46-4 | 0.05 | mg/kg | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Ethion | 563-12-2 | 0.05 | mg/kg | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Carbophenothion | 786-19-6 | 0.05 | mg/kg | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Azinphos Methyl | 86-50-0 | 0.05 | mg/kg | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| EP075(SIM)B: Polynuclear Aromatic Hydrocarbons | | | | | | | | |
| Naphthalene | 91-20-3 | 0.5 | mg/kg | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |



Analytical Results

| Sub-Matrix: SOIL (Matrix: SOIL) | | | | Client sample ID | 46092-21 | 46092-22 | 46092-23 | 46092-24 | 46092-25 |
|--|-------------------|-----|-------|------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Client sampling date / time | | | | | 11-Dec-2017 00:00 | 11-Dec-2017 00:00 | 11-Dec-2017 00:00 | 11-Dec-2017 00:00 | 11-Dec-2017 00:00 |
| Compound | CAS Number | LOR | Unit | | ES1731292-021 | ES1731292-022 | ES1731292-023 | ES1731292-024 | ES1731292-025 |
| | | | | | Result | Result | Result | Result | Result |
| EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued | | | | | | | | | |
| Acenaphthylene | 208-96-8 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Acenaphthene | 83-32-9 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Fluorene | 86-73-7 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Phenanthrene | 85-01-8 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Anthracene | 120-12-7 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Fluoranthene | 206-44-0 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Pyrene | 129-00-0 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Benz(a)anthracene | 56-55-3 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Chrysene | 218-01-9 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Benzo(b+j)fluoranthene | 205-99-2 205-82-3 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Benzo(k)fluoranthene | 207-08-9 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Benzo(a)pyrene | 50-32-8 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Indeno(1.2.3.cd)pyrene | 193-39-5 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Dibenz(a,h)anthracene | 53-70-3 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Benzo(g,h,i)perylene | 191-24-2 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| ^ Sum of polycyclic aromatic hydrocarbons | ---- | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| ^ Benzo(a)pyrene TEQ (zero) | ---- | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| ^ Benzo(a)pyrene TEQ (half LOR) | ---- | 0.5 | mg/kg | | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 |
| ^ Benzo(a)pyrene TEQ (LOR) | ---- | 0.5 | mg/kg | | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 |
| EP080/071: Total Petroleum Hydrocarbons | | | | | | | | | |
| C6 - C9 Fraction | ---- | 10 | mg/kg | | <10 | <10 | <10 | <10 | <10 |
| C10 - C14 Fraction | ---- | 50 | mg/kg | | <50 | <50 | <50 | <50 | <50 |
| C15 - C28 Fraction | ---- | 100 | mg/kg | | <100 | <100 | <100 | <100 | <100 |
| C29 - C36 Fraction | ---- | 100 | mg/kg | | <100 | <100 | <100 | <100 | <100 |
| ^ C10 - C36 Fraction (sum) | ---- | 50 | mg/kg | | <50 | <50 | <50 | <50 | <50 |
| EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions | | | | | | | | | |
| C6 - C10 Fraction | C6_C10 | 10 | mg/kg | | <10 | <10 | <10 | <10 | <10 |
| ^ C6 - C10 Fraction minus BTEX (F1) | C6_C10-BTEX | 10 | mg/kg | | <10 | <10 | <10 | <10 | <10 |
| >C10 - C16 Fraction | ---- | 50 | mg/kg | | <50 | <50 | <50 | <50 | <50 |
| >C16 - C34 Fraction | ---- | 100 | mg/kg | | <100 | <100 | <100 | <100 | <100 |
| >C34 - C40 Fraction | ---- | 100 | mg/kg | | <100 | <100 | <100 | <100 | <100 |
| ^ >C10 - C40 Fraction (sum) | ---- | 50 | mg/kg | | <50 | <50 | <50 | <50 | <50 |
| ^ >C10 - C16 Fraction minus Naphthalene (F2) | ---- | 50 | mg/kg | | <50 | <50 | <50 | <50 | <50 |



Analytical Results

| Sub-Matrix: SOIL (Matrix: SOIL) | | | | Client sample ID | 46092-21 | 46092-22 | 46092-23 | 46092-24 | 46092-25 |
|--|-------------------|------|-------|------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Client sampling date / time | | | | | 11-Dec-2017 00:00 | 11-Dec-2017 00:00 | 11-Dec-2017 00:00 | 11-Dec-2017 00:00 | 11-Dec-2017 00:00 |
| Compound | CAS Number | LOR | Unit | | ES1731292-021 | ES1731292-022 | ES1731292-023 | ES1731292-024 | ES1731292-025 |
| | | | | | Result | Result | Result | Result | Result |
| EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions - Continued | | | | | | | | | |
| EP080: BTEXN | | | | | | | | | |
| Benzene | 71-43-2 | 0.2 | mg/kg | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| Toluene | 108-88-3 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Ethylbenzene | 100-41-4 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| meta- & para-Xylene | 108-38-3 106-42-3 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| ortho-Xylene | 95-47-6 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| ^ Sum of BTEX | ---- | 0.2 | mg/kg | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| ^ Total Xylenes | 1330-20-7 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Naphthalene | 91-20-3 | 1 | mg/kg | | <1 | <1 | <1 | <1 | <1 |
| EP066S: PCB Surrogate | | | | | | | | | |
| Decachlorobiphenyl | 2051-24-3 | 0.1 | % | | 123 | 80.5 | 74.0 | 80.2 | 100 |
| EP068S: Organochlorine Pesticide Surrogate | | | | | | | | | |
| Dibromo-DDE | 21655-73-2 | 0.05 | % | | 130 | 111 | 104 | 114 | 89.4 |
| EP068T: Organophosphorus Pesticide Surrogate | | | | | | | | | |
| DEF | 78-48-8 | 0.05 | % | | 92.5 | 90.3 | 93.0 | 101 | 74.4 |
| EP075(SIM)S: Phenolic Compound Surrogates | | | | | | | | | |
| Phenol-d6 | 13127-88-3 | 0.5 | % | | 97.5 | 94.4 | 101 | 101 | 98.8 |
| 2-Chlorophenol-D4 | 93951-73-6 | 0.5 | % | | 94.5 | 92.1 | 97.7 | 98.5 | 96.1 |
| 2,4,6-Tribromophenol | 118-79-6 | 0.5 | % | | 95.5 | 96.3 | 101 | 103 | 94.0 |
| EP075(SIM)T: PAH Surrogates | | | | | | | | | |
| 2-Fluorobiphenyl | 321-60-8 | 0.5 | % | | 95.2 | 94.4 | 100.0 | 99.7 | 97.3 |
| Anthracene-d10 | 1719-06-8 | 0.5 | % | | 97.8 | 97.8 | 102 | 101 | 97.8 |
| 4-Terphenyl-d14 | 1718-51-0 | 0.5 | % | | 90.6 | 91.2 | 95.2 | 94.4 | 91.6 |
| EP080S: TPH(V)/BTEX Surrogates | | | | | | | | | |
| 1,2-Dichloroethane-D4 | 17060-07-0 | 0.2 | % | | 109 | 109 | 108 | 115 | 107 |
| Toluene-D8 | 2037-26-5 | 0.2 | % | | 117 | 115 | 118 | 123 | 117 |
| 4-Bromofluorobenzene | 460-00-4 | 0.2 | % | | 116 | 116 | 118 | 122 | 115 |



Analytical Results

| Sub-Matrix: SOIL (Matrix: SOIL) | | | | Client sample ID | 46092-26 | 46092-27 | 46092-28 | 46092-29 | 46092-30 |
|---|------------|------|--------|------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Client sampling date / time | | | | | 11-Dec-2017 00:00 | 11-Dec-2017 00:00 | 11-Dec-2017 00:00 | 11-Dec-2017 00:00 | 11-Dec-2017 00:00 |
| Compound | CAS Number | LOR | Unit | | ES1731292-026 | ES1731292-027 | ES1731292-028 | ES1731292-029 | ES1731292-030 |
| | | | | Result | Result | Result | Result | Result | Result |
| EA055: Moisture Content (Dried @ 105-110°C) | | | | | | | | | |
| Moisture Content | ---- | 1.0 | % | | 20.4 | 19.8 | 11.7 | 11.8 | 3.2 |
| EA200: AS 4964 - 2004 Identification of Asbestos in bulk samples | | | | | | | | | |
| Asbestos (Trace) | 1332-21-4 | 5 | Fibres | ---- | ---- | ---- | ---- | ---- | No |
| EA200: AS 4964 - 2004 Identification of Asbestos in Soils | | | | | | | | | |
| Asbestos Detected | 1332-21-4 | 0.1 | g/kg | ---- | ---- | ---- | ---- | ---- | No |
| Asbestos Type | 1332-21-4 | - | -- | ---- | ---- | ---- | ---- | ---- | - |
| Sample weight (dry) | ---- | 0.01 | g | ---- | ---- | ---- | ---- | ---- | 34.9 |
| APPROVED IDENTIFIER: | ---- | - | -- | ---- | ---- | ---- | ---- | ---- | S.SPOONER |
| EG005T: Total Metals by ICP-AES | | | | | | | | | |
| Arsenic | 7440-38-2 | 5 | mg/kg | <5 | <5 | <5 | <5 | <5 | <5 |
| Cadmium | 7440-43-9 | 1 | mg/kg | <1 | <1 | <1 | <1 | <1 | <1 |
| Chromium | 7440-47-3 | 2 | mg/kg | 18 | 35 | 28 | 40 | 28 | 28 |
| Copper | 7440-50-8 | 5 | mg/kg | 34 | 37 | 26 | 36 | 34 | 34 |
| Lead | 7439-92-1 | 5 | mg/kg | 43 | 44 | 18 | 11 | 11 | 11 |
| Nickel | 7440-02-0 | 2 | mg/kg | 18 | 36 | 28 | 39 | 75 | 75 |
| Zinc | 7440-66-6 | 5 | mg/kg | 1300 | 164 | 220 | 126 | 70 | 70 |
| EG035T: Total Recoverable Mercury by FIMS | | | | | | | | | |
| Mercury | 7439-97-6 | 0.1 | mg/kg | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| EP066: Polychlorinated Biphenyls (PCB) | | | | | | | | | |
| Total Polychlorinated biphenyls | ---- | 0.1 | mg/kg | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| EP068A: Organochlorine Pesticides (OC) | | | | | | | | | |
| alpha-BHC | 319-84-6 | 0.05 | mg/kg | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Hexachlorobenzene (HCB) | 118-74-1 | 0.05 | mg/kg | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| beta-BHC | 319-85-7 | 0.05 | mg/kg | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| gamma-BHC | 58-89-9 | 0.05 | mg/kg | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| delta-BHC | 319-86-8 | 0.05 | mg/kg | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Heptachlor | 76-44-8 | 0.05 | mg/kg | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Aldrin | 309-00-2 | 0.05 | mg/kg | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Heptachlor epoxide | 1024-57-3 | 0.05 | mg/kg | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| ^ Total Chlordane (sum) | ---- | 0.05 | mg/kg | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| trans-Chlordane | 5103-74-2 | 0.05 | mg/kg | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| alpha-Endosulfan | 959-98-8 | 0.05 | mg/kg | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| cis-Chlordane | 5103-71-9 | 0.05 | mg/kg | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Dieldrin | 60-57-1 | 0.05 | mg/kg | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |



Analytical Results

Sub-Matrix: SOIL
 (Matrix: SOIL)

Client sample ID

| | | | | 46092-26 | 46092-27 | 46092-28 | 46092-29 | 46092-30 |
|---|----------------------|------|-------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Client sampling date / time | | | | 11-Dec-2017 00:00 | 11-Dec-2017 00:00 | 11-Dec-2017 00:00 | 11-Dec-2017 00:00 | 11-Dec-2017 00:00 |
| Compound | CAS Number | LOR | Unit | ES1731292-026 | ES1731292-027 | ES1731292-028 | ES1731292-029 | ES1731292-030 |
| | | | | Result | Result | Result | Result | Result |
| EP068A: Organochlorine Pesticides (OC) - Continued | | | | | | | | |
| 4.4'-DDE | 72-55-9 | 0.05 | mg/kg | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Endrin | 72-20-8 | 0.05 | mg/kg | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| beta-Endosulfan | 33213-65-9 | 0.05 | mg/kg | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| ^ Endosulfan (sum) | 115-29-7 | 0.05 | mg/kg | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| 4.4'-DDD | 72-54-8 | 0.05 | mg/kg | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Endrin aldehyde | 7421-93-4 | 0.05 | mg/kg | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Endosulfan sulfate | 1031-07-8 | 0.05 | mg/kg | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| 4.4'-DDT | 50-29-3 | 0.2 | mg/kg | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| Endrin ketone | 53494-70-5 | 0.05 | mg/kg | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Methoxychlor | 72-43-5 | 0.2 | mg/kg | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| ^ Sum of Aldrin + Dieldrin | 309-00-2/60-57-1 | 0.05 | mg/kg | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| ^ Sum of DDD + DDE + DDT | 72-54-8/72-55-9/50-2 | 0.05 | mg/kg | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| EP068B: Organophosphorus Pesticides (OP) | | | | | | | | |
| Dichlorvos | 62-73-7 | 0.05 | mg/kg | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Demeton-S-methyl | 919-86-8 | 0.05 | mg/kg | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Monocrotophos | 6923-22-4 | 0.2 | mg/kg | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| Dimethoate | 60-51-5 | 0.05 | mg/kg | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Diazinon | 333-41-5 | 0.05 | mg/kg | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Chlorpyrifos-methyl | 5598-13-0 | 0.05 | mg/kg | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Parathion-methyl | 298-00-0 | 0.2 | mg/kg | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| Malathion | 121-75-5 | 0.05 | mg/kg | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Fenthion | 55-38-9 | 0.05 | mg/kg | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Chlorpyrifos | 2921-88-2 | 0.05 | mg/kg | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Parathion | 56-38-2 | 0.2 | mg/kg | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| Pirimphos-ethyl | 23505-41-1 | 0.05 | mg/kg | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Chlorfenvinphos | 470-90-6 | 0.05 | mg/kg | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Bromophos-ethyl | 4824-78-6 | 0.05 | mg/kg | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Fenamiphos | 22224-92-6 | 0.05 | mg/kg | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Prothiofos | 34643-46-4 | 0.05 | mg/kg | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Ethion | 563-12-2 | 0.05 | mg/kg | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Carbophenothion | 786-19-6 | 0.05 | mg/kg | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Azinphos Methyl | 86-50-0 | 0.05 | mg/kg | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| EP075(SIM)B: Polynuclear Aromatic Hydrocarbons | | | | | | | | |
| Naphthalene | 91-20-3 | 0.5 | mg/kg | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |



Analytical Results

| Sub-Matrix: SOIL (Matrix: SOIL) | | | | Client sample ID | 46092-26 | 46092-27 | 46092-28 | 46092-29 | 46092-30 |
|--|-------------------|-----|-------|------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Client sampling date / time | | | | | 11-Dec-2017 00:00 | 11-Dec-2017 00:00 | 11-Dec-2017 00:00 | 11-Dec-2017 00:00 | 11-Dec-2017 00:00 |
| Compound | CAS Number | LOR | Unit | | ES1731292-026 | ES1731292-027 | ES1731292-028 | ES1731292-029 | ES1731292-030 |
| | | | | | Result | Result | Result | Result | Result |
| EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued | | | | | | | | | |
| Acenaphthylene | 208-96-8 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Acenaphthene | 83-32-9 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Fluorene | 86-73-7 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Phenanthrene | 85-01-8 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Anthracene | 120-12-7 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Fluoranthene | 206-44-0 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Pyrene | 129-00-0 | 0.5 | mg/kg | | 0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Benz(a)anthracene | 56-55-3 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Chrysene | 218-01-9 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Benzo(b+j)fluoranthene | 205-99-2 205-82-3 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Benzo(k)fluoranthene | 207-08-9 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Benzo(a)pyrene | 50-32-8 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Indeno(1.2.3.cd)pyrene | 193-39-5 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Dibenz(a,h)anthracene | 53-70-3 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Benzo(g,h,i)perylene | 191-24-2 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| ^ Sum of polycyclic aromatic hydrocarbons | ---- | 0.5 | mg/kg | | 0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| ^ Benzo(a)pyrene TEQ (zero) | ---- | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| ^ Benzo(a)pyrene TEQ (half LOR) | ---- | 0.5 | mg/kg | | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 |
| ^ Benzo(a)pyrene TEQ (LOR) | ---- | 0.5 | mg/kg | | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 |
| EP080/071: Total Petroleum Hydrocarbons | | | | | | | | | |
| C6 - C9 Fraction | ---- | 10 | mg/kg | | <10 | <10 | <10 | <10 | <10 |
| C10 - C14 Fraction | ---- | 50 | mg/kg | | <50 | <50 | <50 | <50 | <50 |
| C15 - C28 Fraction | ---- | 100 | mg/kg | | 100 | <100 | <100 | <100 | <100 |
| C29 - C36 Fraction | ---- | 100 | mg/kg | | 230 | <100 | <100 | <100 | <100 |
| ^ C10 - C36 Fraction (sum) | ---- | 50 | mg/kg | | 330 | <50 | <50 | <50 | <50 |
| EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions | | | | | | | | | |
| C6 - C10 Fraction | C6_C10 | 10 | mg/kg | | <10 | <10 | <10 | <10 | <10 |
| ^ C6 - C10 Fraction minus BTEX (F1) | C6_C10-BTEX | 10 | mg/kg | | <10 | <10 | <10 | <10 | <10 |
| >C10 - C16 Fraction | ---- | 50 | mg/kg | | <50 | <50 | <50 | <50 | <50 |
| >C16 - C34 Fraction | ---- | 100 | mg/kg | | 280 | <100 | <100 | <100 | <100 |
| >C34 - C40 Fraction | ---- | 100 | mg/kg | | 180 | <100 | <100 | <100 | <100 |
| ^ >C10 - C40 Fraction (sum) | ---- | 50 | mg/kg | | 460 | <50 | <50 | <50 | <50 |
| ^ >C10 - C16 Fraction minus Naphthalene (F2) | ---- | 50 | mg/kg | | <50 | <50 | <50 | <50 | <50 |



Analytical Results

| Sub-Matrix: SOIL (Matrix: SOIL) | | | | Client sample ID | 46092-26 | 46092-27 | 46092-28 | 46092-29 | 46092-30 |
|--|-------------------|------|-------|------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Client sampling date / time | | | | | 11-Dec-2017 00:00 | 11-Dec-2017 00:00 | 11-Dec-2017 00:00 | 11-Dec-2017 00:00 | 11-Dec-2017 00:00 |
| Compound | CAS Number | LOR | Unit | | ES1731292-026 | ES1731292-027 | ES1731292-028 | ES1731292-029 | ES1731292-030 |
| | | | | | Result | Result | Result | Result | Result |
| EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions - Continued | | | | | | | | | |
| EP080: BTEXN | | | | | | | | | |
| Benzene | 71-43-2 | 0.2 | mg/kg | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| Toluene | 108-88-3 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Ethylbenzene | 100-41-4 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| meta- & para-Xylene | 108-38-3 106-42-3 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| ortho-Xylene | 95-47-6 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| ^ Sum of BTEX | ---- | 0.2 | mg/kg | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| ^ Total Xylenes | 1330-20-7 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Naphthalene | 91-20-3 | 1 | mg/kg | | <1 | <1 | <1 | <1 | <1 |
| EP066S: PCB Surrogate | | | | | | | | | |
| Decachlorobiphenyl | 2051-24-3 | 0.1 | % | | 90.4 | 73.0 | 76.2 | 72.8 | 97.1 |
| EP068S: Organochlorine Pesticide Surrogate | | | | | | | | | |
| Dibromo-DDE | 21655-73-2 | 0.05 | % | | 101 | 104 | 111 | 106 | 95.2 |
| EP068T: Organophosphorus Pesticide Surrogate | | | | | | | | | |
| DEF | 78-48-8 | 0.05 | % | | 74.3 | 85.9 | 96.5 | 105 | 62.4 |
| EP075(SIM)S: Phenolic Compound Surrogates | | | | | | | | | |
| Phenol-d6 | 13127-88-3 | 0.5 | % | | 92.1 | 94.2 | 93.7 | 95.9 | 99.7 |
| 2-Chlorophenol-D4 | 93951-73-6 | 0.5 | % | | 89.9 | 91.1 | 90.0 | 91.6 | 96.7 |
| 2,4,6-Tribromophenol | 118-79-6 | 0.5 | % | | 101 | 96.1 | 87.6 | 99.1 | 97.0 |
| EP075(SIM)T: PAH Surrogates | | | | | | | | | |
| 2-Fluorobiphenyl | 321-60-8 | 0.5 | % | | 94.6 | 90.8 | 94.1 | 96.9 | 98.6 |
| Anthracene-d10 | 1719-06-8 | 0.5 | % | | 96.9 | 93.8 | 96.1 | 99.6 | 99.7 |
| 4-Terphenyl-d14 | 1718-51-0 | 0.5 | % | | 90.1 | 87.4 | 89.8 | 93.0 | 93.0 |
| EP080S: TPH(V)/BTEX Surrogates | | | | | | | | | |
| 1,2-Dichloroethane-D4 | 17060-07-0 | 0.2 | % | | 91.9 | 112 | 110 | 114 | 115 |
| Toluene-D8 | 2037-26-5 | 0.2 | % | | 109 | 119 | 119 | 119 | 124 |
| 4-Bromofluorobenzene | 460-00-4 | 0.2 | % | | 109 | 120 | 119 | 119 | 123 |



