

Date : 1/06/2018 10:02:46 AM

From : "PALM"

To : "Waste and Contaminated Land Assessment"

Subject : AR111342 Application for a disposal permit Brisbane Aero Engineers Pty Ltd

Attachment : Soil Disposal Permit Application BneAero.pdf;AR111342 checklist.docx;image001.png;image002.jpg;image003.png;image005.png;

NOTE: This application HAS BEEN VALIDATED.

No hard copy

An application has been received by the Customer Service Team (PaLM) and requires your assessment and processing.

Date received: 29/5/18
Application Type: soil disposal
Application Date: 29/5/18
Client: Brisbane Aero Engineers Pty Ltd
Permit: CLEB06535618
Receipt:

A copy of the application is attached.

If you have any questions regarding this application please contact me or send an email to palm@des.qld.gov.au
Regards



Kim Christeson
Customer Service Officer
Customer Service Team
Regulatory Capability and Customer Service Branch
Department of Environment and Science

P 1300 130 372 (option 4)
400 George Street, Brisbane QLD 4000
GPO Box 2454 BRISBANE QLD 4001

From: [redacted] sch4p4(6) Personal information [redacted] @epicenvironmental.com.au]
Sent: Tuesday, 29 May 2018 11:35 AM
To: PALM <PALM@des.qld.gov.au>
Cc: [redacted] sch4p4(6) Personal information [redacted] @brisbaneaero.com>
Subject: AR111342 Application for a disposal permit for contaminated soil

To whom it may concern,

Please find attached an application for a soil disposal permit. Please let me know if you require any further information.

Cheers,

4(6) Personal information [redacted]

Project Environmental Scientist

Personal [redacted] i@epicenvironmental.com.au

M: [redacted] Personal information [redacted] 1800 779 363

www.epicenvironmental.com.au



Application form

Environmental Protection Act 1994

Application for a disposal permit for contaminated soil

OFFICIAL USE ONLY

DATE RECEIVED

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FILE REF

PROJECT REF

DATE

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This is the approved form for making an application to the administering authority for a disposal permit to treat or dispose of contaminated soil from land recorded in the environmental management register (EMR) or contaminated land register (CLR). The application is made under s.424¹ (as continued under s.739) of the Environmental Protection Act 1994 (EP Act).

Note: A soil disposal permit is not required when removing clean soil from a site listed on the EMR or CLR.

1. Applicant details

FULL NAME [redacted] (6) Personal inform		TITLE
COMPANY/ REGISTERED LEGAL ENTITY NAME (IF APPLICABLE) Brisbane Aero Engineers Pty Ltd		
REGISTERED ADDRESS 920 Boundary Road, Richlands		POSTCODE 4077
PHONE 07 3375 1787	FAX	
EMAIL [redacted]sonal info@brisbaneaero.com		
POSTAL ADDRESS (WRITE 'AS ABOVE' IF THE SAME AS REGISTERED ADDRESS) As above		POSTCODE
CONTACT PERSON FOR COMPANY/ REGISTERED LEGAL ENTITY (IF APPLICABLE) as above		
POSITION		

¹ S. 424 continues to have effect in accordance with s. 739 of the EP Act and can be found in the superseded version of the EP Act available at https://www.legislation.qld.gov.au/LEGISLTN/SUPERSED/E/EnvProtA94_150710.pdf

Application form
Application for a disposal permit for contaminated soil

A soil disposal permit can only be approved where the site from which the soil is being removed is listed on the EMR or CLR.

For further information about how land is listed on the registers refer to the information available at the Queensland Government website:

<http://www.qld.gov.au/environment/pollution/management/contaminated-land/>

It is better to overestimate the amount of soil to be removed. If the limit is reached before the disposal is complete, a new disposal permit will be required.

Soil disposal permits only authorise the disposal of soil for the term stated on the disposal permit. The standard period is one year.

The application must be accompanied by the written acceptance of the local government authority or registered

PHONE	FAX
EMAIL	

2. Site location

Please provide details of site(s) the soil is proposed to be removed **from**.

FULL STREET ADDRESS OF SITE(S) Building 108 & 109, Archerfield Airport, Ditchman Avenue	
LOT(S) Part of Lot 2	PLAN(S) SP 200283
LOCAL GOVERNMENT AREA Brisbane City	

3. Certificate of title

Please provide a copy of the current Certificate of Title for the land.