Analytical Results

| | | | | | | | | |
|--|------------|-----------------------------|-------|-------------------|-------|-------|-------|-------|
| Sub-Matrix: SOIL (Matrix: SOIL) | | Client sample ID | | 46092-31 | ---- | ---- | ---- | ---- |
| | | Client sampling date / time | | 11-Dec-2017 00:00 | ---- | ---- | ---- | ---- |
| Compound | CAS Number | LOR | Unit | ES1731292-031 | ----- | ----- | ----- | ----- |
| Result | | | | ---- | ---- | ---- | ---- | ---- |
| EA055: Moisture Content (Dried @ 105-110°C) | | | | | | | | |
| Moisture Content | ---- | 1.0 | % | 20.2 | ---- | ---- | ---- | ---- |
| EG005T: Total Metals by ICP-AES | | | | | | | | |
| Arsenic | 7440-38-2 | 5 | mg/kg | <5 | ---- | ---- | ---- | ---- |
| Cadmium | 7440-43-9 | 1 | mg/kg | <1 | ---- | ---- | ---- | ---- |
| Chromium | 7440-47-3 | 2 | mg/kg | 17 | ---- | ---- | ---- | ---- |
| Copper | 7440-50-8 | 5 | mg/kg | 31 | ---- | ---- | ---- | ---- |
| Lead | 7439-92-1 | 5 | mg/kg | 40 | ---- | ---- | ---- | ---- |
| Nickel | 7440-02-0 | 2 | mg/kg | 16 | ---- | ---- | ---- | ---- |
| Zinc | 7440-66-6 | 5 | mg/kg | 1160 | ---- | ---- | ---- | ---- |
| EG035T: Total Recoverable Mercury by FIMS | | | | | | | | |
| Mercury | 7439-97-6 | 0.1 | mg/kg | <0.1 | ---- | ---- | ---- | ---- |
| EP066: Polychlorinated Biphenyls (PCB) | | | | | | | | |
| Total Polychlorinated biphenyls | ---- | 0.1 | mg/kg | <0.1 | ---- | ---- | ---- | ---- |
| EP068A: Organochlorine Pesticides (OC) | | | | | | | | |
| alpha-BHC | 319-84-6 | 0.05 | mg/kg | <0.05 | ---- | ---- | ---- | ---- |
| Hexachlorobenzene (HCB) | 118-74-1 | 0.05 | mg/kg | <0.05 | ---- | ---- | ---- | ---- |
| beta-BHC | 319-85-7 | 0.05 | mg/kg | <0.05 | ---- | ---- | ---- | ---- |
| gamma-BHC | 58-89-9 | 0.05 | mg/kg | <0.05 | ---- | ---- | ---- | ---- |
| delta-BHC | 319-86-8 | 0.05 | mg/kg | <0.05 | ---- | ---- | ---- | ---- |
| Heptachlor | 76-44-8 | 0.05 | mg/kg | <0.05 | ---- | ---- | ---- | ---- |
| Aldrin | 309-00-2 | 0.05 | mg/kg | <0.05 | ---- | ---- | ---- | ---- |
| Heptachlor epoxide | 1024-57-3 | 0.05 | mg/kg | <0.05 | ---- | ---- | ---- | ---- |
| ^ Total Chlordane (sum) | ---- | 0.05 | mg/kg | <0.05 | ---- | ---- | ---- | ---- |
| trans-Chlordane | 5103-74-2 | 0.05 | mg/kg | <0.05 | ---- | ---- | ---- | ---- |
| alpha-Endosulfan | 959-98-8 | 0.05 | mg/kg | <0.05 | ---- | ---- | ---- | ---- |
| cis-Chlordane | 5103-71-9 | 0.05 | mg/kg | <0.05 | ---- | ---- | ---- | ---- |
| Dieldrin | 60-57-1 | 0.05 | mg/kg | <0.05 | ---- | ---- | ---- | ---- |
| 4,4'-DDE | 72-55-9 | 0.05 | mg/kg | <0.05 | ---- | ---- | ---- | ---- |
| Endrin | 72-20-8 | 0.05 | mg/kg | <0.05 | ---- | ---- | ---- | ---- |
| beta-Endosulfan | 33213-65-9 | 0.05 | mg/kg | <0.05 | ---- | ---- | ---- | ---- |
| ^ Endosulfan (sum) | 115-29-7 | 0.05 | mg/kg | <0.05 | ---- | ---- | ---- | ---- |
| 4,4'-DDD | 72-54-8 | 0.05 | mg/kg | <0.05 | ---- | ---- | ---- | ---- |
| Endrin aldehyde | 7421-93-4 | 0.05 | mg/kg | <0.05 | ---- | ---- | ---- | ---- |
| Endosulfan sulfate | 1031-07-8 | 0.05 | mg/kg | <0.05 | ---- | ---- | ---- | ---- |



Analytical Results

| Sub-Matrix: SOIL (Matrix: SOIL) | | | | Client sample ID | 46092-26 | 46092-27 | 46092-28 | 46092-29 | 46092-30 |
|--|-------------------|-----|-------|------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Client sampling date / time | | | | | 11-Dec-2017 00:00 | 11-Dec-2017 00:00 | 11-Dec-2017 00:00 | 11-Dec-2017 00:00 | 11-Dec-2017 00:00 |
| Compound | CAS Number | LOR | Unit | | ES1731292-026 | ES1731292-027 | ES1731292-028 | ES1731292-029 | ES1731292-030 |
| | | | | | Result | Result | Result | Result | Result |
| EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued | | | | | | | | | |
| Acenaphthylene | 208-96-8 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Acenaphthene | 83-32-9 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Fluorene | 86-73-7 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Phenanthrene | 85-01-8 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Anthracene | 120-12-7 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Fluoranthene | 206-44-0 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Pyrene | 129-00-0 | 0.5 | mg/kg | | 0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Benz(a)anthracene | 56-55-3 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Chrysene | 218-01-9 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Benzo(b+j)fluoranthene | 205-99-2 205-82-3 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Benzo(k)fluoranthene | 207-08-9 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Benzo(a)pyrene | 50-32-8 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Indeno(1.2.3.cd)pyrene | 193-39-5 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Dibenz(a,h)anthracene | 53-70-3 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Benzo(g,h,i)perylene | 191-24-2 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| ^ Sum of polycyclic aromatic hydrocarbons | ---- | 0.5 | mg/kg | | 0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| ^ Benzo(a)pyrene TEQ (zero) | ---- | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| ^ Benzo(a)pyrene TEQ (half LOR) | ---- | 0.5 | mg/kg | | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 |
| ^ Benzo(a)pyrene TEQ (LOR) | ---- | 0.5 | mg/kg | | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 |
| EP080/071: Total Petroleum Hydrocarbons | | | | | | | | | |
| C6 - C9 Fraction | ---- | 10 | mg/kg | | <10 | <10 | <10 | <10 | <10 |
| C10 - C14 Fraction | ---- | 50 | mg/kg | | <50 | <50 | <50 | <50 | <50 |
| C15 - C28 Fraction | ---- | 100 | mg/kg | | 100 | <100 | <100 | <100 | <100 |
| C29 - C36 Fraction | ---- | 100 | mg/kg | | 230 | <100 | <100 | <100 | <100 |
| ^ C10 - C36 Fraction (sum) | ---- | 50 | mg/kg | | 330 | <50 | <50 | <50 | <50 |
| EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions | | | | | | | | | |
| C6 - C10 Fraction | C6_C10 | 10 | mg/kg | | <10 | <10 | <10 | <10 | <10 |
| ^ C6 - C10 Fraction minus BTEX (F1) | C6_C10-BTEX | 10 | mg/kg | | <10 | <10 | <10 | <10 | <10 |
| >C10 - C16 Fraction | ---- | 50 | mg/kg | | <50 | <50 | <50 | <50 | <50 |
| >C16 - C34 Fraction | ---- | 100 | mg/kg | | 280 | <100 | <100 | <100 | <100 |
| >C34 - C40 Fraction | ---- | 100 | mg/kg | | 180 | <100 | <100 | <100 | <100 |
| ^ >C10 - C40 Fraction (sum) | ---- | 50 | mg/kg | | 460 | <50 | <50 | <50 | <50 |
| ^ >C10 - C16 Fraction minus Naphthalene (F2) | ---- | 50 | mg/kg | | <50 | <50 | <50 | <50 | <50 |



Analytical Results

| Sub-Matrix: SOIL (Matrix: SOIL) | | | | Client sample ID | 46092-26 | 46092-27 | 46092-28 | 46092-29 | 46092-30 |
|--|-------------------|------|-------|------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Client sampling date / time | | | | | 11-Dec-2017 00:00 | 11-Dec-2017 00:00 | 11-Dec-2017 00:00 | 11-Dec-2017 00:00 | 11-Dec-2017 00:00 |
| Compound | CAS Number | LOR | Unit | | ES1731292-026 | ES1731292-027 | ES1731292-028 | ES1731292-029 | ES1731292-030 |
| | | | | | Result | Result | Result | Result | Result |
| EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions - Continued | | | | | | | | | |
| EP080: BTEXN | | | | | | | | | |
| Benzene | 71-43-2 | 0.2 | mg/kg | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| Toluene | 108-88-3 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Ethylbenzene | 100-41-4 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| meta- & para-Xylene | 108-38-3 106-42-3 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| ortho-Xylene | 95-47-6 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| ^ Sum of BTEX | ---- | 0.2 | mg/kg | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| ^ Total Xylenes | 1330-20-7 | 0.5 | mg/kg | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Naphthalene | 91-20-3 | 1 | mg/kg | | <1 | <1 | <1 | <1 | <1 |
| EP066S: PCB Surrogate | | | | | | | | | |
| Decachlorobiphenyl | 2051-24-3 | 0.1 | % | | 90.4 | 73.0 | 76.2 | 72.8 | 97.1 |
| EP068S: Organochlorine Pesticide Surrogate | | | | | | | | | |
| Dibromo-DDE | 21655-73-2 | 0.05 | % | | 101 | 104 | 111 | 106 | 95.2 |
| EP068T: Organophosphorus Pesticide Surrogate | | | | | | | | | |
| DEF | 78-48-8 | 0.05 | % | | 74.3 | 85.9 | 96.5 | 105 | 62.4 |
| EP075(SIM)S: Phenolic Compound Surrogates | | | | | | | | | |
| Phenol-d6 | 13127-88-3 | 0.5 | % | | 92.1 | 94.2 | 93.7 | 95.9 | 99.7 |
| 2-Chlorophenol-D4 | 93951-73-6 | 0.5 | % | | 89.9 | 91.1 | 90.0 | 91.6 | 96.7 |
| 2,4,6-Tribromophenol | 118-79-6 | 0.5 | % | | 101 | 96.1 | 87.6 | 99.1 | 97.0 |
| EP075(SIM)T: PAH Surrogates | | | | | | | | | |
| 2-Fluorobiphenyl | 321-60-8 | 0.5 | % | | 94.6 | 90.8 | 94.1 | 96.9 | 98.6 |
| Anthracene-d10 | 1719-06-8 | 0.5 | % | | 96.9 | 93.8 | 96.1 | 99.6 | 99.7 |
| 4-Terphenyl-d14 | 1718-51-0 | 0.5 | % | | 90.1 | 87.4 | 89.8 | 93.0 | 93.0 |
| EP080S: TPH(V)/BTEX Surrogates | | | | | | | | | |
| 1,2-Dichloroethane-D4 | 17060-07-0 | 0.2 | % | | 91.9 | 112 | 110 | 114 | 115 |
| Toluene-D8 | 2037-26-5 | 0.2 | % | | 109 | 119 | 119 | 119 | 124 |
| 4-Bromofluorobenzene | 460-00-4 | 0.2 | % | | 109 | 120 | 119 | 119 | 123 |



Analytical Results

| | | | | | | | | |
|--|------------|-----------------------------|-------|-------------------|-------|-------|-------|-------|
| Sub-Matrix: SOIL (Matrix: SOIL) | | Client sample ID | | 46092-31 | ---- | ---- | ---- | ---- |
| | | Client sampling date / time | | 11-Dec-2017 00:00 | ---- | ---- | ---- | ---- |
| Compound | CAS Number | LOR | Unit | ES1731292-031 | ----- | ----- | ----- | ----- |
| Result | | | | ---- | ---- | ---- | ---- | ---- |
| EA055: Moisture Content (Dried @ 105-110°C) | | | | | | | | |
| Moisture Content | ---- | 1.0 | % | 20.2 | ---- | ---- | ---- | ---- |
| EG005T: Total Metals by ICP-AES | | | | | | | | |
| Arsenic | 7440-38-2 | 5 | mg/kg | <5 | ---- | ---- | ---- | ---- |
| Cadmium | 7440-43-9 | 1 | mg/kg | <1 | ---- | ---- | ---- | ---- |
| Chromium | 7440-47-3 | 2 | mg/kg | 17 | ---- | ---- | ---- | ---- |
| Copper | 7440-50-8 | 5 | mg/kg | 31 | ---- | ---- | ---- | ---- |
| Lead | 7439-92-1 | 5 | mg/kg | 40 | ---- | ---- | ---- | ---- |
| Nickel | 7440-02-0 | 2 | mg/kg | 16 | ---- | ---- | ---- | ---- |
| Zinc | 7440-66-6 | 5 | mg/kg | 1160 | ---- | ---- | ---- | ---- |
| EG035T: Total Recoverable Mercury by FIMS | | | | | | | | |
| Mercury | 7439-97-6 | 0.1 | mg/kg | <0.1 | ---- | ---- | ---- | ---- |
| EP066: Polychlorinated Biphenyls (PCB) | | | | | | | | |
| Total Polychlorinated biphenyls | ---- | 0.1 | mg/kg | <0.1 | ---- | ---- | ---- | ---- |
| EP068A: Organochlorine Pesticides (OC) | | | | | | | | |
| alpha-BHC | 319-84-6 | 0.05 | mg/kg | <0.05 | ---- | ---- | ---- | ---- |
| Hexachlorobenzene (HCB) | 118-74-1 | 0.05 | mg/kg | <0.05 | ---- | ---- | ---- | ---- |
| beta-BHC | 319-85-7 | 0.05 | mg/kg | <0.05 | ---- | ---- | ---- | ---- |
| gamma-BHC | 58-89-9 | 0.05 | mg/kg | <0.05 | ---- | ---- | ---- | ---- |
| delta-BHC | 319-86-8 | 0.05 | mg/kg | <0.05 | ---- | ---- | ---- | ---- |
| Heptachlor | 76-44-8 | 0.05 | mg/kg | <0.05 | ---- | ---- | ---- | ---- |
| Aldrin | 309-00-2 | 0.05 | mg/kg | <0.05 | ---- | ---- | ---- | ---- |
| Heptachlor epoxide | 1024-57-3 | 0.05 | mg/kg | <0.05 | ---- | ---- | ---- | ---- |
| ^ Total Chlordane (sum) | ---- | 0.05 | mg/kg | <0.05 | ---- | ---- | ---- | ---- |
| trans-Chlordane | 5103-74-2 | 0.05 | mg/kg | <0.05 | ---- | ---- | ---- | ---- |
| alpha-Endosulfan | 959-98-8 | 0.05 | mg/kg | <0.05 | ---- | ---- | ---- | ---- |
| cis-Chlordane | 5103-71-9 | 0.05 | mg/kg | <0.05 | ---- | ---- | ---- | ---- |
| Dieldrin | 60-57-1 | 0.05 | mg/kg | <0.05 | ---- | ---- | ---- | ---- |
| 4,4'-DDE | 72-55-9 | 0.05 | mg/kg | <0.05 | ---- | ---- | ---- | ---- |
| Endrin | 72-20-8 | 0.05 | mg/kg | <0.05 | ---- | ---- | ---- | ---- |
| beta-Endosulfan | 33213-65-9 | 0.05 | mg/kg | <0.05 | ---- | ---- | ---- | ---- |
| ^ Endosulfan (sum) | 115-29-7 | 0.05 | mg/kg | <0.05 | ---- | ---- | ---- | ---- |
| 4,4'-DDD | 72-54-8 | 0.05 | mg/kg | <0.05 | ---- | ---- | ---- | ---- |
| Endrin aldehyde | 7421-93-4 | 0.05 | mg/kg | <0.05 | ---- | ---- | ---- | ---- |
| Endosulfan sulfate | 1031-07-8 | 0.05 | mg/kg | <0.05 | ---- | ---- | ---- | ---- |



Analytical Results

| | | | | | | | | | |
|--|--------------------------|------|-------|------------------|-------------------|-------|-------|-------|-------|
| Sub-Matrix: SOIL (Matrix: SOIL) | | | | Client sample ID | 46092-31 | ---- | ---- | ---- | ---- |
| Client sampling date / time | | | | | 11-Dec-2017 00:00 | ---- | ---- | ---- | ---- |
| Compound | CAS Number | LOR | Unit | | ES1731292-031 | ----- | ----- | ----- | ----- |
| | | | | Result | ---- | ---- | ---- | ---- | ---- |
| EP068A: Organochlorine Pesticides (OC) - Continued | | | | | | | | | |
| 4,4'-DDT | 50-29-3 | 0.2 | mg/kg | | <0.2 | ---- | ---- | ---- | ---- |
| Endrin ketone | 53494-70-5 | 0.05 | mg/kg | | <0.05 | ---- | ---- | ---- | ---- |
| Methoxychlor | 72-43-5 | 0.2 | mg/kg | | <0.2 | ---- | ---- | ---- | ---- |
| ^ Sum of Aldrin + Dieldrin | 309-00-2/60-57-1 | 0.05 | mg/kg | | <0.05 | ---- | ---- | ---- | ---- |
| ^ Sum of DDD + DDE + DDT | 72-54-8/72-55-9/5 0-2 | 0.05 | mg/kg | | <0.05 | ---- | ---- | ---- | ---- |
| EP068B: Organophosphorus Pesticides (OP) | | | | | | | | | |
| Dichlorvos | 62-73-7 | 0.05 | mg/kg | | <0.05 | ---- | ---- | ---- | ---- |
| Demeton-S-methyl | 919-86-8 | 0.05 | mg/kg | | <0.05 | ---- | ---- | ---- | ---- |
| Monocrotophos | 6923-22-4 | 0.2 | mg/kg | | <0.2 | ---- | ---- | ---- | ---- |
| Dimethoate | 60-51-5 | 0.05 | mg/kg | | <0.05 | ---- | ---- | ---- | ---- |
| Diazinon | 333-41-5 | 0.05 | mg/kg | | <0.05 | ---- | ---- | ---- | ---- |
| Chlorpyrifos-methyl | 5598-13-0 | 0.05 | mg/kg | | <0.05 | ---- | ---- | ---- | ---- |
| Parathion-methyl | 298-00-0 | 0.2 | mg/kg | | <0.2 | ---- | ---- | ---- | ---- |
| Malathion | 121-75-5 | 0.05 | mg/kg | | <0.05 | ---- | ---- | ---- | ---- |
| Fenthion | 55-38-9 | 0.05 | mg/kg | | <0.05 | ---- | ---- | ---- | ---- |
| Chlorpyrifos | 2921-88-2 | 0.05 | mg/kg | | <0.05 | ---- | ---- | ---- | ---- |
| Parathion | 56-38-2 | 0.2 | mg/kg | | <0.2 | ---- | ---- | ---- | ---- |
| Pirimphos-ethyl | 23505-41-1 | 0.05 | mg/kg | | <0.05 | ---- | ---- | ---- | ---- |
| Chlorfenvinphos | 470-90-6 | 0.05 | mg/kg | | <0.05 | ---- | ---- | ---- | ---- |
| Bromophos-ethyl | 4824-78-6 | 0.05 | mg/kg | | <0.05 | ---- | ---- | ---- | ---- |
| Fenamiphos | 22224-92-6 | 0.05 | mg/kg | | <0.05 | ---- | ---- | ---- | ---- |
| Prothiofos | 34643-46-4 | 0.05 | mg/kg | | <0.05 | ---- | ---- | ---- | ---- |
| Ethion | 563-12-2 | 0.05 | mg/kg | | <0.05 | ---- | ---- | ---- | ---- |
| Carbophenothion | 786-19-6 | 0.05 | mg/kg | | <0.05 | ---- | ---- | ---- | ---- |
| Azinphos Methyl | 86-50-0 | 0.05 | mg/kg | | <0.05 | ---- | ---- | ---- | ---- |
| EP075(SIM)B: Polynuclear Aromatic Hydrocarbons | | | | | | | | | |
| Naphthalene | 91-20-3 | 0.5 | mg/kg | | <0.5 | ---- | ---- | ---- | ---- |
| Acenaphthylene | 208-96-8 | 0.5 | mg/kg | | <0.5 | ---- | ---- | ---- | ---- |
| Acenaphthene | 83-32-9 | 0.5 | mg/kg | | <0.5 | ---- | ---- | ---- | ---- |
| Fluorene | 86-73-7 | 0.5 | mg/kg | | <0.5 | ---- | ---- | ---- | ---- |
| Phenanthrene | 85-01-8 | 0.5 | mg/kg | | <0.5 | ---- | ---- | ---- | ---- |
| Anthracene | 120-12-7 | 0.5 | mg/kg | | <0.5 | ---- | ---- | ---- | ---- |
| Fluoranthene | 206-44-0 | 0.5 | mg/kg | | <0.5 | ---- | ---- | ---- | ---- |
| Pyrene | 129-00-0 | 0.5 | mg/kg | | <0.5 | ---- | ---- | ---- | ---- |



Analytical Results

| | | | | | | | | | |
|--|-------------------|-----|-------|------------------|-------------------|-------|-------|-------|-------|
| Sub-Matrix: SOIL (Matrix: SOIL) | | | | Client sample ID | 46092-31 | ---- | ---- | ---- | ---- |
| Client sampling date / time | | | | | 11-Dec-2017 00:00 | ---- | ---- | ---- | ---- |
| Compound | CAS Number | LOR | Unit | | ES1731292-031 | ----- | ----- | ----- | ----- |
| Result | | | | | ---- | ---- | ---- | ---- | ---- |
| EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued | | | | | | | | | |
| Benz(a)anthracene | 56-55-3 | 0.5 | mg/kg | | <0.5 | ---- | ---- | ---- | ---- |
| Chrysene | 218-01-9 | 0.5 | mg/kg | | <0.5 | ---- | ---- | ---- | ---- |
| Benzo(b+j)fluoranthene | 205-99-2 205-82-3 | 0.5 | mg/kg | | <0.5 | ---- | ---- | ---- | ---- |
| Benzo(k)fluoranthene | 207-08-9 | 0.5 | mg/kg | | <0.5 | ---- | ---- | ---- | ---- |
| Benzo(a)pyrene | 50-32-8 | 0.5 | mg/kg | | <0.5 | ---- | ---- | ---- | ---- |
| Indeno(1.2.3.cd)pyrene | 193-39-5 | 0.5 | mg/kg | | <0.5 | ---- | ---- | ---- | ---- |
| Dibenz(a,h)anthracene | 53-70-3 | 0.5 | mg/kg | | <0.5 | ---- | ---- | ---- | ---- |
| Benzo(g,h,i)perylene | 191-24-2 | 0.5 | mg/kg | | <0.5 | ---- | ---- | ---- | ---- |
| ^ Sum of polycyclic aromatic hydrocarbons | ---- | 0.5 | mg/kg | | <0.5 | ---- | ---- | ---- | ---- |
| ^ Benzo(a)pyrene TEQ (zero) | ---- | 0.5 | mg/kg | | <0.5 | ---- | ---- | ---- | ---- |
| ^ Benzo(a)pyrene TEQ (half LOR) | ---- | 0.5 | mg/kg | | 0.6 | ---- | ---- | ---- | ---- |
| ^ Benzo(a)pyrene TEQ (LOR) | ---- | 0.5 | mg/kg | | 1.2 | ---- | ---- | ---- | ---- |
| EP080/071: Total Petroleum Hydrocarbons | | | | | | | | | |
| C6 - C9 Fraction | ---- | 10 | mg/kg | | <10 | ---- | ---- | ---- | ---- |
| C10 - C14 Fraction | ---- | 50 | mg/kg | | <50 | ---- | ---- | ---- | ---- |
| C15 - C28 Fraction | ---- | 100 | mg/kg | | 130 | ---- | ---- | ---- | ---- |
| C29 - C36 Fraction | ---- | 100 | mg/kg | | 290 | ---- | ---- | ---- | ---- |
| ^ C10 - C36 Fraction (sum) | ---- | 50 | mg/kg | | 420 | ---- | ---- | ---- | ---- |
| EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions | | | | | | | | | |
| C6 - C10 Fraction | C6_C10 | 10 | mg/kg | | <10 | ---- | ---- | ---- | ---- |
| ^ C6 - C10 Fraction minus BTEX (F1) | C6_C10-BTEX | 10 | mg/kg | | <10 | ---- | ---- | ---- | ---- |
| >C10 - C16 Fraction | ---- | 50 | mg/kg | | <50 | ---- | ---- | ---- | ---- |
| >C16 - C34 Fraction | ---- | 100 | mg/kg | | 360 | ---- | ---- | ---- | ---- |
| >C34 - C40 Fraction | ---- | 100 | mg/kg | | 240 | ---- | ---- | ---- | ---- |
| ^ >C10 - C40 Fraction (sum) | ---- | 50 | mg/kg | | 600 | ---- | ---- | ---- | ---- |
| ^ >C10 - C16 Fraction minus Naphthalene (F2) | ---- | 50 | mg/kg | | <50 | ---- | ---- | ---- | ---- |
| EP080: BTEXN | | | | | | | | | |
| Benzene | 71-43-2 | 0.2 | mg/kg | | <0.2 | ---- | ---- | ---- | ---- |
| Toluene | 108-88-3 | 0.5 | mg/kg | | <0.5 | ---- | ---- | ---- | ---- |
| Ethylbenzene | 100-41-4 | 0.5 | mg/kg | | <0.5 | ---- | ---- | ---- | ---- |
| meta- & para-Xylene | 108-38-3 106-42-3 | 0.5 | mg/kg | | <0.5 | ---- | ---- | ---- | ---- |
| ortho-Xylene | 95-47-6 | 0.5 | mg/kg | | <0.5 | ---- | ---- | ---- | ---- |



Analytical Results

| | | | | | | | | | |
|---|------------|------|-------|------------------|-------------------|-------|-------|-------|-------|
| Sub-Matrix: SOIL (Matrix: SOIL) | | | | Client sample ID | 46092-31 | ---- | ---- | ---- | ---- |
| Client sampling date / time | | | | | 11-Dec-2017 00:00 | ---- | ---- | ---- | ---- |
| Compound | CAS Number | LOR | Unit | | ES1731292-031 | ----- | ----- | ----- | ----- |
| Result | | | | | | ---- | ---- | ---- | ---- |
| EP080: BTEXN - Continued | | | | | | | | | |
| ^ Sum of BTEX | ---- | 0.2 | mg/kg | | <0.2 | ---- | ---- | ---- | ---- |
| ^ Total Xylenes | 1330-20-7 | 0.5 | mg/kg | | <0.5 | ---- | ---- | ---- | ---- |
| Naphthalene | 91-20-3 | 1 | mg/kg | | <1 | ---- | ---- | ---- | ---- |
| EP066S: PCB Surrogate | | | | | | | | | |
| Decachlorobiphenyl | 2051-24-3 | 0.1 | % | | 74.9 | ---- | ---- | ---- | ---- |
| EP068S: Organochlorine Pesticide Surrogate | | | | | | | | | |
| Dibromo-DDE | 21655-73-2 | 0.05 | % | | 100 | ---- | ---- | ---- | ---- |
| EP068T: Organophosphorus Pesticide Surrogate | | | | | | | | | |
| DEF | 78-48-8 | 0.05 | % | | 74.8 | ---- | ---- | ---- | ---- |
| EP075(SIM)S: Phenolic Compound Surrogates | | | | | | | | | |
| Phenol-d6 | 13127-88-3 | 0.5 | % | | 96.6 | ---- | ---- | ---- | ---- |
| 2-Chlorophenol-D4 | 93951-73-6 | 0.5 | % | | 95.5 | ---- | ---- | ---- | ---- |
| 2,4,6-Tribromophenol | 118-79-6 | 0.5 | % | | 105 | ---- | ---- | ---- | ---- |
| EP075(SIM)T: PAH Surrogates | | | | | | | | | |
| 2-Fluorobiphenyl | 321-60-8 | 0.5 | % | | 98.7 | ---- | ---- | ---- | ---- |
| Anthracene-d10 | 1719-06-8 | 0.5 | % | | 99.2 | ---- | ---- | ---- | ---- |
| 4-Terphenyl-d14 | 1718-51-0 | 0.5 | % | | 92.2 | ---- | ---- | ---- | ---- |
| EP080S: TPH(V)/BTEX Surrogates | | | | | | | | | |
| 1,2-Dichloroethane-D4 | 17060-07-0 | 0.2 | % | | 97.2 | ---- | ---- | ---- | ---- |
| Toluene-D8 | 2037-26-5 | 0.2 | % | | 113 | ---- | ---- | ---- | ---- |
| 4-Bromofluorobenzene | 460-00-4 | 0.2 | % | | 111 | ---- | ---- | ---- | ---- |



Analytical Results

| | | | | | | | | |
|--|-------------------|-----|------------------|----------------------|-------|-------|-------|-------|
| Sub-Matrix: WATER (Matrix: WATER) | | | Client sample ID | 46092-32 | ---- | ---- | ---- | ---- |
| Client sampling date / time | | | | 11-Dec-2017 00:00 | ---- | ---- | ---- | ---- |
| Compound | CAS Number | LOR | Unit | ES1731292-032 | ----- | ----- | ----- | ----- |
| Result | | | | ---- | ---- | ---- | ---- | ---- |
| EP080/071: Total Petroleum Hydrocarbons | | | | | | | | |
| C6 - C9 Fraction | ---- | 20 | µg/L | <20 | ---- | ---- | ---- | ---- |
| EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions | | | | | | | | |
| C6 - C10 Fraction | C6_C10 | 20 | µg/L | <20 | ---- | ---- | ---- | ---- |
| ^ C6 - C10 Fraction minus BTEX (F1) | C6_C10-BTEX | 20 | µg/L | <20 | ---- | ---- | ---- | ---- |
| EP080: BTEXN | | | | | | | | |
| Benzene | 71-43-2 | 1 | µg/L | <1 | ---- | ---- | ---- | ---- |
| Toluene | 108-88-3 | 2 | µg/L | <2 | ---- | ---- | ---- | ---- |
| Ethylbenzene | 100-41-4 | 2 | µg/L | <2 | ---- | ---- | ---- | ---- |
| meta- & para-Xylene | 108-38-3 106-42-3 | 2 | µg/L | <2 | ---- | ---- | ---- | ---- |
| ortho-Xylene | 95-47-6 | 2 | µg/L | <2 | ---- | ---- | ---- | ---- |
| ^ Total Xylenes | 1330-20-7 | 2 | µg/L | <2 | ---- | ---- | ---- | ---- |
| ^ Sum of BTEX | ---- | 1 | µg/L | <1 | ---- | ---- | ---- | ---- |
| Naphthalene | 91-20-3 | 5 | µg/L | <5 | ---- | ---- | ---- | ---- |
| EP080S: TPH(V)/BTEX Surrogates | | | | | | | | |
| 1,2-Dichloroethane-D4 | 17060-07-0 | 2 | % | 106 | ---- | ---- | ---- | ---- |
| Toluene-D8 | 2037-26-5 | 2 | % | 107 | ---- | ---- | ---- | ---- |
| 4-Bromofluorobenzene | 460-00-4 | 2 | % | 104 | ---- | ---- | ---- | ---- |

Analytical Results

Descriptive Results

Sub-Matrix: **SOIL**

| Method: Compound | Client sample ID - Client sampling date / time | Analytical Results |
|--|--|-----------------------|
| EA200: AS 4964 - 2004 Identification of Asbestos in Soils | | |
| EA200: Description | 46092-3 - 11-Dec-2017 00:00 | Mid brown sandy soil. |
| EA200: Description | 46092-25 - 11-Dec-2017 00:00 | Mid brown sandy soil. |
| EA200: Description | 46092-30 - 11-Dec-2017 00:00 | Mid brown clay soil. |



Surrogate Control Limits

| Sub-Matrix: SOIL | | Recovery Limits (%) | |
|---|------------|---------------------|------|
| Compound | CAS Number | Low | High |
| EP066S: PCB Surrogate | | | |
| Decachlorobiphenyl | 2051-24-3 | 39 | 149 |
| EP068S: Organochlorine Pesticide Surrogate | | | |
| Dibromo-DDE | 21655-73-2 | 49 | 147 |
| EP068T: Organophosphorus Pesticide Surrogate | | | |
| DEF | 78-48-8 | 35 | 143 |
| EP075(SIM)S: Phenolic Compound Surrogates | | | |
| Phenol-d6 | 13127-88-3 | 63 | 123 |
| 2-Chlorophenol-D4 | 93951-73-6 | 66 | 122 |
| 2,4,6-Tribromophenol | 118-79-6 | 40 | 138 |
| EP075(SIM)T: PAH Surrogates | | | |
| 2-Fluorobiphenyl | 321-60-8 | 70 | 122 |
| Anthracene-d10 | 1719-06-8 | 66 | 128 |
| 4-Terphenyl-d14 | 1718-51-0 | 65 | 129 |
| EP080S: TPH(V)/BTEX Surrogates | | | |
| 1,2-Dichloroethane-D4 | 17060-07-0 | 73 | 133 |
| Toluene-D8 | 2037-26-5 | 74 | 132 |
| 4-Bromofluorobenzene | 460-00-4 | 72 | 130 |

| Sub-Matrix: WATER | | Recovery Limits (%) | |
|---------------------------------------|------------|---------------------|------|
| Compound | CAS Number | Low | High |
| EP080S: TPH(V)/BTEX Surrogates | | | |
| 1,2-Dichloroethane-D4 | 17060-07-0 | 71 | 137 |
| Toluene-D8 | 2037-26-5 | 79 | 131 |
| 4-Bromofluorobenzene | 460-00-4 | 70 | 128 |

QUALITY CONTROL REPORT

| | | | |
|--------------------------------|---|--------------------------------|--|
| Work Order | : ES1731292 | Page | : 1 of 20 |
| Client | : SESL Australia Pty Ltd | Laboratory | : Environmental Division Sydney |
| Contact | : Harrison Leake (SUBSAMPLES) | Contact | : Customer Services ES |
| Address | : PO BOX 357 PENNANT HILLS NSW, AUSTRALIA 1715 | Address | : 277-289 Woodpark Road Smithfield NSW Australia 2164 |
| Telephone | : +61 02 9980 6554 | Telephone | : +61-2-8784 8555 |
| Project | : 46092 | Date Samples Received | : 11-Dec-2017 |
| Order number | : ---- | Date Analysis Commenced | : 11-Dec-2017 |
| C-O-C number | : 25234 | Issue Date | : 12-Dec-2017 |
| Sampler | : ---- | | |
| Site | : ---- | | |
| Quote number | : SYBQ/404/17 | | |
| No. of samples received | : 32 | | |
| No. of samples analysed | : 32 | | |



This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

| <i>Signatories</i> | <i>Position</i> | <i>Accreditation Category</i> |
|--------------------|---------------------|--|
| Edwandy Fadjjar | Organic Coordinator | Sydney Inorganics, Smithfield, NSW |
| Edwandy Fadjjar | Organic Coordinator | Sydney Organics, Smithfield, NSW |
| Ivan Taylor | Analyst | Sydney Inorganics, Smithfield, NSW |
| Shaun Spooner | Asbestos Identifier | Newcastle - Asbestos, Mayfield West, NSW |

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
= Indicates failed QC

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

| Sub-Matrix: SOIL | | | | Laboratory Duplicate (DUP) Report | | | | | |
|---|------------------|-------------------------|------------|-----------------------------------|-------|-----------------|------------------|---------|---------------------|
| Laboratory sample ID | Client sample ID | Method: Compound | CAS Number | LOR | Unit | Original Result | Duplicate Result | RPD (%) | Recovery Limits (%) |
| EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 1306088) | | | | | | | | | |
| ES1731262-003 | Anonymous | EA055: Moisture Content | ---- | 1 | % | 25.4 | 25.7 | 0.968 | 0% - 20% |
| ES1731292-002 | 46092-2 | EA055: Moisture Content | ---- | 1 | % | 12.8 | 10.2 | 22.9 | 0% - 50% |
| EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 1306089) | | | | | | | | | |
| ES1731292-011 | 46092-11 | EA055: Moisture Content | ---- | 1 | % | 3.7 | 4.3 | 16.6 | No Limit |
| ES1731292-022 | 46092-22 | EA055: Moisture Content | ---- | 1 | % | 18.4 | 20.4 | 10.5 | 0% - 20% |
| EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 1306090) | | | | | | | | | |
| ES1731292-031 | 46092-31 | EA055: Moisture Content | ---- | 1 | % | 20.2 | 20.7 | 2.68 | 0% - 20% |
| ES1731313-007 | Anonymous | EA055: Moisture Content | ---- | 1 | % | 11.0 | 10.8 | 2.26 | 0% - 50% |
| EG005T: Total Metals by ICP-AES (QC Lot: 1306156) | | | | | | | | | |
| ES1730948-001 | Anonymous | EG005T: Cadmium | 7440-43-9 | 1 | mg/kg | <1 | <1 | 0.00 | No Limit |
| | | EG005T: Chromium | 7440-47-3 | 2 | mg/kg | 6 | 4 | 37.5 | No Limit |
| | | EG005T: Nickel | 7440-02-0 | 2 | mg/kg | <2 | <2 | 0.00 | No Limit |
| | | EG005T: Arsenic | 7440-38-2 | 5 | mg/kg | <5 | <5 | 0.00 | No Limit |
| | | EG005T: Copper | 7440-50-8 | 5 | mg/kg | <5 | <5 | 0.00 | No Limit |
| | | EG005T: Lead | 7439-92-1 | 5 | mg/kg | 9 | 10 | 0.00 | No Limit |
| | | EG005T: Zinc | 7440-66-6 | 5 | mg/kg | 7 | 5 | 33.9 | No Limit |
| ES1731292-009 | 46092-9 | EG005T: Cadmium | 7440-43-9 | 1 | mg/kg | <1 | <1 | 0.00 | No Limit |
| | | EG005T: Chromium | 7440-47-3 | 2 | mg/kg | 34 | 34 | 0.00 | 0% - 50% |
| | | EG005T: Nickel | 7440-02-0 | 2 | mg/kg | 44 | 43 | 0.00 | 0% - 20% |
| | | EG005T: Arsenic | 7440-38-2 | 5 | mg/kg | <5 | <5 | 0.00 | No Limit |
| | | EG005T: Copper | 7440-50-8 | 5 | mg/kg | 33 | 33 | 0.00 | No Limit |
| | | EG005T: Lead | 7439-92-1 | 5 | mg/kg | 7 | 8 | 0.00 | No Limit |
| | | EG005T: Zinc | 7440-66-6 | 5 | mg/kg | 78 | 78 | 0.00 | 0% - 50% |
| EG005T: Total Metals by ICP-AES (QC Lot: 1306159) | | | | | | | | | |



| Sub-Matrix: SOIL | | | | Laboratory Duplicate (DUP) Report | | | | | |
|---|------------------|--|------------|-----------------------------------|-------|-----------------|------------------|---------|---------------------|
| Laboratory sample ID | Client sample ID | Method: Compound | CAS Number | LOR | Unit | Original Result | Duplicate Result | RPD (%) | Recovery Limits (%) |
| EG005T: Total Metals by ICP-AES (QC Lot: 1306159) - continued | | | | | | | | | |
| ES1731292-019 | 46092-19 | EG005T: Cadmium | 7440-43-9 | 1 | mg/kg | <1 | <1 | 0.00 | No Limit |
| | | EG005T: Chromium | 7440-47-3 | 2 | mg/kg | 39 | 37 | 3.11 | 0% - 50% |
| | | EG005T: Nickel | 7440-02-0 | 2 | mg/kg | 39 | 38 | 0.00 | 0% - 50% |
| | | EG005T: Arsenic | 7440-38-2 | 5 | mg/kg | <5 | <5 | 0.00 | No Limit |
| | | EG005T: Copper | 7440-50-8 | 5 | mg/kg | 35 | 35 | 0.00 | No Limit |
| | | EG005T: Lead | 7439-92-1 | 5 | mg/kg | 9 | 9 | 0.00 | No Limit |
| | | EG005T: Zinc | 7440-66-6 | 5 | mg/kg | 108 | 105 | 2.46 | 0% - 20% |
| ES1731292-029 | 46092-29 | EG005T: Cadmium | 7440-43-9 | 1 | mg/kg | <1 | <1 | 0.00 | No Limit |
| | | EG005T: Chromium | 7440-47-3 | 2 | mg/kg | 40 | 39 | 0.00 | 0% - 50% |
| | | EG005T: Nickel | 7440-02-0 | 2 | mg/kg | 39 | 39 | 0.00 | 0% - 50% |
| | | EG005T: Arsenic | 7440-38-2 | 5 | mg/kg | <5 | <5 | 0.00 | No Limit |
| | | EG005T: Copper | 7440-50-8 | 5 | mg/kg | 36 | 36 | 0.00 | No Limit |
| | | EG005T: Lead | 7439-92-1 | 5 | mg/kg | 11 | 11 | 0.00 | No Limit |
| | | EG005T: Zinc | 7440-66-6 | 5 | mg/kg | 126 | 126 | 0.00 | 0% - 20% |
| EG035T: Total Recoverable Mercury by FIMS (QC Lot: 1306157) | | | | | | | | | |
| ES1730948-001 | Anonymous | EG035T: Mercury | 7439-97-6 | 0.1 | mg/kg | <0.1 | <0.1 | 0.00 | No Limit |
| ES1731292-009 | 46092-9 | EG035T: Mercury | 7439-97-6 | 0.1 | mg/kg | <0.1 | <0.1 | 0.00 | No Limit |
| EG035T: Total Recoverable Mercury by FIMS (QC Lot: 1306158) | | | | | | | | | |
| ES1731292-019 | 46092-19 | EG035T: Mercury | 7439-97-6 | 0.1 | mg/kg | <0.1 | <0.1 | 0.00 | No Limit |
| ES1731292-029 | 46092-29 | EG035T: Mercury | 7439-97-6 | 0.1 | mg/kg | <0.1 | <0.1 | 0.00 | No Limit |
| EP066: Polychlorinated Biphenyls (PCB) (QC Lot: 1305227) | | | | | | | | | |
| ES1731292-001 | 46092-1 | EP066: Total Polychlorinated biphenyls | ---- | 0.1 | mg/kg | <0.1 | <0.1 | 0.00 | No Limit |
| ES1731292-011 | 46092-11 | EP066: Total Polychlorinated biphenyls | ---- | 0.1 | mg/kg | <0.1 | <0.1 | 0.00 | No Limit |
| EP066: Polychlorinated Biphenyls (PCB) (QC Lot: 1305281) | | | | | | | | | |
| ES1731292-021 | 46092-21 | EP066: Total Polychlorinated biphenyls | ---- | 0.1 | mg/kg | <0.1 | <0.1 | 0.00 | No Limit |
| ES1731292-029 | 46092-29 | EP066: Total Polychlorinated biphenyls | ---- | 0.1 | mg/kg | <0.1 | <0.1 | 0.00 | No Limit |
| EP068A: Organochlorine Pesticides (OC) (QC Lot: 1305226) | | | | | | | | | |
| ES1731292-001 | 46092-1 | EP068: alpha-BHC | 319-84-6 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |
| | | EP068: Hexachlorobenzene (HCB) | 118-74-1 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |
| | | EP068: beta-BHC | 319-85-7 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |
| | | EP068: gamma-BHC | 58-89-9 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |
| | | EP068: delta-BHC | 319-86-8 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |
| | | EP068: Heptachlor | 76-44-8 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |
| | | EP068: Aldrin | 309-00-2 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |
| | | EP068: Heptachlor epoxide | 1024-57-3 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |
| | | EP068: trans-Chlordane | 5103-74-2 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |
| | | EP068: alpha-Endosulfan | 959-98-8 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |
| | | EP068: cis-Chlordane | 5103-71-9 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |
| | | EP068: Dieldrin | 60-57-1 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |



| Sub-Matrix: SOIL | | | | Laboratory Duplicate (DUP) Report | | | | | | | |
|--|------------------|--|------------|-----------------------------------|----------|-----------------|------------------|---------|---------------------|------|----------|
| Laboratory sample ID | Client sample ID | Method: Compound | CAS Number | LOR | Unit | Original Result | Duplicate Result | RPD (%) | Recovery Limits (%) | | |
| EP068A: Organochlorine Pesticides (OC) (QC Lot: 1305226) - continued | | | | | | | | | | | |
| ES1731292-001 | 46092-1 | EP068: 4,4'-DDE | 72-55-9 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit | | |
| | | EP068: Endrin | 72-20-8 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit | | |
| | | EP068: beta-Endosulfan | 33213-65-9 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit | | |
| | | EP068: 4,4'-DDD | 72-54-8 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit | | |
| | | EP068: Endrin aldehyde | 7421-93-4 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit | | |
| | | EP068: Endosulfan sulfate | 1031-07-8 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit | | |
| | | EP068: Endrin ketone | 53494-70-5 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit | | |
| | | EP068: 4,4'-DDT | 50-29-3 | 0.2 | mg/kg | <0.2 | <0.2 | 0.00 | No Limit | | |
| | | EP068: Methoxychlor | 72-43-5 | 0.2 | mg/kg | <0.2 | <0.2 | 0.00 | No Limit | | |
| ES1731292-011 | 46092-11 | EP068: alpha-BHC | 319-84-6 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit | | |
| | | EP068: Hexachlorobenzene (HCB) | 118-74-1 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit | | |
| | | EP068: beta-BHC | 319-85-7 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit | | |
| | | EP068: gamma-BHC | 58-89-9 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit | | |
| | | EP068: delta-BHC | 319-86-8 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit | | |
| | | EP068: Heptachlor | 76-44-8 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit | | |
| | | EP068: Aldrin | 309-00-2 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit | | |
| | | EP068: Heptachlor epoxide | 1024-57-3 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit | | |
| | | EP068: trans-Chlordane | 5103-74-2 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit | | |
| | | EP068: alpha-Endosulfan | 959-98-8 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit | | |
| | | EP068: cis-Chlordane | 5103-71-9 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit | | |
| | | EP068: Dieldrin | 60-57-1 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit | | |
| | | EP068: 4,4'-DDE | 72-55-9 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit | | |
| | | EP068: Endrin | 72-20-8 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit | | |
| | | EP068: beta-Endosulfan | 33213-65-9 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit | | |
| | | EP068: 4,4'-DDD | 72-54-8 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit | | |
| | | EP068: Endrin aldehyde | 7421-93-4 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit | | |
| | | EP068: Endosulfan sulfate | 1031-07-8 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit | | |
| | | EP068: Endrin ketone | 53494-70-5 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit | | |
| | | EP068: 4,4'-DDT | 50-29-3 | 0.2 | mg/kg | <0.2 | <0.2 | 0.00 | No Limit | | |
| | | EP068: Methoxychlor | 72-43-5 | 0.2 | mg/kg | <0.2 | <0.2 | 0.00 | No Limit | | |
| | | EP068A: Organochlorine Pesticides (OC) (QC Lot: 1305280) | | | | | | | | | |
| | | ES1731292-021 | 46092-21 | EP068: alpha-BHC | 319-84-6 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |
| | | | | EP068: Hexachlorobenzene (HCB) | 118-74-1 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |
| EP068: beta-BHC | 319-85-7 | | | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit | | |
| EP068: gamma-BHC | 58-89-9 | | | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit | | |
| EP068: delta-BHC | 319-86-8 | | | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit | | |
| EP068: Heptachlor | 76-44-8 | | | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit | | |
| EP068: Aldrin | 309-00-2 | | | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit | | |
| EP068: Heptachlor epoxide | 1024-57-3 | | | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit | | |
| EP068: trans-Chlordane | 5103-74-2 | | | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit | | |



| Sub-Matrix: SOIL | | | | Laboratory Duplicate (DUP) Report | | | | | |
|--|------------------|--|------------|-----------------------------------|-------|-----------------|------------------|---------|---------------------|
| Laboratory sample ID | Client sample ID | Method: Compound | CAS Number | LOR | Unit | Original Result | Duplicate Result | RPD (%) | Recovery Limits (%) |
| EP068A: Organochlorine Pesticides (OC) (QC Lot: 1305280) - continued | | | | | | | | | |
| ES1731292-021 | 46092-21 | EP068: alpha-Endosulfan | 959-98-8 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |
| | | EP068: cis-Chlordane | 5103-71-9 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |
| | | EP068: Dieldrin | 60-57-1 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |
| | | EP068: 4,4`-DDE | 72-55-9 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |
| | | EP068: Endrin | 72-20-8 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |
| | | EP068: beta-Endosulfan | 33213-65-9 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |
| | | EP068: 4,4`-DDD | 72-54-8 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |
| | | EP068: Endrin aldehyde | 7421-93-4 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |
| | | EP068: Endosulfan sulfate | 1031-07-8 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |
| | | EP068: Endrin ketone | 53494-70-5 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |
| | | EP068: 4,4`-DDT | 50-29-3 | 0.2 | mg/kg | <0.2 | <0.2 | 0.00 | No Limit |
| | | EP068: Methoxychlor | 72-43-5 | 0.2 | mg/kg | <0.2 | <0.2 | 0.00 | No Limit |
| ES1731292-029 | 46092-29 | EP068: alpha-BHC | 319-84-6 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |
| | | EP068: Hexachlorobenzene (HCB) | 118-74-1 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |
| | | EP068: beta-BHC | 319-85-7 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |
| | | EP068: gamma-BHC | 58-89-9 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |
| | | EP068: delta-BHC | 319-86-8 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |
| | | EP068: Heptachlor | 76-44-8 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |
| | | EP068: Aldrin | 309-00-2 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |
| | | EP068: Heptachlor epoxide | 1024-57-3 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |
| | | EP068: trans-Chlordane | 5103-74-2 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |
| | | EP068: alpha-Endosulfan | 959-98-8 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |
| | | EP068: cis-Chlordane | 5103-71-9 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |
| | | EP068: Dieldrin | 60-57-1 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |
| | | EP068: 4,4`-DDE | 72-55-9 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |
| | | EP068: Endrin | 72-20-8 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |
| | | EP068: beta-Endosulfan | 33213-65-9 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |
| | | EP068: 4,4`-DDD | 72-54-8 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |
| | | EP068: Endrin aldehyde | 7421-93-4 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |
| | | EP068: Endosulfan sulfate | 1031-07-8 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |
| | | EP068: Endrin ketone | 53494-70-5 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |
| | | EP068: 4,4`-DDT | 50-29-3 | 0.2 | mg/kg | <0.2 | <0.2 | 0.00 | No Limit |
| | | EP068: Methoxychlor | 72-43-5 | 0.2 | mg/kg | <0.2 | <0.2 | 0.00 | No Limit |
| | | EP068B: Organophosphorus Pesticides (OP) (QC Lot: 1305226) | | | | | | | |
| ES1731292-001 | 46092-1 | EP068: Dichlorvos | 62-73-7 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |
| | | EP068: Demeton-S-methyl | 919-86-8 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |
| | | EP068: Dimethoate | 60-51-5 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |
| | | EP068: Diazinon | 333-41-5 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |
| | | EP068: Chlorpyrifos-methyl | 5598-13-0 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |
| | | EP068: Malathion | 121-75-5 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |



| Sub-Matrix: SOIL | | | | Laboratory Duplicate (DUP) Report | | | | | |
|--|------------------|--|------------|-----------------------------------|-------|-----------------|------------------|---------|---------------------|
| Laboratory sample ID | Client sample ID | Method: Compound | CAS Number | LOR | Unit | Original Result | Duplicate Result | RPD (%) | Recovery Limits (%) |
| EP068B: Organophosphorus Pesticides (OP) (QC Lot: 1305226) - continued | | | | | | | | | |
| ES1731292-001 | 46092-1 | EP068: Fenthion | 55-38-9 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |
| | | EP068: Chlorpyrifos | 2921-88-2 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |
| | | EP068: Pirimphos-ethyl | 23505-41-1 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |
| | | EP068: Chlorfenvinphos | 470-90-6 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |
| | | EP068: Bromophos-ethyl | 4824-78-6 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |
| | | EP068: Fenamiphos | 22224-92-6 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |
| | | EP068: Prothiofos | 34643-46-4 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |
| | | EP068: Ethion | 563-12-2 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |
| | | EP068: Carbophenothion | 786-19-6 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |
| | | EP068: Azinphos Methyl | 86-50-0 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |
| | | EP068: Monocrotophos | 6923-22-4 | 0.2 | mg/kg | <0.2 | <0.2 | 0.00 | No Limit |
| | | EP068: Parathion-methyl | 298-00-0 | 0.2 | mg/kg | <0.2 | <0.2 | 0.00 | No Limit |
| | | EP068: Parathion | 56-38-2 | 0.2 | mg/kg | <0.2 | <0.2 | 0.00 | No Limit |
| ES1731292-011 | 46092-11 | EP068: Dichlorvos | 62-73-7 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |
| | | EP068: Demeton-S-methyl | 919-86-8 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |
| | | EP068: Dimethoate | 60-51-5 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |
| | | EP068: Diazinon | 333-41-5 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |
| | | EP068: Chlorpyrifos-methyl | 5598-13-0 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |
| | | EP068: Malathion | 121-75-5 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |
| | | EP068: Fenthion | 55-38-9 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |
| | | EP068: Chlorpyrifos | 2921-88-2 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |
| | | EP068: Pirimphos-ethyl | 23505-41-1 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |
| | | EP068: Chlorfenvinphos | 470-90-6 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |
| | | EP068: Bromophos-ethyl | 4824-78-6 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |
| | | EP068: Fenamiphos | 22224-92-6 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |
| | | EP068: Prothiofos | 34643-46-4 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |
| | | EP068: Ethion | 563-12-2 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |
| | | EP068: Carbophenothion | 786-19-6 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |
| | | EP068: Azinphos Methyl | 86-50-0 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |
| | | EP068: Monocrotophos | 6923-22-4 | 0.2 | mg/kg | <0.2 | <0.2 | 0.00 | No Limit |
| | | EP068: Parathion-methyl | 298-00-0 | 0.2 | mg/kg | <0.2 | <0.2 | 0.00 | No Limit |
| | | EP068: Parathion | 56-38-2 | 0.2 | mg/kg | <0.2 | <0.2 | 0.00 | No Limit |
| | | EP068B: Organophosphorus Pesticides (OP) (QC Lot: 1305280) | | | | | | | |
| ES1731292-021 | 46092-21 | EP068: Dichlorvos | 62-73-7 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |
| | | EP068: Demeton-S-methyl | 919-86-8 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |
| | | EP068: Dimethoate | 60-51-5 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |
| | | EP068: Diazinon | 333-41-5 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |
| | | EP068: Chlorpyrifos-methyl | 5598-13-0 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |
| | | EP068: Malathion | 121-75-5 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |
| | | EP068: Fenthion | 55-38-9 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |



| Sub-Matrix: SOIL | | | | Laboratory Duplicate (DUP) Report | | | | | |
|--|------------------|--|------------|-----------------------------------|-------|-----------------|------------------|---------|---------------------|
| Laboratory sample ID | Client sample ID | Method: Compound | CAS Number | LOR | Unit | Original Result | Duplicate Result | RPD (%) | Recovery Limits (%) |
| EP068B: Organophosphorus Pesticides (OP) (QC Lot: 1305280) - continued | | | | | | | | | |
| ES1731292-021 | 46092-21 | EP068: Chlorpyrifos | 2921-88-2 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |
| | | EP068: Pirimphos-ethyl | 23505-41-1 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |
| | | EP068: Chlorfenvinphos | 470-90-6 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |
| | | EP068: Bromophos-ethyl | 4824-78-6 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |
| | | EP068: Fenamiphos | 22224-92-6 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |
| | | EP068: Prothiofos | 34643-46-4 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |
| | | EP068: Ethion | 563-12-2 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |
| | | EP068: Carbophenothion | 786-19-6 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |
| | | EP068: Azinphos Methyl | 86-50-0 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |
| | | EP068: Monocrotophos | 6923-22-4 | 0.2 | mg/kg | <0.2 | <0.2 | 0.00 | No Limit |
| | | EP068: Parathion-methyl | 298-00-0 | 0.2 | mg/kg | <0.2 | <0.2 | 0.00 | No Limit |
| | | EP068: Parathion | 56-38-2 | 0.2 | mg/kg | <0.2 | <0.2 | 0.00 | No Limit |
| ES1731292-029 | 46092-29 | EP068: Dichlorvos | 62-73-7 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |
| | | EP068: Demeton-S-methyl | 919-86-8 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |
| | | EP068: Dimethoate | 60-51-5 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |
| | | EP068: Diazinon | 333-41-5 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |
| | | EP068: Chlorpyrifos-methyl | 5598-13-0 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |
| | | EP068: Malathion | 121-75-5 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |
| | | EP068: Fenthion | 55-38-9 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |
| | | EP068: Chlorpyrifos | 2921-88-2 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |
| | | EP068: Pirimphos-ethyl | 23505-41-1 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |
| | | EP068: Chlorfenvinphos | 470-90-6 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |
| | | EP068: Bromophos-ethyl | 4824-78-6 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |
| | | EP068: Fenamiphos | 22224-92-6 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |
| | | EP068: Prothiofos | 34643-46-4 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |
| | | EP068: Ethion | 563-12-2 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |
| | | EP068: Carbophenothion | 786-19-6 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |
| | | EP068: Azinphos Methyl | 86-50-0 | 0.05 | mg/kg | <0.05 | <0.05 | 0.00 | No Limit |
| | | EP068: Monocrotophos | 6923-22-4 | 0.2 | mg/kg | <0.2 | <0.2 | 0.00 | No Limit |
| | | EP068: Parathion-methyl | 298-00-0 | 0.2 | mg/kg | <0.2 | <0.2 | 0.00 | No Limit |
| | | EP068: Parathion | 56-38-2 | 0.2 | mg/kg | <0.2 | <0.2 | 0.00 | No Limit |
| | | EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 1305224) | | | | | | | |
| ES1731292-001 | 46092-1 | EP075(SIM): Naphthalene | 91-20-3 | 0.5 | mg/kg | <0.5 | <0.5 | 0.00 | No Limit |
| | | EP075(SIM): Acenaphthylene | 208-96-8 | 0.5 | mg/kg | <0.5 | <0.5 | 0.00 | No Limit |
| | | EP075(SIM): Acenaphthene | 83-32-9 | 0.5 | mg/kg | <0.5 | <0.5 | 0.00 | No Limit |
| | | EP075(SIM): Fluorene | 86-73-7 | 0.5 | mg/kg | <0.5 | <0.5 | 0.00 | No Limit |
| | | EP075(SIM): Phenanthrene | 85-01-8 | 0.5 | mg/kg | <0.5 | <0.5 | 0.00 | No Limit |
| | | EP075(SIM): Anthracene | 120-12-7 | 0.5 | mg/kg | <0.5 | <0.5 | 0.00 | No Limit |
| | | EP075(SIM): Fluoranthene | 206-44-0 | 0.5 | mg/kg | 0.5 | 0.5 | 0.00 | No Limit |
| | | EP075(SIM): Pyrene | 129-00-0 | 0.5 | mg/kg | 0.6 | 0.6 | 0.00 | No Limit |



| Sub-Matrix: SOIL | | | | Laboratory Duplicate (DUP) Report | | | | | | |
|--|---------------------------------------|--|---------------------------------------|-----------------------------------|-------|-----------------|------------------|----------|---------------------|----------|
| Laboratory sample ID | Client sample ID | Method: Compound | CAS Number | LOR | Unit | Original Result | Duplicate Result | RPD (%) | Recovery Limits (%) | |
| EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 1305224) - continued | | | | | | | | | | |
| ES1731292-001 | 46092-1 | EP075(SIM): Benz(a)anthracene | 56-55-3 | 0.5 | mg/kg | <0.5 | <0.5 | 0.00 | No Limit | |
| | | EP075(SIM): Chrysene | 218-01-9 | 0.5 | mg/kg | <0.5 | <0.5 | 0.00 | No Limit | |
| | | EP075(SIM): Benzo(b+j)fluoranthene | 205-99-2 | 0.5 | mg/kg | <0.5 | <0.5 | 0.00 | No Limit | |
| | | | 205-82-3 | | | | | | | |
| | | EP075(SIM): Benzo(k)fluoranthene | 207-08-9 | 0.5 | mg/kg | <0.5 | <0.5 | 0.00 | No Limit | |
| | | EP075(SIM): Benzo(a)pyrene | 50-32-8 | 0.5 | mg/kg | <0.5 | <0.5 | 0.00 | No Limit | |
| | | EP075(SIM): Indeno(1.2.3.cd)pyrene | 193-39-5 | 0.5 | mg/kg | <0.5 | <0.5 | 0.00 | No Limit | |
| | | EP075(SIM): Dibenz(a.h)anthracene | 53-70-3 | 0.5 | mg/kg | <0.5 | <0.5 | 0.00 | No Limit | |
| | | EP075(SIM): Benzo(g.h.i)perylene | 191-24-2 | 0.5 | mg/kg | <0.5 | <0.5 | 0.00 | No Limit | |
| | | EP075(SIM): Sum of polycyclic aromatic hydrocarbons | ---- | 0.5 | mg/kg | 1.1 | 1.1 | 0.00 | No Limit | |
| | EP075(SIM): Benzo(a)pyrene TEQ (zero) | ---- | 0.5 | mg/kg | <0.5 | <0.5 | 0.00 | No Limit | | |
| ES1731292-011 | 46092-11 | EP075(SIM): Naphthalene | 91-20-3 | 0.5 | mg/kg | <0.5 | <0.5 | 0.00 | No Limit | |
| | | EP075(SIM): Acenaphthylene | 208-96-8 | 0.5 | mg/kg | <0.5 | <0.5 | 0.00 | No Limit | |
| | | EP075(SIM): Acenaphthene | 83-32-9 | 0.5 | mg/kg | <0.5 | <0.5 | 0.00 | No Limit | |
| | | EP075(SIM): Fluorene | 86-73-7 | 0.5 | mg/kg | <0.5 | <0.5 | 0.00 | No Limit | |
| | | EP075(SIM): Phenanthrene | 85-01-8 | 0.5 | mg/kg | <0.5 | <0.5 | 0.00 | No Limit | |
| | | EP075(SIM): Anthracene | 120-12-7 | 0.5 | mg/kg | <0.5 | <0.5 | 0.00 | No Limit | |
| | | EP075(SIM): Fluoranthene | 206-44-0 | 0.5 | mg/kg | <0.5 | <0.5 | 0.00 | No Limit | |
| | | EP075(SIM): Pyrene | 129-00-0 | 0.5 | mg/kg | <0.5 | <0.5 | 0.00 | No Limit | |
| | | EP075(SIM): Benz(a)anthracene | 56-55-3 | 0.5 | mg/kg | <0.5 | <0.5 | 0.00 | No Limit | |
| | | EP075(SIM): Chrysene | 218-01-9 | 0.5 | mg/kg | <0.5 | <0.5 | 0.00 | No Limit | |
| | | EP075(SIM): Benzo(b+j)fluoranthene | 205-99-2 | 0.5 | mg/kg | <0.5 | <0.5 | 0.00 | No Limit | |
| | | | 205-82-3 | | | | | | | |
| | | EP075(SIM): Benzo(k)fluoranthene | 207-08-9 | 0.5 | mg/kg | <0.5 | <0.5 | 0.00 | No Limit | |
| | | EP075(SIM): Benzo(a)pyrene | 50-32-8 | 0.5 | mg/kg | <0.5 | <0.5 | 0.00 | No Limit | |
| | | EP075(SIM): Indeno(1.2.3.cd)pyrene | 193-39-5 | 0.5 | mg/kg | <0.5 | <0.5 | 0.00 | No Limit | |
| | | EP075(SIM): Dibenz(a.h)anthracene | 53-70-3 | 0.5 | mg/kg | <0.5 | <0.5 | 0.00 | No Limit | |
| | | EP075(SIM): Benzo(g.h.i)perylene | 191-24-2 | 0.5 | mg/kg | <0.5 | <0.5 | 0.00 | No Limit | |
| | | EP075(SIM): Sum of polycyclic aromatic hydrocarbons | ---- | 0.5 | mg/kg | <0.5 | <0.5 | 0.00 | No Limit | |
| | | | EP075(SIM): Benzo(a)pyrene TEQ (zero) | ---- | 0.5 | mg/kg | <0.5 | <0.5 | 0.00 | No Limit |
| | | EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 1305279) | | | | | | | | |
| ES1731292-021 | 46092-21 | EP075(SIM): Naphthalene | 91-20-3 | 0.5 | mg/kg | <0.5 | <0.5 | 0.00 | No Limit | |
| | | EP075(SIM): Acenaphthylene | 208-96-8 | 0.5 | mg/kg | <0.5 | <0.5 | 0.00 | No Limit | |
| | | EP075(SIM): Acenaphthene | 83-32-9 | 0.5 | mg/kg | <0.5 | <0.5 | 0.00 | No Limit | |
| | | EP075(SIM): Fluorene | 86-73-7 | 0.5 | mg/kg | <0.5 | <0.5 | 0.00 | No Limit | |
| | | EP075(SIM): Phenanthrene | 85-01-8 | 0.5 | mg/kg | <0.5 | <0.5 | 0.00 | No Limit | |
| | | EP075(SIM): Anthracene | 120-12-7 | 0.5 | mg/kg | <0.5 | <0.5 | 0.00 | No Limit | |
| | | EP075(SIM): Fluoranthene | 206-44-0 | 0.5 | mg/kg | <0.5 | <0.5 | 0.00 | No Limit | |