☒ Certificate of title attached

4. Soil volume

What is the approximate volume (in cubic metres) of soil to be removed (allowing for excavation bulking)?

<ENTER THE SOIL VOLUME IN CUBIC METRES> 500 m3

5. Disposal period

What are the dates between which soil is proposed to be moved to the disposal or treatment location?

FROM DATE: 28 May 2018	TO DATE: 28 October 2018
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6. Disposal location

What is the proposed disposal location?

Application form

Application for a disposal permit for contaminated soil

owner of the site which will receive the soil. The written acceptance must:

- state the amount of soil and the type of contaminants present in the soil; and
- confirm that the soil can be lawfully received under the conditions of the environmental authority for the facility (if being taken to a landfill facility)

If the soil is being disposed at a non-local government administered landfill or another parcel of land on the EMR/CLR, a copy of the Certificate of Title must be provided.

Disposal to landfill should only be considered where no other method of dealing with the contaminated soil is available or viable.

a. ☐ Local government administered waste disposal or treatment facility

NAME AND ADDRESS OF LOCAL GOVERNMENT ADMINISTERED LANDFILL

☐ Written acceptance from the local government authority is attached.

b. ☒ Non-local government-administered waste disposal or treatment facility

LOT(S) 3, 8	PLAN(S) SP168875, RP24574
FULL STREET ADDRESS OF SITE(S) 55 Champions Way, Willowbank, QLD	

☒ Written acceptance from registered owner of site is attached.

☒ Certificate of title is attached

c. ☐ Another parcel of land which is listed on the EMR or CLR

EMR/CLR ID	
LOT(S)	PLAN(S)
FULL STREET ADDRESS OF SITE(S)	

☐ Written acceptance from registered owner of site is attached.

☐ Certificate of title is attached.

7. Management options

State reason(s) why on-site/off-site treatment or management is not proposed.

<PROVIDE REASONS>

An environmental site assessment was previously undertaken at the Site which identified TRH and PFAS impacted soil. Contaminated soil was excavated as part of remediation works undertaken at the Site. Treatment was not considered viable due to the small volume of material impacted and due to the identified contaminants.

8. Sampling

Is it proposed to undertake validation sampling to confirm that all soil has been removed?

☒ Yes

☐ No

9. Soil contamination

Provide a description of the contamination present in the soil to be removed.

<PROVIDE DESCRIPTION>

Total PFAS - maximum concentration 0.001 mg/kg

TRH F1 - maximum concentration 108 mg/kg

TRH F2 - maximum concentration 420 mg/kg

TRH F3 - maximum concentration 120 mg/kg

10. Required supporting information

Please tick relevant boxes below to indicate that you have attached the following information with this application and list the relevant attachments.

If a site investigation report is being submitted simultaneously to the administering authority, refer to the relevant sections of that report otherwise copies must be provided of all laboratory reports for contaminated soil analyses and leachate testing results.

A previously submitted site investigation report may be referred to, provided it is still relevant and accurate.

Soil sampling needs to be completed in accordance with Schedule B2 of the National Environment Protection (Assessment of Site Contamination) Measure 1999.

Required information	Name of attachment containing the required information (if the required information can be found in an attached site investigation report provide the title, version and section number for the report)
Scaled plan showing soil sampling locations and contamination source(s)	Figure 1
Tabulation of soil analysis results	Table T1, Table T2
Toxicity Characteristic Leaching Procedure (TCLP) results from relevant soil samples	Table T3
Copies of all laboratory reports and sample receipt advices for all soil analysis	Attached to Epic Environmental letter, Archerfield Airport - Stockpile Classification for Off-Site Disposal, dated 16 May 2018
Explanation of location and depths of samples, how samples were collected, and how sample integrity was maintained	Epic Environmental, Archerfield Airport - Stockpile Classification for Off-Site Disposal, dated 16 May 2018

11. Declaration

Note: If you have not told the truth in this application you may be liable for prosecution under the relevant Acts or Regulations.