| Sub-Matrix: SOIL | | | | Laboratory Duplicate (DUP) Report | | | | | | |
|--|---------------------------------------|---|---------------------------------------|-----------------------------------|-------|-----------------|------------------|----------|---------------------|----------|
| Laboratory sample ID | Client sample ID | Method: Compound | CAS Number | LOR | Unit | Original Result | Duplicate Result | RPD (%) | Recovery Limits (%) | |
| EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 1305279) - continued | | | | | | | | | | |
| ES1731292-021 | 46092-21 | EP075(SIM): Pyrene | 129-00-0 | 0.5 | mg/kg | <0.5 | <0.5 | 0.00 | No Limit | |
| | | EP075(SIM): Benz(a)anthracene | 56-55-3 | 0.5 | mg/kg | <0.5 | <0.5 | 0.00 | No Limit | |
| | | EP075(SIM): Chrysene | 218-01-9 | 0.5 | mg/kg | <0.5 | <0.5 | 0.00 | No Limit | |
| | | EP075(SIM): Benzo(b+j)fluoranthene | 205-99-2 | 0.5 | mg/kg | <0.5 | <0.5 | 0.00 | No Limit | |
| | | | 205-82-3 | | | | | | | |
| | | EP075(SIM): Benzo(k)fluoranthene | 207-08-9 | 0.5 | mg/kg | <0.5 | <0.5 | 0.00 | No Limit | |
| | | EP075(SIM): Benzo(a)pyrene | 50-32-8 | 0.5 | mg/kg | <0.5 | <0.5 | 0.00 | No Limit | |
| | | EP075(SIM): Indeno(1.2.3.cd)pyrene | 193-39-5 | 0.5 | mg/kg | <0.5 | <0.5 | 0.00 | No Limit | |
| | | EP075(SIM): Dibenz(a.h)anthracene | 53-70-3 | 0.5 | mg/kg | <0.5 | <0.5 | 0.00 | No Limit | |
| | | EP075(SIM): Benzo(g.h.i)perylene | 191-24-2 | 0.5 | mg/kg | <0.5 | <0.5 | 0.00 | No Limit | |
| | | EP075(SIM): Sum of polycyclic aromatic hydrocarbons | ---- | 0.5 | mg/kg | <0.5 | <0.5 | 0.00 | No Limit | |
| | EP075(SIM): Benzo(a)pyrene TEQ (zero) | ---- | 0.5 | mg/kg | <0.5 | <0.5 | 0.00 | No Limit | | |
| ES1731292-029 | 46092-29 | EP075(SIM): Naphthalene | 91-20-3 | 0.5 | mg/kg | <0.5 | <0.5 | 0.00 | No Limit | |
| | | EP075(SIM): Acenaphthylene | 208-96-8 | 0.5 | mg/kg | <0.5 | <0.5 | 0.00 | No Limit | |
| | | EP075(SIM): Acenaphthene | 83-32-9 | 0.5 | mg/kg | <0.5 | <0.5 | 0.00 | No Limit | |
| | | EP075(SIM): Fluorene | 86-73-7 | 0.5 | mg/kg | <0.5 | <0.5 | 0.00 | No Limit | |
| | | EP075(SIM): Phenanthrene | 85-01-8 | 0.5 | mg/kg | <0.5 | <0.5 | 0.00 | No Limit | |
| | | EP075(SIM): Anthracene | 120-12-7 | 0.5 | mg/kg | <0.5 | <0.5 | 0.00 | No Limit | |
| | | EP075(SIM): Fluoranthene | 206-44-0 | 0.5 | mg/kg | <0.5 | <0.5 | 0.00 | No Limit | |
| | | EP075(SIM): Pyrene | 129-00-0 | 0.5 | mg/kg | <0.5 | <0.5 | 0.00 | No Limit | |
| | | EP075(SIM): Benz(a)anthracene | 56-55-3 | 0.5 | mg/kg | <0.5 | <0.5 | 0.00 | No Limit | |
| | | EP075(SIM): Chrysene | 218-01-9 | 0.5 | mg/kg | <0.5 | <0.5 | 0.00 | No Limit | |
| | | EP075(SIM): Benzo(b+j)fluoranthene | 205-99-2 | 0.5 | mg/kg | <0.5 | <0.5 | 0.00 | No Limit | |
| | | | 205-82-3 | | | | | | | |
| | | EP075(SIM): Benzo(k)fluoranthene | 207-08-9 | 0.5 | mg/kg | <0.5 | <0.5 | 0.00 | No Limit | |
| | | EP075(SIM): Benzo(a)pyrene | 50-32-8 | 0.5 | mg/kg | <0.5 | <0.5 | 0.00 | No Limit | |
| | | EP075(SIM): Indeno(1.2.3.cd)pyrene | 193-39-5 | 0.5 | mg/kg | <0.5 | <0.5 | 0.00 | No Limit | |
| | | EP075(SIM): Dibenz(a.h)anthracene | 53-70-3 | 0.5 | mg/kg | <0.5 | <0.5 | 0.00 | No Limit | |
| | | EP075(SIM): Benzo(g.h.i)perylene | 191-24-2 | 0.5 | mg/kg | <0.5 | <0.5 | 0.00 | No Limit | |
| | | EP075(SIM): Sum of polycyclic aromatic hydrocarbons | ---- | 0.5 | mg/kg | <0.5 | <0.5 | 0.00 | No Limit | |
| | | | EP075(SIM): Benzo(a)pyrene TEQ (zero) | ---- | 0.5 | mg/kg | <0.5 | <0.5 | 0.00 | No Limit |
| | | EP080/071: Total Petroleum Hydrocarbons (QC Lot: 1305223) | | | | | | | | |
| ES1731292-001 | 46092-1 | EP071: C15 - C28 Fraction | ---- | 100 | mg/kg | <100 | <100 | 0.00 | No Limit | |
| | | EP071: C29 - C36 Fraction | ---- | 100 | mg/kg | <100 | <100 | 0.00 | No Limit | |
| | | EP071: C10 - C14 Fraction | ---- | 50 | mg/kg | <50 | <50 | 0.00 | No Limit | |
| ES1731292-011 | 46092-11 | EP071: C15 - C28 Fraction | ---- | 100 | mg/kg | <100 | <100 | 0.00 | No Limit | |
| | | EP071: C29 - C36 Fraction | ---- | 100 | mg/kg | <100 | <100 | 0.00 | No Limit | |
| | | EP071: C10 - C14 Fraction | ---- | 50 | mg/kg | <50 | <50 | 0.00 | No Limit | |



| Sub-Matrix: SOIL | | | | Laboratory Duplicate (DUP) Report | | | | | |
|---|------------------|----------------------------|----------------------|-----------------------------------|-------|-----------------|------------------|---------|---------------------|
| Laboratory sample ID | Client sample ID | Method: Compound | CAS Number | LOR | Unit | Original Result | Duplicate Result | RPD (%) | Recovery Limits (%) |
| EP080/071: Total Petroleum Hydrocarbons (QC Lot: 1305267) | | | | | | | | | |
| ES1731292-001 | 46092-1 | EP080: C6 - C9 Fraction | ---- | 10 | mg/kg | <10 | <10 | 0.00 | No Limit |
| ES1731292-011 | 46092-11 | EP080: C6 - C9 Fraction | ---- | 10 | mg/kg | <10 | <10 | 0.00 | No Limit |
| EP080/071: Total Petroleum Hydrocarbons (QC Lot: 1305278) | | | | | | | | | |
| ES1731292-021 | 46092-21 | EP071: C15 - C28 Fraction | ---- | 100 | mg/kg | <100 | <100 | 0.00 | No Limit |
| | | EP071: C29 - C36 Fraction | ---- | 100 | mg/kg | <100 | <100 | 0.00 | No Limit |
| | | EP071: C10 - C14 Fraction | ---- | 50 | mg/kg | <50 | <50 | 0.00 | No Limit |
| ES1731292-029 | 46092-29 | EP071: C15 - C28 Fraction | ---- | 100 | mg/kg | <100 | <100 | 0.00 | No Limit |
| | | EP071: C29 - C36 Fraction | ---- | 100 | mg/kg | <100 | <100 | 0.00 | No Limit |
| | | EP071: C10 - C14 Fraction | ---- | 50 | mg/kg | <50 | <50 | 0.00 | No Limit |
| EP080/071: Total Petroleum Hydrocarbons (QC Lot: 1306062) | | | | | | | | | |
| ES1731092-001 | Anonymous | EP080: C6 - C9 Fraction | ---- | 10 | mg/kg | <10 | <10 | 0.00 | No Limit |
| ES1731292-026 | 46092-26 | EP080: C6 - C9 Fraction | ---- | 10 | mg/kg | <10 | <10 | 0.00 | No Limit |
| EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 1305223) | | | | | | | | | |
| ES1731292-001 | 46092-1 | EP071: >C16 - C34 Fraction | ---- | 100 | mg/kg | <100 | <100 | 0.00 | No Limit |
| | | EP071: >C34 - C40 Fraction | ---- | 100 | mg/kg | <100 | <100 | 0.00 | No Limit |
| | | EP071: >C10 - C16 Fraction | ---- | 50 | mg/kg | <50 | <50 | 0.00 | No Limit |
| ES1731292-011 | 46092-11 | EP071: >C16 - C34 Fraction | ---- | 100 | mg/kg | <100 | <100 | 0.00 | No Limit |
| | | EP071: >C34 - C40 Fraction | ---- | 100 | mg/kg | <100 | <100 | 0.00 | No Limit |
| | | EP071: >C10 - C16 Fraction | ---- | 50 | mg/kg | <50 | <50 | 0.00 | No Limit |
| EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 1305267) | | | | | | | | | |
| ES1731292-001 | 46092-1 | EP080: C6 - C10 Fraction | C6_C10 | 10 | mg/kg | <10 | <10 | 0.00 | No Limit |
| ES1731292-011 | 46092-11 | EP080: C6 - C10 Fraction | C6_C10 | 10 | mg/kg | <10 | <10 | 0.00 | No Limit |
| EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 1305278) | | | | | | | | | |
| ES1731292-021 | 46092-21 | EP071: >C16 - C34 Fraction | ---- | 100 | mg/kg | <100 | <100 | 0.00 | No Limit |
| | | EP071: >C34 - C40 Fraction | ---- | 100 | mg/kg | <100 | <100 | 0.00 | No Limit |
| | | EP071: >C10 - C16 Fraction | ---- | 50 | mg/kg | <50 | <50 | 0.00 | No Limit |
| ES1731292-029 | 46092-29 | EP071: >C16 - C34 Fraction | ---- | 100 | mg/kg | <100 | <100 | 0.00 | No Limit |
| | | EP071: >C34 - C40 Fraction | ---- | 100 | mg/kg | <100 | <100 | 0.00 | No Limit |
| | | EP071: >C10 - C16 Fraction | ---- | 50 | mg/kg | <50 | <50 | 0.00 | No Limit |
| EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 1306062) | | | | | | | | | |
| ES1731092-001 | Anonymous | EP080: C6 - C10 Fraction | C6_C10 | 10 | mg/kg | <10 | <10 | 0.00 | No Limit |
| ES1731292-026 | 46092-26 | EP080: C6 - C10 Fraction | C6_C10 | 10 | mg/kg | <10 | <10 | 0.00 | No Limit |
| EP080: BTEXN (QC Lot: 1305267) | | | | | | | | | |
| ES1731292-001 | 46092-1 | EP080: Benzene | 71-43-2 | 0.2 | mg/kg | <0.2 | <0.2 | 0.00 | No Limit |
| | | EP080: Toluene | 108-88-3 | 0.5 | mg/kg | <0.5 | <0.5 | 0.00 | No Limit |
| | | EP080: Ethylbenzene | 100-41-4 | 0.5 | mg/kg | <0.5 | <0.5 | 0.00 | No Limit |
| | | EP080: meta- & para-Xylene | 108-38-3 106-42-3 | 0.5 | mg/kg | <0.5 | <0.5 | 0.00 | No Limit |
| | | EP080: ortho-Xylene | 95-47-6 | 0.5 | mg/kg | <0.5 | <0.5 | 0.00 | No Limit |



| Sub-Matrix: SOIL | | | | Laboratory Duplicate (DUP) Report | | | | | |
|--|------------------|----------------------------|------------|-----------------------------------|-------|-----------------|------------------|---------|---------------------|
| Laboratory sample ID | Client sample ID | Method: Compound | CAS Number | LOR | Unit | Original Result | Duplicate Result | RPD (%) | Recovery Limits (%) |
| EP080: BTEXN (QC Lot: 1305267) - continued | | | | | | | | | |
| ES1731292-001 | 46092-1 | EP080: Naphthalene | 91-20-3 | 1 | mg/kg | <1 | <1 | 0.00 | No Limit |
| ES1731292-011 | 46092-11 | EP080: Benzene | 71-43-2 | 0.2 | mg/kg | <0.2 | <0.2 | 0.00 | No Limit |
| | | EP080: Toluene | 108-88-3 | 0.5 | mg/kg | <0.5 | <0.5 | 0.00 | No Limit |
| | | EP080: Ethylbenzene | 100-41-4 | 0.5 | mg/kg | <0.5 | <0.5 | 0.00 | No Limit |
| | | EP080: meta- & para-Xylene | 108-38-3 | 0.5 | mg/kg | <0.5 | <0.5 | 0.00 | No Limit |
| | | | 106-42-3 | | | | | | |
| | | EP080: ortho-Xylene | 95-47-6 | 0.5 | mg/kg | <0.5 | <0.5 | 0.00 | No Limit |
| | | EP080: Naphthalene | 91-20-3 | 1 | mg/kg | <1 | <1 | 0.00 | No Limit |
| EP080: BTEXN (QC Lot: 1306062) | | | | | | | | | |
| ES1731092-001 | Anonymous | EP080: Benzene | 71-43-2 | 0.2 | mg/kg | <0.2 | <0.2 | 0.00 | No Limit |
| | | EP080: Toluene | 108-88-3 | 0.5 | mg/kg | <0.5 | <0.5 | 0.00 | No Limit |
| | | EP080: Ethylbenzene | 100-41-4 | 0.5 | mg/kg | <0.5 | <0.5 | 0.00 | No Limit |
| | | EP080: meta- & para-Xylene | 108-38-3 | 0.5 | mg/kg | <0.5 | <0.5 | 0.00 | No Limit |
| | | | 106-42-3 | | | | | | |
| | | EP080: ortho-Xylene | 95-47-6 | 0.5 | mg/kg | <0.5 | <0.5 | 0.00 | No Limit |
| ES1731292-026 | 46092-26 | EP080: Naphthalene | 91-20-3 | 1 | mg/kg | <1 | <1 | 0.00 | No Limit |
| | | EP080: Benzene | 71-43-2 | 0.2 | mg/kg | <0.2 | <0.2 | 0.00 | No Limit |
| | | EP080: Toluene | 108-88-3 | 0.5 | mg/kg | <0.5 | <0.5 | 0.00 | No Limit |
| | | EP080: Ethylbenzene | 100-41-4 | 0.5 | mg/kg | <0.5 | <0.5 | 0.00 | No Limit |
| | | EP080: meta- & para-Xylene | 108-38-3 | 0.5 | mg/kg | <0.5 | <0.5 | 0.00 | No Limit |
| | | | 106-42-3 | | | | | | |
| | | EP080: ortho-Xylene | 95-47-6 | 0.5 | mg/kg | <0.5 | <0.5 | 0.00 | No Limit |
| | | EP080: Naphthalene | 91-20-3 | 1 | mg/kg | <1 | <1 | 0.00 | No Limit |
| Sub-Matrix: WATER | | | | Laboratory Duplicate (DUP) Report | | | | | |
| Laboratory sample ID | Client sample ID | Method: Compound | CAS Number | LOR | Unit | Original Result | Duplicate Result | RPD (%) | Recovery Limits (%) |
| EP080/071: Total Petroleum Hydrocarbons (QC Lot: 1306757) | | | | | | | | | |
| ES1731351-005 | Anonymous | EP080: C6 - C9 Fraction | ---- | 20 | µg/L | 40 | 40 | 0.00 | No Limit |
| EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 1306757) | | | | | | | | | |
| ES1731351-005 | Anonymous | EP080: C6 - C10 Fraction | C6_C10 | 20 | µg/L | 40 | 40 | 0.00 | No Limit |
| EP080: BTEXN (QC Lot: 1306757) | | | | | | | | | |
| ES1731351-005 | Anonymous | EP080: Benzene | 71-43-2 | 1 | µg/L | <1 | <1 | 0.00 | No Limit |
| | | EP080: Toluene | 108-88-3 | 2 | µg/L | <2 | <2 | 0.00 | No Limit |
| | | EP080: Ethylbenzene | 100-41-4 | 2 | µg/L | <2 | <2 | 0.00 | No Limit |
| | | EP080: meta- & para-Xylene | 108-38-3 | 2 | µg/L | <2 | <2 | 0.00 | No Limit |
| | | | 106-42-3 | | | | | | |
| | | EP080: ortho-Xylene | 95-47-6 | 2 | µg/L | <2 | <2 | 0.00 | No Limit |
| | | EP080: Naphthalene | 91-20-3 | 5 | µg/L | <5 | <5 | 0.00 | No Limit |



Method Blank (MB) and Laboratory Control Spike (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Spike (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

| Sub-Matrix: SOIL | | | | Method Blank (MB) Report | Laboratory Control Spike (LCS) Report | | | |
|--|------------|------|-------|-----------------------------|---------------------------------------|---------------------------|---------------------------------|-----|
| | | | | | Spike Concentration | Spike Recovery (%) LCS | Recovery Limits (%) Low High | |
| Method: Compound | CAS Number | LOR | Unit | Result | | | | |
| EG005T: Total Metals by ICP-AES (QCLot: 1306156) | | | | | | | | |
| EG005T: Arsenic | 7440-38-2 | 5 | mg/kg | <5 | 21.7 mg/kg | 93.4 | 86 | 126 |
| EG005T: Cadmium | 7440-43-9 | 1 | mg/kg | <1 | 4.64 mg/kg | 93.8 | 83 | 113 |
| EG005T: Chromium | 7440-47-3 | 2 | mg/kg | <2 | 43.9 mg/kg | 93.8 | 76 | 128 |
| EG005T: Copper | 7440-50-8 | 5 | mg/kg | <5 | 32 mg/kg | 94.2 | 86 | 120 |
| EG005T: Lead | 7439-92-1 | 5 | mg/kg | <5 | 40 mg/kg | 95.1 | 80 | 114 |
| EG005T: Nickel | 7440-02-0 | 2 | mg/kg | <2 | 55 mg/kg | 99.6 | 87 | 123 |
| EG005T: Zinc | 7440-66-6 | 5 | mg/kg | <5 | 60.8 mg/kg | 103 | 80 | 122 |
| EG005T: Total Metals by ICP-AES (QCLot: 1306159) | | | | | | | | |
| EG005T: Arsenic | 7440-38-2 | 5 | mg/kg | <5 | 21.7 mg/kg | 93.5 | 86 | 126 |
| EG005T: Cadmium | 7440-43-9 | 1 | mg/kg | <1 | 4.64 mg/kg | 95.4 | 83 | 113 |
| EG005T: Chromium | 7440-47-3 | 2 | mg/kg | <2 | 43.9 mg/kg | 96.1 | 76 | 128 |
| EG005T: Copper | 7440-50-8 | 5 | mg/kg | <5 | 32 mg/kg | 102 | 86 | 120 |
| EG005T: Lead | 7439-92-1 | 5 | mg/kg | <5 | 40 mg/kg | 96.1 | 80 | 114 |
| EG005T: Nickel | 7440-02-0 | 2 | mg/kg | <2 | 55 mg/kg | 102 | 87 | 123 |
| EG005T: Zinc | 7440-66-6 | 5 | mg/kg | <5 | 60.8 mg/kg | 103 | 80 | 122 |
| EG035T: Total Recoverable Mercury by FIMS (QCLot: 1306157) | | | | | | | | |
| EG035T: Mercury | 7439-97-6 | 0.1 | mg/kg | <0.1 | 2.57 mg/kg | 72.5 | 70 | 105 |
| EG035T: Total Recoverable Mercury by FIMS (QCLot: 1306158) | | | | | | | | |
| EG035T: Mercury | 7439-97-6 | 0.1 | mg/kg | <0.1 | 2.57 mg/kg | 72.9 | 70 | 105 |
| EP066: Polychlorinated Biphenyls (PCB) (QCLot: 1305227) | | | | | | | | |
| EP066: Total Polychlorinated biphenyls | ---- | 0.1 | mg/kg | <0.1 | 1 mg/kg | 97.0 | 62 | 126 |
| EP066: Polychlorinated Biphenyls (PCB) (QCLot: 1305281) | | | | | | | | |
| EP066: Total Polychlorinated biphenyls | ---- | 0.1 | mg/kg | <0.1 | 1 mg/kg | 103 | 62 | 126 |
| EP068A: Organochlorine Pesticides (OC) (QCLot: 1305226) | | | | | | | | |
| EP068: alpha-BHC | 319-84-6 | 0.05 | mg/kg | <0.05 | 0.5 mg/kg | 87.9 | 69 | 113 |
| EP068: Hexachlorobenzene (HCB) | 118-74-1 | 0.05 | mg/kg | <0.05 | 0.5 mg/kg | 90.0 | 65 | 117 |
| EP068: beta-BHC | 319-85-7 | 0.05 | mg/kg | <0.05 | 0.5 mg/kg | 84.6 | 67 | 119 |
| EP068: gamma-BHC | 58-89-9 | 0.05 | mg/kg | <0.05 | 0.5 mg/kg | 87.0 | 68 | 116 |
| EP068: delta-BHC | 319-86-8 | 0.05 | mg/kg | <0.05 | 0.5 mg/kg | 78.4 | 65 | 117 |
| EP068: Heptachlor | 76-44-8 | 0.05 | mg/kg | <0.05 | 0.5 mg/kg | 84.3 | 67 | 115 |
| EP068: Aldrin | 309-00-2 | 0.05 | mg/kg | <0.05 | 0.5 mg/kg | 80.8 | 69 | 115 |
| EP068: Heptachlor epoxide | 1024-57-3 | 0.05 | mg/kg | <0.05 | 0.5 mg/kg | 85.5 | 62 | 118 |
| EP068: trans-Chlordane | 5103-74-2 | 0.05 | mg/kg | <0.05 | 0.5 mg/kg | 83.9 | 63 | 117 |



Sub-Matrix: **SOIL**

| Sub-Matrix: SOIL | | | | Method Blank (MB) Report | Laboratory Control Spike (LCS) Report | | | |
|---|------------|------|-------|-----------------------------|---------------------------------------|---------------------------|---------------------------------|-----|
| | | | | | Spike Concentration | Spike Recovery (%) LCS | Recovery Limits (%) Low High | |
| Method: Compound | CAS Number | LOR | Unit | Result | | | | |
| EP068A: Organochlorine Pesticides (OC) (QCLot: 1305226) - continued | | | | | | | | |
| EP068: alpha-Endosulfan | 959-98-8 | 0.05 | mg/kg | <0.05 | 0.5 mg/kg | 86.5 | 66 | 116 |
| EP068: cis-Chlordane | 5103-71-9 | 0.05 | mg/kg | <0.05 | 0.5 mg/kg | 83.2 | 64 | 116 |
| EP068: Dieldrin | 60-57-1 | 0.05 | mg/kg | <0.05 | 0.5 mg/kg | 85.2 | 66 | 116 |
| EP068: 4,4`-DDE | 72-55-9 | 0.05 | mg/kg | <0.05 | 0.5 mg/kg | 86.0 | 67 | 115 |
| EP068: Endrin | 72-20-8 | 0.05 | mg/kg | <0.05 | 0.5 mg/kg | 83.0 | 67 | 123 |
| EP068: beta-Endosulfan | 33213-65-9 | 0.05 | mg/kg | <0.05 | 0.5 mg/kg | 86.5 | 69 | 115 |
| EP068: 4,4`-DDD | 72-54-8 | 0.05 | mg/kg | <0.05 | 0.5 mg/kg | 88.1 | 69 | 121 |
| EP068: Endrin aldehyde | 7421-93-4 | 0.05 | mg/kg | <0.05 | 0.5 mg/kg | 87.7 | 56 | 120 |
| EP068: Endosulfan sulfate | 1031-07-8 | 0.05 | mg/kg | <0.05 | 0.5 mg/kg | 83.3 | 62 | 124 |
| EP068: 4,4`-DDT | 50-29-3 | 0.2 | mg/kg | <0.2 | 0.5 mg/kg | 78.5 | 66 | 120 |
| EP068: Endrin ketone | 53494-70-5 | 0.05 | mg/kg | <0.05 | 0.5 mg/kg | 87.5 | 64 | 122 |
| EP068: Methoxychlor | 72-43-5 | 0.2 | mg/kg | <0.2 | 0.5 mg/kg | 78.6 | 54 | 130 |
| EP068A: Organochlorine Pesticides (OC) (QCLot: 1305280) | | | | | | | | |
| EP068: alpha-BHC | 319-84-6 | 0.05 | mg/kg | <0.05 | 0.5 mg/kg | 96.8 | 69 | 113 |
| EP068: Hexachlorobenzene (HCB) | 118-74-1 | 0.05 | mg/kg | <0.05 | 0.5 mg/kg | 98.2 | 65 | 117 |
| EP068: beta-BHC | 319-85-7 | 0.05 | mg/kg | <0.05 | 0.5 mg/kg | 91.2 | 67 | 119 |
| EP068: gamma-BHC | 58-89-9 | 0.05 | mg/kg | <0.05 | 0.5 mg/kg | 95.7 | 68 | 116 |
| EP068: delta-BHC | 319-86-8 | 0.05 | mg/kg | <0.05 | 0.5 mg/kg | 86.8 | 65 | 117 |
| EP068: Heptachlor | 76-44-8 | 0.05 | mg/kg | <0.05 | 0.5 mg/kg | 93.4 | 67 | 115 |
| EP068: Aldrin | 309-00-2 | 0.05 | mg/kg | <0.05 | 0.5 mg/kg | 90.1 | 69 | 115 |
| EP068: Heptachlor epoxide | 1024-57-3 | 0.05 | mg/kg | <0.05 | 0.5 mg/kg | 88.8 | 62 | 118 |
| EP068: trans-Chlordane | 5103-74-2 | 0.05 | mg/kg | <0.05 | 0.5 mg/kg | 86.8 | 63 | 117 |
| EP068: alpha-Endosulfan | 959-98-8 | 0.05 | mg/kg | <0.05 | 0.5 mg/kg | 89.9 | 66 | 116 |
| EP068: cis-Chlordane | 5103-71-9 | 0.05 | mg/kg | <0.05 | 0.5 mg/kg | 85.8 | 64 | 116 |
| EP068: Dieldrin | 60-57-1 | 0.05 | mg/kg | <0.05 | 0.5 mg/kg | 88.8 | 66 | 116 |
| EP068: 4,4`-DDE | 72-55-9 | 0.05 | mg/kg | <0.05 | 0.5 mg/kg | 96.6 | 67 | 115 |
| EP068: Endrin | 72-20-8 | 0.05 | mg/kg | <0.05 | 0.5 mg/kg | 85.5 | 67 | 123 |
| EP068: beta-Endosulfan | 33213-65-9 | 0.05 | mg/kg | <0.05 | 0.5 mg/kg | 92.1 | 69 | 115 |
| EP068: 4,4`-DDD | 72-54-8 | 0.05 | mg/kg | <0.05 | 0.5 mg/kg | 92.4 | 69 | 121 |
| EP068: Endrin aldehyde | 7421-93-4 | 0.05 | mg/kg | <0.05 | 0.5 mg/kg | 90.1 | 56 | 120 |
| EP068: Endosulfan sulfate | 1031-07-8 | 0.05 | mg/kg | <0.05 | 0.5 mg/kg | 86.4 | 62 | 124 |
| EP068: 4,4`-DDT | 50-29-3 | 0.2 | mg/kg | <0.2 | 0.5 mg/kg | 80.5 | 66 | 120 |
| EP068: Endrin ketone | 53494-70-5 | 0.05 | mg/kg | <0.05 | 0.5 mg/kg | 90.1 | 64 | 122 |
| EP068: Methoxychlor | 72-43-5 | 0.2 | mg/kg | <0.2 | 0.5 mg/kg | 81.0 | 54 | 130 |
| EP068B: Organophosphorus Pesticides (OP) (QCLot: 1305226) | | | | | | | | |
| EP068: Dichlorvos | 62-73-7 | 0.05 | mg/kg | <0.05 | 0.5 mg/kg | 81.5 | 59 | 119 |
| EP068: Demeton-S-methyl | 919-86-8 | 0.05 | mg/kg | <0.05 | 0.5 mg/kg | 92.6 | 62 | 128 |
| EP068: Monocrotophos | 6923-22-4 | 0.2 | mg/kg | <0.2 | 0.5 mg/kg | 94.2 | 54 | 126 |
| EP068: Dimethoate | 60-51-5 | 0.05 | mg/kg | <0.05 | 0.5 mg/kg | 87.1 | 67 | 119 |



Sub-Matrix: **SOIL**

| Method: Compound | | | | Method Blank (MB) Report | Laboratory Control Spike (LCS) Report | | | |
|--|------------|------|--------|--------------------------|---------------------------------------|--------------------|---------------------|------|
| | | | | | Spike Concentration | Spike Recovery (%) | Recovery Limits (%) | |
| CAS Number | LOR | Unit | Result | | | LCS | Low | High |
| EP068B: Organophosphorus Pesticides (OP) (QCLot: 1305226) - continued | | | | | | | | |
| EP068: Diazinon | 333-41-5 | 0.05 | mg/kg | <0.05 | 0.5 mg/kg | 80.8 | 70 | 120 |
| EP068: Chlorpyrifos-methyl | 5598-13-0 | 0.05 | mg/kg | <0.05 | 0.5 mg/kg | 76.6 | 72 | 120 |
| EP068: Parathion-methyl | 298-00-0 | 0.2 | mg/kg | <0.2 | 0.5 mg/kg | 76.5 | 68 | 120 |
| EP068: Malathion | 121-75-5 | 0.05 | mg/kg | <0.05 | 0.5 mg/kg | 82.2 | 68 | 122 |
| EP068: Fenthion | 55-38-9 | 0.05 | mg/kg | <0.05 | 0.5 mg/kg | 83.1 | 69 | 117 |
| EP068: Chlorpyrifos | 2921-88-2 | 0.05 | mg/kg | <0.05 | 0.5 mg/kg | 83.9 | 76 | 118 |
| EP068: Parathion | 56-38-2 | 0.2 | mg/kg | <0.2 | 0.5 mg/kg | 79.1 | 64 | 122 |
| EP068: Pirimphos-ethyl | 23505-41-1 | 0.05 | mg/kg | <0.05 | 0.5 mg/kg | 80.5 | 70 | 116 |
| EP068: Chlorfenvinphos | 470-90-6 | 0.05 | mg/kg | <0.05 | 0.5 mg/kg | 79.2 | 69 | 121 |
| EP068: Bromophos-ethyl | 4824-78-6 | 0.05 | mg/kg | <0.05 | 0.5 mg/kg | 81.1 | 66 | 118 |
| EP068: Fenamiphos | 22224-92-6 | 0.05 | mg/kg | <0.05 | 0.5 mg/kg | 76.4 | 68 | 124 |
| EP068: Prothiofos | 34643-46-4 | 0.05 | mg/kg | <0.05 | 0.5 mg/kg | 85.7 | 62 | 112 |
| EP068: Ethion | 563-12-2 | 0.05 | mg/kg | <0.05 | 0.5 mg/kg | 81.8 | 68 | 120 |
| EP068: Carbophenothion | 786-19-6 | 0.05 | mg/kg | <0.05 | 0.5 mg/kg | 78.2 | 65 | 127 |
| EP068: Azinphos Methyl | 86-50-0 | 0.05 | mg/kg | <0.05 | 0.5 mg/kg | 69.7 | 41 | 123 |
| EP068B: Organophosphorus Pesticides (OP) (QCLot: 1305280) | | | | | | | | |
| EP068: Dichlorvos | 62-73-7 | 0.05 | mg/kg | <0.05 | 0.5 mg/kg | 75.4 | 59 | 119 |
| EP068: Demeton-S-methyl | 919-86-8 | 0.05 | mg/kg | <0.05 | 0.5 mg/kg | 87.6 | 62 | 128 |
| EP068: Monocrotophos | 6923-22-4 | 0.2 | mg/kg | <0.2 | 0.5 mg/kg | 86.3 | 54 | 126 |
| EP068: Dimethoate | 60-51-5 | 0.05 | mg/kg | <0.05 | 0.5 mg/kg | 95.6 | 67 | 119 |
| EP068: Diazinon | 333-41-5 | 0.05 | mg/kg | <0.05 | 0.5 mg/kg | 86.6 | 70 | 120 |
| EP068: Chlorpyrifos-methyl | 5598-13-0 | 0.05 | mg/kg | <0.05 | 0.5 mg/kg | 82.9 | 72 | 120 |
| EP068: Parathion-methyl | 298-00-0 | 0.2 | mg/kg | <0.2 | 0.5 mg/kg | 82.5 | 68 | 120 |
| EP068: Malathion | 121-75-5 | 0.05 | mg/kg | <0.05 | 0.5 mg/kg | 89.4 | 68 | 122 |
| EP068: Fenthion | 55-38-9 | 0.05 | mg/kg | <0.05 | 0.5 mg/kg | 87.1 | 69 | 117 |
| EP068: Chlorpyrifos | 2921-88-2 | 0.05 | mg/kg | <0.05 | 0.5 mg/kg | 89.0 | 76 | 118 |
| EP068: Parathion | 56-38-2 | 0.2 | mg/kg | <0.2 | 0.5 mg/kg | 84.1 | 64 | 122 |
| EP068: Pirimphos-ethyl | 23505-41-1 | 0.05 | mg/kg | <0.05 | 0.5 mg/kg | 82.8 | 70 | 116 |
| EP068: Chlorfenvinphos | 470-90-6 | 0.05 | mg/kg | <0.05 | 0.5 mg/kg | 85.0 | 69 | 121 |
| EP068: Bromophos-ethyl | 4824-78-6 | 0.05 | mg/kg | <0.05 | 0.5 mg/kg | 84.0 | 66 | 118 |
| EP068: Fenamiphos | 22224-92-6 | 0.05 | mg/kg | <0.05 | 0.5 mg/kg | 78.7 | 68 | 124 |
| EP068: Prothiofos | 34643-46-4 | 0.05 | mg/kg | <0.05 | 0.5 mg/kg | 90.0 | 62 | 112 |
| EP068: Ethion | 563-12-2 | 0.05 | mg/kg | <0.05 | 0.5 mg/kg | 86.0 | 68 | 120 |
| EP068: Carbophenothion | 786-19-6 | 0.05 | mg/kg | <0.05 | 0.5 mg/kg | 80.4 | 65 | 127 |
| EP068: Azinphos Methyl | 86-50-0 | 0.05 | mg/kg | <0.05 | 0.5 mg/kg | 82.4 | 41 | 123 |
| EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 1305224) | | | | | | | | |
| EP075(SIM): Naphthalene | 91-20-3 | 0.5 | mg/kg | <0.5 | 6 mg/kg | 90.5 | 77 | 125 |
| EP075(SIM): Acenaphthylene | 208-96-8 | 0.5 | mg/kg | <0.5 | 6 mg/kg | 91.0 | 72 | 124 |
| EP075(SIM): Acenaphthene | 83-32-9 | 0.5 | mg/kg | <0.5 | 6 mg/kg | 89.0 | 73 | 127 |



Sub-Matrix: **SOIL**

| Sub-Matrix: SOIL | | | | Method Blank (MB) Report | Laboratory Control Spike (LCS) Report | | | |
|---|------------|-----|-------|-----------------------------|---------------------------------------|---------------------------|---------------------------------|-----|
| | | | | | Spike Concentration | Spike Recovery (%) LCS | Recovery Limits (%) Low High | |
| Method: Compound | CAS Number | LOR | Unit | Result | | | | |
| EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 1305224) - continued | | | | | | | | |
| EP075(SIM): Fluorene | 86-73-7 | 0.5 | mg/kg | <0.5 | 6 mg/kg | 89.4 | 72 | 126 |
| EP075(SIM): Phenanthrene | 85-01-8 | 0.5 | mg/kg | <0.5 | 6 mg/kg | 88.5 | 75 | 127 |
| EP075(SIM): Anthracene | 120-12-7 | 0.5 | mg/kg | <0.5 | 6 mg/kg | 94.1 | 77 | 127 |
| EP075(SIM): Fluoranthene | 206-44-0 | 0.5 | mg/kg | <0.5 | 6 mg/kg | 94.1 | 73 | 127 |
| EP075(SIM): Pyrene | 129-00-0 | 0.5 | mg/kg | <0.5 | 6 mg/kg | 91.6 | 74 | 128 |
| EP075(SIM): Benz(a)anthracene | 56-55-3 | 0.5 | mg/kg | <0.5 | 6 mg/kg | 86.9 | 69 | 123 |
| EP075(SIM): Chrysene | 218-01-9 | 0.5 | mg/kg | <0.5 | 6 mg/kg | 91.5 | 75 | 127 |
| EP075(SIM): Benzo(b+j)fluoranthene | 205-99-2 | 0.5 | mg/kg | <0.5 | 6 mg/kg | 94.7 | 68 | 116 |
| | 205-82-3 | | | | | | | |
| EP075(SIM): Benzo(k)fluoranthene | 207-08-9 | 0.5 | mg/kg | <0.5 | 6 mg/kg | 92.7 | 74 | 126 |
| EP075(SIM): Benzo(a)pyrene | 50-32-8 | 0.5 | mg/kg | <0.5 | 6 mg/kg | 89.9 | 70 | 126 |
| EP075(SIM): Indeno(1.2.3.cd)pyrene | 193-39-5 | 0.5 | mg/kg | <0.5 | 6 mg/kg | 86.3 | 61 | 121 |
| EP075(SIM): Dibenz(a,h)anthracene | 53-70-3 | 0.5 | mg/kg | <0.5 | 6 mg/kg | 92.7 | 62 | 118 |
| EP075(SIM): Benzo(g,h,i)perylene | 191-24-2 | 0.5 | mg/kg | <0.5 | 6 mg/kg | 87.9 | 63 | 121 |
| EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 1305279) | | | | | | | | |
| EP075(SIM): Naphthalene | 91-20-3 | 0.5 | mg/kg | <0.5 | 6 mg/kg | 88.7 | 77 | 125 |
| EP075(SIM): Acenaphthylene | 208-96-8 | 0.5 | mg/kg | <0.5 | 6 mg/kg | 81.7 | 72 | 124 |
| EP075(SIM): Acenaphthene | 83-32-9 | 0.5 | mg/kg | <0.5 | 6 mg/kg | 84.8 | 73 | 127 |
| EP075(SIM): Fluorene | 86-73-7 | 0.5 | mg/kg | <0.5 | 6 mg/kg | 86.0 | 72 | 126 |
| EP075(SIM): Phenanthrene | 85-01-8 | 0.5 | mg/kg | <0.5 | 6 mg/kg | 87.1 | 75 | 127 |
| EP075(SIM): Anthracene | 120-12-7 | 0.5 | mg/kg | <0.5 | 6 mg/kg | 89.9 | 77 | 127 |
| EP075(SIM): Fluoranthene | 206-44-0 | 0.5 | mg/kg | <0.5 | 6 mg/kg | 85.8 | 73 | 127 |
| EP075(SIM): Pyrene | 129-00-0 | 0.5 | mg/kg | <0.5 | 6 mg/kg | 86.8 | 74 | 128 |
| EP075(SIM): Benz(a)anthracene | 56-55-3 | 0.5 | mg/kg | <0.5 | 6 mg/kg | 81.6 | 69 | 123 |
| EP075(SIM): Chrysene | 218-01-9 | 0.5 | mg/kg | <0.5 | 6 mg/kg | 90.0 | 75 | 127 |
| EP075(SIM): Benzo(b+j)fluoranthene | 205-99-2 | 0.5 | mg/kg | <0.5 | 6 mg/kg | 82.8 | 68 | 116 |
| | 205-82-3 | | | | | | | |
| EP075(SIM): Benzo(k)fluoranthene | 207-08-9 | 0.5 | mg/kg | <0.5 | 6 mg/kg | 92.0 | 74 | 126 |
| EP075(SIM): Benzo(a)pyrene | 50-32-8 | 0.5 | mg/kg | <0.5 | 6 mg/kg | 81.2 | 70 | 126 |
| EP075(SIM): Indeno(1.2.3.cd)pyrene | 193-39-5 | 0.5 | mg/kg | <0.5 | 6 mg/kg | 81.0 | 61 | 121 |
| EP075(SIM): Dibenz(a,h)anthracene | 53-70-3 | 0.5 | mg/kg | <0.5 | 6 mg/kg | 78.3 | 62 | 118 |
| EP075(SIM): Benzo(g,h,i)perylene | 191-24-2 | 0.5 | mg/kg | <0.5 | 6 mg/kg | 80.8 | 63 | 121 |
| EP080/071: Total Petroleum Hydrocarbons (QCLot: 1305223) | | | | | | | | |
| EP071: C10 - C14 Fraction | ---- | 50 | mg/kg | <50 | 200 mg/kg | 104 | 75 | 129 |
| EP071: C15 - C28 Fraction | ---- | 100 | mg/kg | <100 | 300 mg/kg | 102 | 77 | 131 |
| EP071: C29 - C36 Fraction | ---- | 100 | mg/kg | <100 | 200 mg/kg | 95.9 | 71 | 129 |
| EP080/071: Total Petroleum Hydrocarbons (QCLot: 1305267) | | | | | | | | |
| EP080: C6 - C9 Fraction | ---- | 10 | mg/kg | <10 | 26 mg/kg | 79.0 | 68 | 128 |