- I do solemnly and sincerely declare that all information supplied on or with this application is true and correct to the best of my knowledge.
- I understand that it is an offence under s.480 of the *Environmental Protection Act 1994* to give to the administering authority or an authorised person a document containing information that I know to be false, misleading or incomplete in a material particular; and
- I understand that all information supplied on or with this application form may be disclosed publicly in accordance with the *Right to Information Act 2009* and the *Evidence Act 1977*.

APPLICANT NAME sonal information, nan
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SIGNATURE OF INDIVIDUAL APPLICANT OR AUTHORISED SIGNATORY sch4p4(6) Personal information, signature

DATE 17/05/2018

Applicant checklist

- ☒ Application form completed and signed (this form)
- ☒ Certificate of title attached (refer question 3)
- ☒ Written acceptance from disposal location attached (refer question 6)
- ☒ Certificate of title for disposal location attached where applicable (refer question 6)
- ☒ Required supporting information attached (or referenced in site investigation report) (refer question 10)

Please submit your complete application using one of the following methods:

Email:

palm@ehp.qld.gov.au

The email subject line should be 'Application for a disposal permit for contaminated soil'.

The file size limit for submission via email is 14MB. Any submission via email which exceeds 14MB will need to be broken down into separate emails, with each email clearly labelled Part X of X (e.g. Part 1 of 2), included in the subject line of the email.

Mail:

Permit and Licence Management
Department of Environment and Heritage Protection
GPO Box 2454, BRISBANE QLD 4001

Courier or hand delivery:

Permit and Licence Management
Department of Environment and Heritage Protection
Level 3, 400 George Street,
BRISBANE QLD 4001
Hours: 8.30 am—5.00 pm business days

Privacy statement

The Department of Environment and Heritage Protection (the department) is collecting your personal information to assess the application for a disposal permit under s.424 of the *Environmental Protection Act 1994*. Information will not be disclosed to any other person or agency unless you have given us permission or we are authorised or required by law. For queries about privacy matters email: privacy@ehp.qld.gov.au or telephone: (07) 3330 6270.

CURRENT TITLE SEARCH**DEPT OF NATURAL RESOURCES AND MINES, QUEENSLAND**

Request No: 27406999

Search Date: 23/11/2017 10:40

Title Reference: 50686740

Date Created: 11/10/2007

Previous Title: 16735170

REGISTERED OWNER

Dealing No: 710847727 26/07/2007

COMMONWEALTH OF AUSTRALIA

ESTATE AND LAND

Estate in Fee Simple

LOT 2 SURVEY PLAN 200283
Local Government: BRISBANE CITY**EASEMENTS, ENCUMBRANCES AND INTERESTS**

1. Rights and interests reserved to the Commonwealth by
Conveyance No. 601437280 (H441002) (Lot 2 on RP 196230)
2. EASEMENT No 601163741 (A515832) 26/05/1942
BENEFITING PART OF THE LAND
OVER EASEMENT A ON RP81314
3. NOTING No 704119226 20/06/2000 at 16:27
EASEMENT: 601163741 (A515832)
THE SERVIENT TENEMENT IS PARTIALLY DEDICATED AS ROAD BY SP
109130
4. EASEMENT No 601346684 (H907469) 26/01/1986
BURDENING THE LAND
TO LOT 1 ON RP108633
OVER EASEMENT A ON RP191793
5. EASEMENT No 601437275 (J526039W) 06/07/1988
BENEFITING THE LAND
OVER EASEMENTS A, B, C AND D ON RP179578
ABOVE THE RESPECTIVE HEIGHTS DENOTED ON RP179578
6. LEASE No 601437278 (L110061W) 14/07/1992
OF PART OF THE LAND (SITE 207)
CLONPORT DEVELOPMENTS PTY LTD
TERM: 01/07/1991 TO 30/06/2011
7. TRANSFER No 601437279 (L648284D) 16/09/1993
IN LEASE NO L110061W
TO WILLAM NEIL SHAND, RAELENE YVETTE SHAND AS TRUSTEES
UNDER NOMINATION OF TRUSTEES NO L648284D