Sub-Matrix: WATER

Matrix Spike (MS) Report

Sub-Matrix: **SOIL**

| Sub-Matrix: SOIL | | | | Matrix Spike (MS) Report | | | |
|--|------------------|------------------|------------|--------------------------|------------------|---------------------|------|
| | | | | Spike | SpikeRecovery(%) | Recovery Limits (%) | |
| Laboratory sample ID | Client sample ID | Method: Compound | CAS Number | Concentration | MS | Low | High |
| EG005T: Total Metals by ICP-AES (QCLot: 1306156) | | | | | | | |
| ES1730948-001 | Anonymous | EG005T: Arsenic | 7440-38-2 | 50 mg/kg | 96.4 | 70 | 130 |
| | | EG005T: Cadmium | 7440-43-9 | 50 mg/kg | 97.7 | 70 | 130 |
| | | EG005T: Chromium | 7440-47-3 | 50 mg/kg | 94.0 | 70 | 130 |
| | | EG005T: Copper | 7440-50-8 | 250 mg/kg | 98.3 | 70 | 130 |
| | | EG005T: Lead | 7439-92-1 | 250 mg/kg | 97.8 | 70 | 130 |
| | | EG005T: Nickel | 7440-02-0 | 50 mg/kg | 98.2 | 70 | 130 |
| | | EG005T: Zinc | 7440-66-6 | 250 mg/kg | 98.9 | 70 | 130 |
| EG005T: Total Metals by ICP-AES (QCLot: 1306159) | | | | | | | |
| ES1731292-019 | 46092-19 | EG005T: Arsenic | 7440-38-2 | 50 mg/kg | 89.9 | 70 | 130 |
| | | EG005T: Cadmium | 7440-43-9 | 50 mg/kg | 94.8 | 70 | 130 |
| | | EG005T: Chromium | 7440-47-3 | 50 mg/kg | 83.8 | 70 | 130 |
| | | EG005T: Copper | 7440-50-8 | 250 mg/kg | 98.5 | 70 | 130 |
| | | EG005T: Lead | 7439-92-1 | 250 mg/kg | 95.9 | 70 | 130 |
| | | EG005T: Nickel | 7440-02-0 | 50 mg/kg | 87.3 | 70 | 130 |
| | | EG005T: Zinc | 7440-66-6 | 250 mg/kg | 92.4 | 70 | 130 |
| EG035T: Total Recoverable Mercury by FIMS (QCLot: 1306157) | | | | | | | |
| ES1730948-001 | Anonymous | EG035T: Mercury | 7439-97-6 | 5 mg/kg | 92.9 | 70 | 130 |
| EG035T: Total Recoverable Mercury by FIMS (QCLot: 1306158) | | | | | | | |



| Sub-Matrix: SOIL | | | | Matrix Spike (MS) Report | | | |
|--|------------------|--|------------|--------------------------|------------------|---------------------|------|
| | | | | Spike | SpikeRecovery(%) | Recovery Limits (%) | |
| Laboratory sample ID | Client sample ID | Method: Compound | CAS Number | Concentration | MS | Low | High |
| EG035T: Total Recoverable Mercury by FIMS (QCLot: 1306158) - continued | | | | | | | |
| ES1731292-019 | 46092-19 | EG035T: Mercury | 7439-97-6 | 5 mg/kg | 94.1 | 70 | 130 |
| EP066: Polychlorinated Biphenyls (PCB) (QCLot: 1305227) | | | | | | | |
| ES1731292-001 | 46092-1 | EP066: Total Polychlorinated biphenyls | ---- | 1 mg/kg | 105 | 70 | 130 |
| EP066: Polychlorinated Biphenyls (PCB) (QCLot: 1305281) | | | | | | | |
| ES1731292-021 | 46092-21 | EP066: Total Polychlorinated biphenyls | ---- | 1 mg/kg | 105 | 70 | 130 |
| EP068A: Organochlorine Pesticides (OC) (QCLot: 1305226) | | | | | | | |
| ES1731292-001 | 46092-1 | EP068: gamma-BHC | 58-89-9 | 0.5 mg/kg | 96.4 | 70 | 130 |
| | | EP068: Heptachlor | 76-44-8 | 0.5 mg/kg | 86.4 | 70 | 130 |
| | | EP068: Aldrin | 309-00-2 | 0.5 mg/kg | 95.4 | 70 | 130 |
| | | EP068: Dieldrin | 60-57-1 | 0.5 mg/kg | 83.0 | 70 | 130 |
| | | EP068: Endrin | 72-20-8 | 2 mg/kg | 88.4 | 70 | 130 |
| | | EP068: 4,4'-DDT | 50-29-3 | 2 mg/kg | 92.6 | 70 | 130 |
| EP068A: Organochlorine Pesticides (OC) (QCLot: 1305280) | | | | | | | |
| ES1731292-021 | 46092-21 | EP068: gamma-BHC | 58-89-9 | 0.5 mg/kg | 92.0 | 70 | 130 |
| | | EP068: Heptachlor | 76-44-8 | 0.5 mg/kg | 97.4 | 70 | 130 |
| | | EP068: Aldrin | 309-00-2 | 0.5 mg/kg | 85.3 | 70 | 130 |
| | | EP068: Dieldrin | 60-57-1 | 0.5 mg/kg | 92.8 | 70 | 130 |
| | | EP068: Endrin | 72-20-8 | 2 mg/kg | 83.8 | 70 | 130 |
| | | EP068: 4,4'-DDT | 50-29-3 | 2 mg/kg | 95.0 | 70 | 130 |
| EP068B: Organophosphorus Pesticides (OP) (QCLot: 1305226) | | | | | | | |
| ES1731292-001 | 46092-1 | EP068: Diazinon | 333-41-5 | 0.5 mg/kg | 88.4 | 70 | 130 |
| | | EP068: Chlorpyrifos-methyl | 5598-13-0 | 0.5 mg/kg | 85.3 | 70 | 130 |
| | | EP068: Pirimphos-ethyl | 23505-41-1 | 0.5 mg/kg | 89.6 | 70 | 130 |
| | | EP068: Bromophos-ethyl | 4824-78-6 | 0.5 mg/kg | 85.9 | 70 | 130 |
| | | EP068: Prothiofos | 34643-46-4 | 0.5 mg/kg | 94.7 | 70 | 130 |
| EP068B: Organophosphorus Pesticides (OP) (QCLot: 1305280) | | | | | | | |
| ES1731292-021 | 46092-21 | EP068: Diazinon | 333-41-5 | 0.5 mg/kg | 79.7 | 70 | 130 |
| | | EP068: Chlorpyrifos-methyl | 5598-13-0 | 0.5 mg/kg | 91.4 | 70 | 130 |
| | | EP068: Pirimphos-ethyl | 23505-41-1 | 0.5 mg/kg | 81.9 | 70 | 130 |
| | | EP068: Bromophos-ethyl | 4824-78-6 | 0.5 mg/kg | 105 | 70 | 130 |
| | | EP068: Prothiofos | 34643-46-4 | 0.5 mg/kg | 81.4 | 70 | 130 |
| EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 1305224) | | | | | | | |
| ES1731292-001 | 46092-1 | EP075(SIM): Acenaphthene | 83-32-9 | 10 mg/kg | 91.9 | 70 | 130 |
| | | EP075(SIM): Pyrene | 129-00-0 | 10 mg/kg | 97.6 | 70 | 130 |
| EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 1305279) | | | | | | | |
| ES1731292-021 | 46092-21 | EP075(SIM): Acenaphthene | 83-32-9 | 10 mg/kg | 106 | 70 | 130 |



Sub-Matrix: **SOIL**

| Sub-Matrix: SOIL | | | | Matrix Spike (MS) Report | | | |
|--|--------------------|----------------------------|------------|--------------------------|------------------|---------------------|------|
| | | | | Spike | SpikeRecovery(%) | Recovery Limits (%) | |
| Laboratory sample ID | Client sample ID | Method: Compound | CAS Number | Concentration | MS | Low | High |
| EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 1305279) - continued | | | | | | | |
| ES1731292-021 | 46092-21 | EP075(SIM): Pyrene | 129-00-0 | 10 mg/kg | 107 | 70 | 130 |
| EP080/071: Total Petroleum Hydrocarbons (QCLot: 1305223) | | | | | | | |
| ES1731292-001 | 46092-1 | EP071: C10 - C14 Fraction | ---- | 523 mg/kg | 86.0 | 73 | 137 |
| | | EP071: C15 - C28 Fraction | ---- | 2319 mg/kg | 104 | 53 | 131 |
| | | EP071: C29 - C36 Fraction | ---- | 1714 mg/kg | 114 | 52 | 132 |
| EP080/071: Total Petroleum Hydrocarbons (QCLot: 1305267) | | | | | | | |
| ES1731292-001 | 46092-1 | EP080: C6 - C9 Fraction | ---- | 32.5 mg/kg | 106 | 70 | 130 |
| EP080/071: Total Petroleum Hydrocarbons (QCLot: 1305278) | | | | | | | |
| ES1731292-021 | 46092-21 | EP071: C10 - C14 Fraction | ---- | 523 mg/kg | 83.7 | 73 | 137 |
| | | EP071: C15 - C28 Fraction | ---- | 2319 mg/kg | 100 | 53 | 131 |
| | | EP071: C29 - C36 Fraction | ---- | 1714 mg/kg | 105 | 52 | 132 |
| EP080/071: Total Petroleum Hydrocarbons (QCLot: 1306062) | | | | | | | |
| ES1731092-001 | Anonymous | EP080: C6 - C9 Fraction | ---- | 32.5 mg/kg | 109 | 70 | 130 |
| EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 1305223) | | | | | | | |
| ES1731292-001 | 46092-1 | EP071: >C10 - C16 Fraction | ---- | 860 mg/kg | 94.0 | 73 | 137 |
| | | EP071: >C16 - C34 Fraction | ---- | 3223 mg/kg | 105 | 53 | 131 |
| | | EP071: >C34 - C40 Fraction | ---- | 1058 mg/kg | 112 | 52 | 132 |
| EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 1305267) | | | | | | | |
| ES1731292-001 | 46092-1 | EP080: C6 - C10 Fraction | C6_C10 | 37.5 mg/kg | 102 | 70 | 130 |
| EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 1305278) | | | | | | | |
| ES1731292-021 | 46092-21 | EP071: >C10 - C16 Fraction | ---- | 860 mg/kg | 98.0 | 73 | 137 |
| | | EP071: >C16 - C34 Fraction | ---- | 3223 mg/kg | 103 | 53 | 131 |
| | | EP071: >C34 - C40 Fraction | ---- | 1058 mg/kg | 101 | 52 | 132 |
| EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 1306062) | | | | | | | |
| ES1731092-001 | Anonymous | EP080: C6 - C10 Fraction | C6_C10 | 37.5 mg/kg | 97.0 | 70 | 130 |
| EP080: BTEXN (QCLot: 1305267) | | | | | | | |
| ES1731292-001 | 46092-1 | EP080: Benzene | 71-43-2 | 2.5 mg/kg | 101 | 70 | 130 |
| | | EP080: Toluene | 108-88-3 | 2.5 mg/kg | 98.9 | 70 | 130 |
| | | EP080: Ethylbenzene | 100-41-4 | 2.5 mg/kg | 96.3 | 70 | 130 |
| | | EP080: meta- & para-Xylene | 108-38-3 | 2.5 mg/kg | 97.6 | 70 | 130 |
| | | | 106-42-3 | | | | |
| | | EP080: ortho-Xylene | 95-47-6 | 2.5 mg/kg | 98.1 | 70 | 130 |
| | EP080: Naphthalene | 91-20-3 | 2.5 mg/kg | 101 | 70 | 130 | |
| EP080: BTEXN (QCLot: 1306062) | | | | | | | |
| ES1731092-001 | Anonymous | EP080: Benzene | 71-43-2 | 2.5 mg/kg | 114 | 70 | 130 |
| | | EP080: Toluene | 108-88-3 | 2.5 mg/kg | 114 | 70 | 130 |

QA/QC Compliance Assessment to assist with Quality Review

| | | | |
|--------------|-------------------------------|-------------------------|---------------------------------|
| Work Order | : ES1731292 | Page | : 1 of 11 |
| Client | : SESL Australia Pty Ltd | Laboratory | : Environmental Division Sydney |
| Contact | : Harrison Leake (SUBSAMPLES) | Telephone | : +61-2-8784 8555 |
| Project | : 46092 | Date Samples Received | : 11-Dec-2017 |
| Site | : ---- | Issue Date | : 12-Dec-2017 |
| Sampler | : ---- | No. of samples received | : 32 |
| Order number | : ---- | No. of samples analysed | : 32 |

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO** Method Blank value outliers occur.
- **NO** Duplicate outliers occur.
- **NO** Laboratory Control outliers occur.
- **NO** Matrix Spike outliers occur.
- For all regular sample matrices, **NO** surrogate recovery outliers occur.

Outliers : Analysis Holding Time Compliance

- **NO** Analysis Holding Time Outliers exist.

Outliers : Frequency of Quality Control Samples

- **NO** Quality Control Sample Frequency Outliers exist.

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results. This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein. Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for VOC in soils vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **SOIL** Evaluation: ✖ = Holding time breach ; ✔ = Within holding time.

| Method | Sample Date | Extraction / Preparation | | | Analysis | | |
|---|--------------------|--------------------------|--------------------|------------|--------------------|------------------|------------|
| Container / Client Sample ID(s) | | Date extracted | Due for extraction | Evaluation | Date analysed | Due for analysis | Evaluation |
| EA055: Moisture Content (Dried @ 105-110°C) | | | | | | | |
| Soil Glass Jar - Unpreserved (EA055) | 11-Dec-2017 | ---- | ---- | ---- | 11-Dec-2017 | 25-Dec-2017 | ✓ |
| 46092-1, 46092-2, | | | | | | | |
| 46092-3, 46092-4, | | | | | | | |
| 46092-5, 46092-6, | | | | | | | |
| 46092-7, 46092-8, | | | | | | | |
| 46092-9, 46092-10, | | | | | | | |
| 46092-11, 46092-12, | | | | | | | |
| 46092-13, 46092-14, | | | | | | | |
| 46092-15, 46092-16, | | | | | | | |
| 46092-17, 46092-18, | | | | | | | |
| 46092-19, 46092-20, | | | | | | | |
| 46092-21, 46092-22, | | | | | | | |
| 46092-23, 46092-24, | | | | | | | |
| 46092-25, 46092-26, | | | | | | | |
| 46092-27, 46092-28, | | | | | | | |
| 46092-29, 46092-30, | | | | | | | |
| 46092-31 | | | | | | | |
| EA200: AS 4964 - 2004 Identification of Asbestos in bulk samples | | | | | | | |
| Snap Lock Bag - Subsampled by ALS (EA200) | 11-Dec-2017 | ---- | ---- | ---- | 12-Dec-2017 | 09-Jun-2018 | ✓ |
| 46092-3, 46092-25, | | | | | | | |
| 46092-30 | | | | | | | |
| EA200: AS 4964 - 2004 Identification of Asbestos in Soils | | | | | | | |
| Snap Lock Bag - Subsampled by ALS (EA200) | 11-Dec-2017 | ---- | ---- | ---- | 12-Dec-2017 | 09-Jun-2018 | ✓ |
| 46092-3, 46092-25, | | | | | | | |
| 46092-30 | | | | | | | |

Evaluation: ✖ = Holding time breach ; ✔ = Within holding time.

| Method | | Sample Date | Extraction / Preparation | | | Analysis | | | | | | | | | |
|---|-----------|-------------|--------------------------|--------------------|------------|---------------|------------------|------------|-------------|-------------|-------------|---|-------------|-------------|---|
| Container / Client Sample ID(s) | | | Date extracted | Due for extraction | Evaluation | Date analysed | Due for analysis | Evaluation | | | | | | | |
| EG005T: Total Metals by ICP-AES | | | | | | | | | | | | | | | |
| Soil Glass Jar - Unpreserved (EG005T) | | 11-Dec-2017 | 11-Dec-2017 | 09-Jun-2018 | ✓ | 11-Dec-2017 | 09-Jun-2018 | ✓ | | | | | | | |
| 46092-1, | 46092-2, | | | | | | | | | | | | | | |
| 46092-3, | 46092-4, | | | | | | | | | | | | | | |
| 46092-5, | 46092-6, | | | | | | | | | | | | | | |
| 46092-7, | 46092-8, | | | | | | | | | | | | | | |
| 46092-9, | 46092-10, | | | | | | | | | | | | | | |
| 46092-11, | 46092-12, | | | | | | | | | | | | | | |
| 46092-13, | 46092-14, | | | | | | | | | | | | | | |
| 46092-15, | 46092-16, | | | | | | | | | | | | | | |
| 46092-17, | 46092-18, | | | | | | | | | | | | | | |
| 46092-19, | 46092-20, | | | | | | | | | | | | | | |
| 46092-21, | 46092-22, | | | | | | | | | | | | | | |
| 46092-23, | 46092-24, | | | | | | | | | | | | | | |
| 46092-25, | 46092-26, | | | | | | | | | | | | | | |
| 46092-27, | 46092-28, | | | | | | | | | | | | | | |
| 46092-29, | 46092-30, | | | | | | | | | | | | | | |
| 46092-31 | | | | | | | | | | | | | | | |
| EG035T: Total Recoverable Mercury by FIMS | | | | | | | | | | | | | | | |
| Soil Glass Jar - Unpreserved (EG035T) | | | | | | | | | 11-Dec-2017 | 11-Dec-2017 | 08-Jan-2018 | ✓ | 11-Dec-2017 | 08-Jan-2018 | ✓ |
| 46092-1, | 46092-2, | | | | | | | | | | | | | | |
| 46092-3, | 46092-4, | | | | | | | | | | | | | | |
| 46092-5, | 46092-6, | | | | | | | | | | | | | | |
| 46092-7, | 46092-8, | | | | | | | | | | | | | | |
| 46092-9, | 46092-10, | | | | | | | | | | | | | | |
| 46092-11, | 46092-12, | | | | | | | | | | | | | | |
| 46092-13, | 46092-14, | | | | | | | | | | | | | | |
| 46092-15, | 46092-16, | | | | | | | | | | | | | | |
| 46092-17, | 46092-18, | | | | | | | | | | | | | | |
| 46092-19, | 46092-20, | | | | | | | | | | | | | | |
| 46092-21, | 46092-22, | | | | | | | | | | | | | | |
| 46092-23, | 46092-24, | | | | | | | | | | | | | | |
| 46092-25, | 46092-26, | | | | | | | | | | | | | | |
| 46092-27, | 46092-28, | | | | | | | | | | | | | | |
| 46092-29, | 46092-30, | | | | | | | | | | | | | | |
| 46092-31 | | | | | | | | | | | | | | | |

Evaluation: ✖ = Holding time breach ; ✔ = Within holding time.

| Method | | Sample Date | Extraction / Preparation | | | Analysis | | | | | | | | | |
|--|-----------|-------------|--------------------------|--------------------|------------|---------------|------------------|------------|-------------|-------------|-------------|---|-------------|-------------|---|
| Container / Client Sample ID(s) | | | Date extracted | Due for extraction | Evaluation | Date analysed | Due for analysis | Evaluation | | | | | | | |
| EP066: Polychlorinated Biphenyls (PCB) | | | | | | | | | | | | | | | |
| Soil Glass Jar - Unpreserved (EP066) | | 11-Dec-2017 | 11-Dec-2017 | 25-Dec-2017 | ✓ | 11-Dec-2017 | 20-Jan-2018 | ✓ | | | | | | | |
| 46092-1, | 46092-2, | | | | | | | | | | | | | | |
| 46092-3, | 46092-4, | | | | | | | | | | | | | | |
| 46092-5, | 46092-6, | | | | | | | | | | | | | | |
| 46092-7, | 46092-8, | | | | | | | | | | | | | | |
| 46092-9, | 46092-10, | | | | | | | | | | | | | | |
| 46092-11, | 46092-12, | | | | | | | | | | | | | | |
| 46092-13, | 46092-14, | | | | | | | | | | | | | | |
| 46092-15, | 46092-16, | | | | | | | | | | | | | | |
| 46092-17, | 46092-18, | | | | | | | | | | | | | | |
| 46092-19, | 46092-20, | | | | | | | | | | | | | | |
| 46092-21, | 46092-22, | | | | | | | | | | | | | | |
| 46092-23, | 46092-24, | | | | | | | | | | | | | | |
| 46092-25, | 46092-26, | | | | | | | | | | | | | | |
| 46092-27, | 46092-28, | | | | | | | | | | | | | | |
| 46092-29, | 46092-30, | | | | | | | | | | | | | | |
| 46092-31 | | | | | | | | | | | | | | | |
| EP068A: Organochlorine Pesticides (OC) | | | | | | | | | | | | | | | |
| Soil Glass Jar - Unpreserved (EP068) | | | | | | | | | 11-Dec-2017 | 11-Dec-2017 | 25-Dec-2017 | ✓ | 11-Dec-2017 | 20-Jan-2018 | ✓ |
| 46092-1, | 46092-2, | | | | | | | | | | | | | | |
| 46092-3, | 46092-4, | | | | | | | | | | | | | | |
| 46092-5, | 46092-6, | | | | | | | | | | | | | | |
| 46092-7, | 46092-8, | | | | | | | | | | | | | | |
| 46092-9, | 46092-10, | | | | | | | | | | | | | | |
| 46092-11, | 46092-12, | | | | | | | | | | | | | | |
| 46092-13, | 46092-14, | | | | | | | | | | | | | | |
| 46092-15, | 46092-16, | | | | | | | | | | | | | | |
| 46092-17, | 46092-18, | | | | | | | | | | | | | | |
| 46092-19, | 46092-20, | | | | | | | | | | | | | | |
| 46092-21, | 46092-22, | | | | | | | | | | | | | | |
| 46092-23, | 46092-24, | | | | | | | | | | | | | | |
| 46092-25, | 46092-26, | | | | | | | | | | | | | | |
| 46092-27, | 46092-28, | | | | | | | | | | | | | | |
| 46092-29, | 46092-30, | | | | | | | | | | | | | | |
| 46092-31 | | | | | | | | | | | | | | | |

Evaluation: ✖ = Holding time breach ; ✔ = Within holding time.

| Method | | Sample Date | Extraction / Preparation | | | Analysis | | |
|--|-----------|-------------|--------------------------|--------------------|------------|---------------|------------------|------------|
| Container / Client Sample ID(s) | | | Date extracted | Due for extraction | Evaluation | Date analysed | Due for analysis | Evaluation |
| EP068B: Organophosphorus Pesticides (OP) | | | | | | | | |
| Soil Glass Jar - Unpreserved (EP068) | | 11-Dec-2017 | 11-Dec-2017 | 25-Dec-2017 | ✓ | 11-Dec-2017 | 20-Jan-2018 | ✓ |
| 46092-1, | 46092-2, | | | | | | | |
| 46092-3, | 46092-4, | | | | | | | |
| 46092-5, | 46092-6, | | | | | | | |
| 46092-7, | 46092-8, | | | | | | | |
| 46092-9, | 46092-10, | | | | | | | |
| 46092-11, | 46092-12, | | | | | | | |
| 46092-13, | 46092-14, | | | | | | | |
| 46092-15, | 46092-16, | | | | | | | |
| 46092-17, | 46092-18, | | | | | | | |
| 46092-19, | 46092-20, | | | | | | | |
| 46092-21, | 46092-22, | | | | | | | |
| 46092-23, | 46092-24, | | | | | | | |
| 46092-25, | 46092-26, | | | | | | | |
| 46092-27, | 46092-28, | | | | | | | |
| 46092-29, | 46092-30, | | | | | | | |
| 46092-31 | | | | | | | | |
| EP075(SIM)B: Polynuclear Aromatic Hydrocarbons | | | | | | | | |
| Soil Glass Jar - Unpreserved (EP075(SIM)) | | 11-Dec-2017 | 11-Dec-2017 | 25-Dec-2017 | ✓ | 11-Dec-2017 | 20-Jan-2018 | ✓ |
| 46092-1, | 46092-2, | | | | | | | |
| 46092-3, | 46092-4, | | | | | | | |
| 46092-5, | 46092-6, | | | | | | | |
| 46092-7, | 46092-8, | | | | | | | |
| 46092-9, | 46092-10, | | | | | | | |
| 46092-11, | 46092-12, | | | | | | | |
| 46092-13, | 46092-14, | | | | | | | |
| 46092-15, | 46092-16, | | | | | | | |
| 46092-17, | 46092-18, | | | | | | | |
| 46092-19, | 46092-20, | | | | | | | |
| 46092-21, | 46092-22, | | | | | | | |
| 46092-23, | 46092-24, | | | | | | | |
| 46092-25, | 46092-26, | | | | | | | |
| 46092-27, | 46092-28, | | | | | | | |
| 46092-29, | 46092-30, | | | | | | | |
| 46092-31 | | | | | | | | |

Evaluation: ✖ = Holding time breach ; ✔ = Within holding time.

| Method | | Sample Date | Extraction / Preparation | | | Analysis | | | | | | | | | |
|---|-----------|-------------|--------------------------|--------------------|------------|---------------|------------------|------------|-------------|-------------|-------------|---|-------------|-------------|---|
| Container / Client Sample ID(s) | | | Date extracted | Due for extraction | Evaluation | Date analysed | Due for analysis | Evaluation | | | | | | | |
| EP080/071: Total Petroleum Hydrocarbons | | | | | | | | | | | | | | | |
| Soil Glass Jar - Unpreserved (EP080) | | 11-Dec-2017 | 11-Dec-2017 | 25-Dec-2017 | ✓ | 11-Dec-2017 | 25-Dec-2017 | ✓ | | | | | | | |
| 46092-1, | 46092-2, | | | | | | | | | | | | | | |
| 46092-3, | 46092-4, | | | | | | | | | | | | | | |
| 46092-5, | 46092-6, | | | | | | | | | | | | | | |
| 46092-7, | 46092-8, | | | | | | | | | | | | | | |
| 46092-9, | 46092-10, | | | | | | | | | | | | | | |
| 46092-11, | 46092-12, | | | | | | | | | | | | | | |
| 46092-13, | 46092-14, | | | | | | | | | | | | | | |
| 46092-15, | 46092-16, | | | | | | | | | | | | | | |
| 46092-17, | 46092-18, | | | | | | | | | | | | | | |
| 46092-19, | 46092-20, | | | | | | | | | | | | | | |
| 46092-21, | 46092-22, | | | | | | | | | | | | | | |
| 46092-23, | 46092-24, | | | | | | | | | | | | | | |
| 46092-25, | 46092-26, | | | | | | | | | | | | | | |
| 46092-27, | 46092-28, | | | | | | | | | | | | | | |
| 46092-29, | 46092-30, | | | | | | | | | | | | | | |
| 46092-31 | | | | | | | | | | | | | | | |
| EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions | | | | | | | | | | | | | | | |
| Soil Glass Jar - Unpreserved (EP080) | | | | | | | | | 11-Dec-2017 | 11-Dec-2017 | 25-Dec-2017 | ✓ | 11-Dec-2017 | 25-Dec-2017 | ✓ |
| 46092-1, | 46092-2, | | | | | | | | | | | | | | |
| 46092-3, | 46092-4, | | | | | | | | | | | | | | |
| 46092-5, | 46092-6, | | | | | | | | | | | | | | |
| 46092-7, | 46092-8, | | | | | | | | | | | | | | |
| 46092-9, | 46092-10, | | | | | | | | | | | | | | |
| 46092-11, | 46092-12, | | | | | | | | | | | | | | |
| 46092-13, | 46092-14, | | | | | | | | | | | | | | |
| 46092-15, | 46092-16, | | | | | | | | | | | | | | |
| 46092-17, | 46092-18, | | | | | | | | | | | | | | |
| 46092-19, | 46092-20, | | | | | | | | | | | | | | |
| 46092-21, | 46092-22, | | | | | | | | | | | | | | |
| 46092-23, | 46092-24, | | | | | | | | | | | | | | |
| 46092-25, | 46092-26, | | | | | | | | | | | | | | |
| 46092-27, | 46092-28, | | | | | | | | | | | | | | |
| 46092-29, | 46092-30, | | | | | | | | | | | | | | |
| 46092-31 | | | | | | | | | | | | | | | |



Matrix: **SOIL**

Evaluation: * = Holding time breach ; ✓ = Within holding time.

| Method | Sample Date | Extraction / Preparation | | | Analysis | | |
|--------------------------------------|-------------|--------------------------|--------------------|------------|---------------|------------------|------------|
| Container / Client Sample ID(s) | | Date extracted | Due for extraction | Evaluation | Date analysed | Due for analysis | Evaluation |
| EP080: BTEXN | | | | | | | |
| Soil Glass Jar - Unpreserved (EP080) | 11-Dec-2017 | 11-Dec-2017 | 25-Dec-2017 | ✓ | 11-Dec-2017 | 25-Dec-2017 | ✓ |
| 46092-1, 46092-2, | | | | | | | |
| 46092-3, 46092-4, | | | | | | | |
| 46092-5, 46092-6, | | | | | | | |
| 46092-7, 46092-8, | | | | | | | |
| 46092-9, 46092-10, | | | | | | | |
| 46092-11, 46092-12, | | | | | | | |
| 46092-13, 46092-14, | | | | | | | |
| 46092-15, 46092-16, | | | | | | | |
| 46092-17, 46092-18, | | | | | | | |
| 46092-19, 46092-20, | | | | | | | |
| 46092-21, 46092-22, | | | | | | | |
| 46092-23, 46092-24, | | | | | | | |
| 46092-25, 46092-26, | | | | | | | |
| 46092-27, 46092-28, | | | | | | | |
| 46092-29, 46092-30, | | | | | | | |
| 46092-31 | | | | | | | |

Matrix: **WATER**

Evaluation: * = Holding time breach ; ✓ = Within holding time.

| Method | Sample Date | Extraction / Preparation | | | Analysis | | |
|---|-------------|--------------------------|--------------------|------------|---------------|------------------|------------|
| Container / Client Sample ID(s) | | Date extracted | Due for extraction | Evaluation | Date analysed | Due for analysis | Evaluation |
| EP080/071: Total Petroleum Hydrocarbons | | | | | | | |
| Amber VOC Vial - Sulfuric Acid (EP080) 46092-32 | 11-Dec-2017 | 11-Dec-2017 | 25-Dec-2017 | ✓ | 11-Dec-2017 | 25-Dec-2017 | ✓ |
| EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions | | | | | | | |
| Amber VOC Vial - Sulfuric Acid (EP080) 46092-32 | 11-Dec-2017 | 11-Dec-2017 | 25-Dec-2017 | ✓ | 11-Dec-2017 | 25-Dec-2017 | ✓ |
| EP080: BTEXN | | | | | | | |
| Amber VOC Vial - Sulfuric Acid (EP080) 46092-32 | 11-Dec-2017 | 11-Dec-2017 | 25-Dec-2017 | ✓ | 11-Dec-2017 | 25-Dec-2017 | ✓ |



Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **SOIL**

Evaluation: * = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

| Quality Control Sample Type | | Count | | Rate (%) | | Quality Control Specification | |
|----------------------------------|------------|-------|---------|----------|----------|-------------------------------|--------------------------------|
| Analytical Methods | Method | QC | Regular | Actual | Expected | | Evaluation |
| | | | | | | | |
| Laboratory Duplicates (DUP) | | | | | | | |
| Moisture Content | EA055 | 6 | 60 | 10.00 | 10.00 | ✓ | NEPM 2013 B3 & ALS QC Standard |
| PAH/Phenols (SIM) | EP075(SIM) | 4 | 36 | 11.11 | 10.00 | ✓ | NEPM 2013 B3 & ALS QC Standard |
| Pesticides by GCMS | EP068 | 4 | 33 | 12.12 | 10.00 | ✓ | NEPM 2013 B3 & ALS QC Standard |
| Polychlorinated Biphenyls (PCB) | EP066 | 4 | 33 | 12.12 | 10.00 | ✓ | NEPM 2013 B3 & ALS QC Standard |
| Total Mercury by FIMS | EG035T | 4 | 37 | 10.81 | 10.00 | ✓ | NEPM 2013 B3 & ALS QC Standard |
| Total Metals by ICP-AES | EG005T | 4 | 37 | 10.81 | 10.00 | ✓ | NEPM 2013 B3 & ALS QC Standard |
| TRH - Semivolatile Fraction | EP071 | 4 | 38 | 10.53 | 10.00 | ✓ | NEPM 2013 B3 & ALS QC Standard |
| TRH Volatiles/BTEX | EP080 | 4 | 39 | 10.26 | 10.00 | ✓ | NEPM 2013 B3 & ALS QC Standard |
| Laboratory Control Samples (LCS) | | | | | | | |
| PAH/Phenols (SIM) | EP075(SIM) | 2 | 36 | 5.56 | 5.00 | ✓ | NEPM 2013 B3 & ALS QC Standard |
| Pesticides by GCMS | EP068 | 2 | 33 | 6.06 | 5.00 | ✓ | NEPM 2013 B3 & ALS QC Standard |
| Polychlorinated Biphenyls (PCB) | EP066 | 2 | 33 | 6.06 | 5.00 | ✓ | NEPM 2013 B3 & ALS QC Standard |
| Total Mercury by FIMS | EG035T | 2 | 37 | 5.41 | 5.00 | ✓ | NEPM 2013 B3 & ALS QC Standard |
| Total Metals by ICP-AES | EG005T | 2 | 37 | 5.41 | 5.00 | ✓ | NEPM 2013 B3 & ALS QC Standard |
| TRH - Semivolatile Fraction | EP071 | 2 | 38 | 5.26 | 5.00 | ✓ | NEPM 2013 B3 & ALS QC Standard |
| TRH Volatiles/BTEX | EP080 | 2 | 39 | 5.13 | 5.00 | ✓ | NEPM 2013 B3 & ALS QC Standard |
| Method Blanks (MB) | | | | | | | |
| PAH/Phenols (SIM) | EP075(SIM) | 2 | 36 | 5.56 | 5.00 | ✓ | NEPM 2013 B3 & ALS QC Standard |
| Pesticides by GCMS | EP068 | 2 | 33 | 6.06 | 5.00 | ✓ | NEPM 2013 B3 & ALS QC Standard |
| Polychlorinated Biphenyls (PCB) | EP066 | 2 | 33 | 6.06 | 5.00 | ✓ | NEPM 2013 B3 & ALS QC Standard |
| Total Mercury by FIMS | EG035T | 2 | 37 | 5.41 | 5.00 | ✓ | NEPM 2013 B3 & ALS QC Standard |
| Total Metals by ICP-AES | EG005T | 2 | 37 | 5.41 | 5.00 | ✓ | NEPM 2013 B3 & ALS QC Standard |
| TRH - Semivolatile Fraction | EP071 | 2 | 38 | 5.26 | 5.00 | ✓ | NEPM 2013 B3 & ALS QC Standard |
| TRH Volatiles/BTEX | EP080 | 2 | 39 | 5.13 | 5.00 | ✓ | NEPM 2013 B3 & ALS QC Standard |
| Matrix Spikes (MS) | | | | | | | |
| PAH/Phenols (SIM) | EP075(SIM) | 2 | 36 | 5.56 | 5.00 | ✓ | NEPM 2013 B3 & ALS QC Standard |
| Pesticides by GCMS | EP068 | 2 | 33 | 6.06 | 5.00 | ✓ | NEPM 2013 B3 & ALS QC Standard |
| Polychlorinated Biphenyls (PCB) | EP066 | 2 | 33 | 6.06 | 5.00 | ✓ | NEPM 2013 B3 & ALS QC Standard |
| Total Mercury by FIMS | EG035T | 2 | 37 | 5.41 | 5.00 | ✓ | NEPM 2013 B3 & ALS QC Standard |
| Total Metals by ICP-AES | EG005T | 2 | 37 | 5.41 | 5.00 | ✓ | NEPM 2013 B3 & ALS QC Standard |
| TRH - Semivolatile Fraction | EP071 | 2 | 38 | 5.26 | 5.00 | ✓ | NEPM 2013 B3 & ALS QC Standard |
| TRH Volatiles/BTEX | EP080 | 2 | 39 | 5.13 | 5.00 | ✓ | NEPM 2013 B3 & ALS QC Standard |

Matrix: **WATER**

Evaluation: * = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

| Quality Control Sample Type | | Count | | Rate (%) | | | Quality Control Specification |
|-----------------------------|--------|-------|---------|----------|----------|------------|-------------------------------|
| Analytical Methods | Method | QC | Regular | Actual | Expected | Evaluation | |



Matrix: **WATER**

Evaluation: ✖ = Quality Control frequency not within specification ; ✔ = Quality Control frequency within specification.

| Quality Control Sample Type | | Count | | Rate (%) | | | Quality Control Specification |
|----------------------------------|--------|-------|---------|----------|----------|------------|--------------------------------|
| Analytical Methods | Method | QC | Regular | Actual | Expected | Evaluation | |
| | | | | | | | |
| Laboratory Duplicates (DUP) | | | | | | | |
| TRH Volatiles/BTEX | EP080 | 1 | 7 | 14.29 | 10.00 | ✓ | NEPM 2013 B3 & ALS QC Standard |
| Laboratory Control Samples (LCS) | | | | | | | |
| TRH Volatiles/BTEX | EP080 | 1 | 7 | 14.29 | 5.00 | ✓ | NEPM 2013 B3 & ALS QC Standard |
| Method Blanks (MB) | | | | | | | |
| TRH Volatiles/BTEX | EP080 | 1 | 7 | 14.29 | 5.00 | ✓ | NEPM 2013 B3 & ALS QC Standard |
| Matrix Spikes (MS) | | | | | | | |
| TRH Volatiles/BTEX | EP080 | 1 | 7 | 14.29 | 5.00 | ✓ | NEPM 2013 B3 & ALS QC Standard |



Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

| Analytical Methods | Method | Matrix | Method Descriptions |
|--|------------|--------|--|
| Moisture Content | EA055 | SOIL | In house: A gravimetric procedure based on weight loss over a 12 hour drying period at 105-110 degrees C. This method is compliant with NEPM (2013) Schedule B(3) Section 7.1 and Table 1 (14 day holding time). |
| Asbestos Identification in Soils | EA200 | SOIL | AS 4964 - 2004 Method for the qualitative identification of asbestos in bulk samples Analysis by Polarised Light Microscopy including dispersion staining |
| Total Metals by ICP-AES | EG005T | SOIL | In house: Referenced to APHA 3120; USEPA SW 846 - 6010. Metals are determined following an appropriate acid digestion of the soil. The ICPAES technique ionises samples in a plasma, emitting a characteristic spectrum based on metals present. Intensities at selected wavelengths are compared against those of matrix matched standards. This method is compliant with NEPM (2013) Schedule B(3) |
| Total Mercury by FIMS | EG035T | SOIL | In house: Referenced to AS 3550, APHA 3112 Hg - B (Flow-injection (SnCl ₂) (Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. Mercury in solids are determined following an appropriate acid digestion. Ionic mercury is reduced online to atomic mercury vapour by SnCl ₂ which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM (2013) Schedule B(3) |
| Polychlorinated Biphenyls (PCB) | EP066 | SOIL | In house: Referenced to USEPA SW 846 - 8270D Extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (2013) Schedule B(3) (Method 504) |
| Pesticides by GCMS | EP068 | SOIL | In house: Referenced to USEPA SW 846 - 8270D Extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This technique is compliant with NEPM (2013) Schedule B(3) (Method 504,505) |
| TRH - Semivolatile Fraction | EP071 | SOIL | In house: Referenced to USEPA SW 846 - 8015A Sample extracts are analysed by Capillary GC/FID and quantified against alkane standards over the range C10 - C40. Compliant with NEPM amended 2013. |
| PAH/Phenols (SIM) | EP075(SIM) | SOIL | In house: Referenced to USEPA SW 846 - 8270D. Extracts are analysed by Capillary GC/MS in Selective Ion Mode (SIM) and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (2013) Schedule B(3) (Method 502 and 507) |
| TRH Volatiles/BTEX | EP080 | SOIL | In house: Referenced to USEPA SW 846 - 8260B. Extracts are analysed by Purge and Trap, Capillary GC/MS. Quantification is by comparison against an established 5 point calibration curve. Compliant with NEPM amended 2013. |
| TRH Volatiles/BTEX | EP080 | WATER | In house: Referenced to USEPA SW 846 - 8260B Water samples are directly purged prior to analysis by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. Alternatively, a sample is equilibrated in a headspace vial and a portion of the headspace determined by GCMS analysis. This method is compliant with the QC requirements of NEPM (2013) Schedule B(3) |
| Preparation Methods | Method | Matrix | Method Descriptions |
| Hot Block Digest for metals in soils sediments and sludges | EN69 | SOIL | In house: Referenced to USEPA 200.2. Hot Block Acid Digestion 1.0g of sample is heated with Nitric and Hydrochloric acids, then cooled. Peroxide is added and samples heated and cooled again before being filtered and bulked to volume for analysis. Digest is appropriate for determination of selected metals in sludge, sediments, and soils. This method is compliant with NEPM (2013) Schedule B(3) (Method 202) |

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Work Order : ES1731292
Client : SESL Australia Pty Ltd
Project : 46092



| Preparation Methods | Method | Matrix | Method Descriptions |
|---|---------|--------|--|
| Methanolic Extraction of Soils for Purge and Trap | * ORG16 | SOIL | In house: Referenced to USEPA SW 846 - 5030A. 5g of solid is shaken with surrogate and 10mL methanol prior to analysis by Purge and Trap - GC/MS. |
| Tumbler Extraction of Solids | ORG17 | SOIL | In house: Mechanical agitation (tumbler). 10g of sample, Na2SO4 and surrogate are extracted with 30mL 1:1 DCM/Acetone by end over end tumble. The solvent is decanted, dehydrated and concentrated (by KD) to the desired volume for analysis. |
| Volatiles Water Preparation | ORG16-W | WATER | A 5 mL aliquot or 5 mL of a diluted sample is added to a 40 mL VOC vial for sparging. |



Sub-Matrix: **SOIL**

| | | | | Matrix Spike (MS) Report | | | |
|--|------------------|----------------------------|------------|--------------------------|------------------|---------------------|------|
| | | | | Spike | SpikeRecovery(%) | Recovery Limits (%) | |
| Laboratory sample ID | Client sample ID | Method: Compound | CAS Number | Concentration | MS | Low | High |
| EP080: BTEXN (QCLot: 1306062) - continued | | | | | | | |
| ES1731092-001 | Anonymous | EP080: Ethylbenzene | 100-41-4 | 2.5 mg/kg | 113 | 70 | 130 |
| | | EP080: meta- & para-Xylene | 108-38-3 | 2.5 mg/kg | 115 | 70 | 130 |
| | | 106-42-3 | | | | | |
| | | EP080: ortho-Xylene | 95-47-6 | 2.5 mg/kg | 114 | 70 | 130 |
| | | EP080: Naphthalene | 91-20-3 | 2.5 mg/kg | 104 | 70 | 130 |

Sub-Matrix: **WATER**

| | | | | Matrix Spike (MS) Report | | | |
|---|------------------|----------------------------|------------|--------------------------|------------------|---------------------|------|
| | | | | Spike | SpikeRecovery(%) | Recovery Limits (%) | |
| Laboratory sample ID | Client sample ID | Method: Compound | CAS Number | Concentration | MS | Low | High |
| EP080/071: Total Petroleum Hydrocarbons (QCLot: 1306757) | | | | | | | |
| ES1731351-005 | Anonymous | EP080: C6 - C9 Fraction | ---- | 325 µg/L | 106 | 70 | 130 |
| EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 1306757) | | | | | | | |
| ES1731351-005 | Anonymous | EP080: C6 - C10 Fraction | C6_C10 | 375 µg/L | 104 | 70 | 130 |
| EP080: BTEXN (QCLot: 1306757) | | | | | | | |
| ES1731351-005 | Anonymous | EP080: Benzene | 71-43-2 | 25 µg/L | 101 | 70 | 130 |
| | | EP080: Toluene | 108-88-3 | 25 µg/L | 102 | 70 | 130 |
| | | EP080: Ethylbenzene | 100-41-4 | 25 µg/L | 103 | 70 | 130 |
| | | EP080: meta- & para-Xylene | 108-38-3 | 25 µg/L | 102 | 70 | 130 |
| | | 106-42-3 | | | | | |
| | | EP080: ortho-Xylene | 95-47-6 | 25 µg/L | 105 | 70 | 130 |
| | | EP080: Naphthalene | 91-20-3 | 25 µg/L | 104 | 70 | 130 |