CURRENT TITLE SEARCH**DEPT OF NATURAL RESOURCES AND MINES, QUEENSLAND**

Request No: 27406999

Search Date: 23/11/2017 10:40

Title Reference: 50686740

Date Created: 11/10/2007

EASEMENTS, ENCUMBRANCES AND INTERESTS

8. LEASE No 601049330 (L740512T) 25/11/1993 at 12:22
To
LADOS PTY LTD
OF PART OF THE LAND
COMMENCING ON THE 1ST JUNE 1993
TERMINATING ON THE 31ST MAY 2033
9. AMENDMENT No 703927478 10/03/2000 at 14:47
LEASE: 601049330 (L740512T)
10. TRANSFER No 703962135 29/03/2000 at 08:52
LEASE: 601049330 (L740512T)
IAN MORRIS TAIT
CATHRYN JOAN TAIT JOINT TENANTS INTER SE 1/2
CHRISTOPHER JOHN WOLFF
SUSAN MARY WOLFF JOINT TENANTS INTER SE 1/2
11. MORTGAGE No 703962138 29/03/2000 at 08:53
COMMONWEALTH BANK OF AUSTRALIA A.C.N. 123 123 124
over
LEASE: 601049330 (L740512T)
12. LEASE No 700347938 17/11/1994 at 09:52
to
HARPLEY NOMINEES PTY LTD TRUSTEE 1/2
UNDER INSTRUMENT 700347938
HARPLEY NOMINEES PTY LTD TRUSTEE 1/2
UNDER INSTRUMENT 700347938
Term commencing
19/10/1994
Terminating
18/10/2013
over part of the land
13. EASEMENT IN GROSS No 700446755 12/01/1995 at 09:38
burdening the land to
BRISBANE CITY COUNCIL
over
EASEMENT B ON RP 852751
14. EASEMENT IN GROSS No 700446763 12/01/1995 at 09:39
burdening the land to
BRISBANE CITY COUNCIL
over
EASEMENT C ON RP 852751

CURRENT TITLE SEARCH

DEPT OF NATURAL RESOURCES AND MINES, QUEENSLAND

Request No: 27406999

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Title Reference: 50686740

Date Created: 11/10/2007

EASEMENTS, ENCUMBRANCES AND INTERESTS

15. LEASE No 700499082 10/02/1995 at 12:41
to
COMMONWEALTH OF AUSTRALIA
Original term commencing
01/07/1994
Terminating
30/06/2004
with options as therein stated
PART OF THE LAND (TENANCY 654)
16. LEASE No 700515084 21/02/1995 at 09:18
To
STEVE HART FAMILY HOLDINGS NO.3 PTY LTD
OF PART OF THE LAND
COMMENCING 14 NOV 1994
TERMINATING 13 NOV 2014
17. MORTGAGE No 700515108 21/02/1995 at 09:20
to
NATIONAL AUSTRALIA BANK LIMITED
over
LEASE: 700515084
18. LEASE No 700627079 02/05/1995 at 12:15
to
CLONPORT DEVELOPMENTS PTY LTD
Original term commencing
01/07/1992
Terminating
30/06/2017
with options as therein stated
PART OF THE LAND (TENANCY 633)
19. TRANSFER No 700689741 07/06/1995 at 14:07
of
LEASE: 700627079
to
SIDNEY ALBERT MELSKHAM
ANGELA KAY BURGER JOINT TENANTS
20. LEASE No 700706560 19/06/1995 at 15:10
to
STEVE HART FAMILY HOLDINGS PTY LTD
Original term commencing
01/09/1991
Terminating
31/08/2011
with options as therein stated

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EASEMENTS, ENCUMBRANCES AND INTERESTS

21. MORTGAGE No 700706568 19/06/1995 at 15:11
to
NATIONAL AUSTRALIA BANK LIMITED
over
LEASE: 700706560
22. LEASE No 700799563 10/08/1995 at 11:40
to
SIDNEY ALBERT MELSKHAM
ANGELA KAY BURGER JOINT TENANTS
Term commencing
14/08/1993
Terminating
13/08/2018
over part of the land
23. SUB LEASE No 713849218 12/05/2011 at 13:18
LEASE: 700799563
THE STATE OF QUEENSLAND
(REPRESENTED BY DEPARTMENT OF PUBLIC WORKS)
OF PART OF THE LAND
TERM: 01/05/2011 TO 12/08/2016 OPTION 2 YEARS
24. AMENDMENT OF LEASE No 713947028 07/07/2011 at 12:23
SUB LEASE: 713849218
TERM: 01/05/2011 TO 12/08/2016 OPTION 2 YEARS
25. CHANGE OF NAME DLNG (COMPANY) No 718240182 29/08/2017 at 12:50
SUB LEASE: 713849218
THE STATE OF QUEENSLAND
(REPRESENTED BY DEPARTMENT OF HOUSING AND PUBLIC WORKS)
26. AMENDMENT OF LEASE No 718240183 29/08/2017 at 12:51
SUB LEASE: 713849218
TERM: 01/05/2011 TO 12/08/2018 OPTION NIL
27. LEASE No 700806456 15/08/1995 at 14:23
to
IVAN WILSON GARTSHORE
Term commencing
01/07/1993
Terminating
30/06/2018
over part of the land

CURRENT TITLE SEARCH

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Date Created: 11/10/2007

EASEMENTS, ENCUMBRANCES AND INTERESTS

28. TRANSFER No 702179884 28/08/1997 at 11:01
LEASE: 700806456
SIDNEY ALBERT MELSKHAM
ANGELA KAY BURGER JOINT TENANTS
29. SUB LEASE No 711321213 07/01/2008 at 12:03
LEASE: 700806456
BAE SYSTEMS AUSTRALIA LIMITED A.C.N. 008 423 005
PART OF THE LAND
TERM: 01/08/2004 TO 31/07/2005 OPTION 1 YEAR
30. AMENDMENT OF LEASE No 711321216 07/01/2008 at 12:04
SUB LEASE: 711321213
TERM: 01/08/2004 TO 31/07/2006 OPTION 1 YEAR
31. AMENDMENT OF LEASE No 711321218 07/01/2008 at 12:04
SUB LEASE: 711321213
TERM: 01/08/2004 TO 31/07/2007 OPTION 5 MONTHS
32. AMENDMENT OF LEASE No 711321219 07/01/2008 at 12:04
SUB LEASE: 711321213
TERM: 01/08/2004 TO 31/12/2007 OPTION 1 YEAR
33. AMENDMENT OF LEASE No 711799231 17/07/2008 at 13:05
SUB LEASE: 711321213
TERM: 01/08/2004 TO 31/12/2008 OPTION 1 YEAR
34. AMENDMENT OF LEASE No 712922286 09/12/2009 at 11:45
SUB LEASE: 711321213
TERM: 01/08/2004 TO 31/12/2009 OPTION 1 YEAR
35. AMENDMENT OF LEASE No 713059920 16/02/2010 at 14:18
SUB LEASE: 711321213
TERM: 1/08/2004 TO 31/12/2010 OPTION 1 YEAR
36. LEASE No 700837448 04/09/1995 at 12:40
to
JUNE TAYLOR
Term commencing
01/06/1995
Terminating
31/05/2015
over part of the land
37. TRANSFER No 705497732 25/03/2002 at 14:18
LEASE: 700837448
ANGELA KRISTEN BARLOW

CURRENT TITLE SEARCH

DEPT OF NATURAL RESOURCES AND MINES, QUEENSLAND

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Title Reference: 50686740

Date Created: 11/10/2007

EASEMENTS, ENCUMBRANCES AND INTERESTS

38. LEASE No 700986375 06/11/1995 at 12:07
to
GEOFFREY MOESKER
COLLEEN MAY MOESKER JOINT TENANTS
Term commencing
01/04/1993
Terminating
31/03/2018
over part of the land
SITE NO.642
39. MORTGAGE No 703559215 07/09/1999 at 15:44
MARGARET NORA STEWART
over
LEASE: 700986375
interest of
GEOFFREY MOESKER
40. TRANSFER No 703994303 13/04/2000 at 07:59
LEASE: 700986375
GEOFFREY MOESKER
41. MORTGAGE No 703994304 13/04/2000 at 07:59
BANK OF QUEENSLAND LIMITED A.C.N. 009 656 740
over
LEASE: 700986375
42. LEASE No 701063059 14/12/1995 at 13:27
to
LONGWICK HOLDINGS PTY LTD
Term commencing
01/04/1995
Terminating
28/02/2020
over part of the land
SITE NO.650
43. LEASE No 701181966 28/02/1996 at 12:17
to
STEVEN JAMES FENNING
Term commencing
01/01/1996
Terminating
31/12/2020
over part of the land
(SITE 656)

CURRENT TITLE SEARCH

Released

DEPT OF NATURAL RESOURCES AND MINES, QUEENSLAND

Request No: 27406999

Search Date: 23/11/2017 10:40

Title Reference: 50686740

Date Created: 11/10/2007

EASEMENTS, ENCUMBRANCES AND INTERESTS

44. TRANSFER No 703893436 24/02/2000 at 10:50
LEASE: 701181966
GARY WRENN
45. CHANGE OF NAME No 704042918 11/05/2000 at 16:05
LEASE: 701181966
GARY HERBERT WRENN
46. MORTGAGE No 704154346 05/07/2000 at 08:59
WESTPAC BANKING CORPORATION A.R.B.N. 007 457 141
over
LEASE: 701181966
47. AMENDMENT No 706298036 23/01/2003 at 10:04
LEASE: 701181966
48. LEASE No 701271124 22/04/1996 at 12:36
TO
SIDNEY ALBERT MELSKHAM
ANGELA KAY BURGER JOINT TENANTS
OF PART OF THE LAND (SITE 612)
TERM: 01/04/1994 TO 31/03/2019
49. LEASE No 701350772 07/06/1996 at 10:35
to
AIRSERVICES AUSTRALIA
Term commencing
06/07/1995
Terminating
30/06/2034
over part of the land
50. LEASE No 701360829 14/06/1996 at 13:41
to
AQUATIC PLANT HARVESTER AUSTRALIA PTY LTD A.C.N. 071 972 702

Term commencing
01/05/1996
Terminating
30/04/2021
over part of the land
51. MORTGAGE No 702201015 09/09/1997 at 09:14
WESTPAC BANKING CORPORATION A.R.B.N. 007 457 141
over
LEASE: 701360829

CURRENT TITLE SEARCH

DEPT OF NATURAL RESOURCES AND MINES, QUEENSLAND

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EASEMENTS, ENCUMBRANCES AND INTERESTS

52. LEASE No 701495117 15/08/1996 at 13:42
to
BAKERPORT PTY LTD A.C.N. 010 182 395
Term commencing
01/04/1995
Terminating
31/03/2020
OVER PART OF THE LAND (SITE 662).
53. MORTGAGE No 701743986 08/01/1997 at 09:07
to
ESANDA FINANCE CORPORATION LIMITED A.C.N. 004 346 043
over
LEASE: 701495117
54. TRANSFER No 704258853 21/08/2000 at 09:50
MORTGAGE: 701743986
SUNCORP-METWAY LIMITED A.C.N. 010 831 722
55. MORTGAGE No 704258855 21/08/2000 at 09:51
SUNCORP-METWAY LIMITED A.C.N. 010 831 722
over
LEASE: 701495117
56. LEASE No 701657397 14/11/1996 at 10:47
to
GEOFFREY MOESKER
Term commencing
01/07/1996
Terminating
30/04/2021
over part of the land
(SITE 663).
57. AMENDMENT No 703980737 06/04/2000 at 12:36
LEASE: 701657397
58. TRANSFER No 707838977 25/06/2004 at 14:59
LEASE: 701657397
GWP DEVELOPMENTS (NO 2) PTY LTD A.C.N. 105 500 696
59. AMENDMENT No 707910277 21/07/2004 at 13:16
LEASE: 701657397

CURRENT TITLE SEARCH

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EASEMENTS, ENCUMBRANCES AND INTERESTS

60. LEASE No 701682569 28/11/1996 at 13:07
to
FEBRIHAM PTY LTD A.C.N. 010 463 377
Term commencing
01/09/1996
Terminating
31/08/2016
over part of the land
(SITE 229)
61. LEASE No 702288041 22/10/1997 at 12:42
JAMES BARRY BERNARD
DOROTHY BERNARD TRUSTEE
UNDER INSTRUMENT 702288041
OF PART OF THE LAND (SITE 665)
62. TRANSFER No 708016373 31/08/2004 at 12:44
LEASE: 702288041
TRANSPORT ENGINEERING & TRUCKING SERVICES PTY LTD A.C.N. 109
693 370
63. LEASE No 702511793 17/02/1998 at 13:44
WALTER JOHN POPENIA
of part of the land as shown in sketch plan
(SITE 215)
64. LEASE No 702521002 23/02/1998 at 09:55
JOHN BARRY ARENTZ
CHERYL JANELLE ARENTZ JOINT TENANTS
of part of the land as shown in sketch plan
(SITE 643)
65. TRANSFER No 713642479 22/12/2010 at 13:39
LEASE: 702521002
GRANITE LODGE PTY LTD A.C.N. 115 945 303
66. LEASE No 702569397 19/03/1998 at 12:15
QUEENSLAND INDUSTRIAL CLADDING PTY LTD A.C.N. 010 628 752
OF PART OF THE LAND AS SHOWN IN SKETCH (SITE 605)
67. TRANSFER No 709773757 14/07/2006 at 14:25
LEASE: 702569397
BRESCON PTY LTD A.C.N. 011 052 403 TENANT IN COMMON 1/2
MERINDA ENTERPRISES PTY LTD A.C.N. 010 628 752
TENANT IN COMMON 1/2

CURRENT TITLE SEARCH

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EASEMENTS, ENCUMBRANCES AND INTERESTS

68. AMENDMENT OF LEASE No 709773773 14/07/2006 at 14:26
LEASE: 702569397
TERM: 01/07/1997 TO 30/06/2017 OPTION NIL
69. LEASE No 702577777 24/03/1998 at 13:32
WILLIAM HILTON WEIR
of part of the land as shown in sketch plan
(SITE 621)
70. SUB LEASE No 708793067 04/07/2005 at 08:39
LEASE: 702577777
WILLIAM JOHN WARNER TENANT IN COMMON 1/2
JAN WARNER TENANT IN COMMON 1/2
71. TRANSFER No 708933998 29/08/2005 at 16:05
SUB LEASE: 708793067
DEN VAN NGUYEN
72. LEASE No 702592852 31/03/1998 at 15:27
SIDNEY ALBERT MELKSHAM
ANGELA KAY BURGER JOINT TENANTS
OF PART OF THE LAND AS SHOWN IN SKETCH PLAN (SITE 401)
73. TRANSFER No 715174482 28/06/2013 at 14:50
LEASE: 702592852
POOLHURST PTY LTD A.C.N. 110 658 716
74. LEASE No 702711956 03/06/1998 at 15:08
BP AUSTRALIA LIMITED A.C.N. 004 085 616
of part of the land as shown in sketch plan
(SITE 450)
75. LEASE No 702711960 03/06/1998 at 15:09
DONALD JAMES MICHELMORE TENANT IN COMMON 1/2
CAMERON LUKE MACDONALD TENANT IN COMMON 1/2
of part of the land as shown in sketch plan
(SITE 641)
76. AMENDMENT No 705956514 16/09/2002 at 13:57
LEASE: 702711960
77. TRANSFER No 705956518 16/09/2002 at 13:58
LEASE: 702711960
RAPAIR MAINTENANCE PTY LTD A.C.N. 055 375 678

CURRENT TITLE SEARCH

DEPT OF NATURAL RESOURCES AND MINES, QUEENSLAND

Request No: 27406999

Search Date: 23/11/2017 10:40

Title Reference: 50686740

Date Created: 11/10/2007

EASEMENTS, ENCUMBRANCES AND INTERESTS

78. LEASE No 702721613 10/06/1998 at 11:18
ARMIN SICKINGER TENANT IN COMMON 1/2
RODNEY TREVOR FERGUSON TENANT IN COMMON 1/2
of part of the land as shown in sketch plan
(SITE 611)
79. LEASE No 702723967 11/06/1998 at 09:54
MOBIL OIL AUSTRALIA LTD A.C.N. 004 052 984
OF PART OF THE LAND AS SHOWN IN SKETCH PLAN
(SITE 123)
80. TRANSFER No 718056771 31/05/2017 at 14:51
LEASE: 702723967
WORLD FUEL SERVICES (AUSTRALIA) PTY LTD A.C.N. 150 375 063
81. LEASE No 702833480 10/08/1998 at 12:15
TELSTRA CORPORATION LIMITED A.C.N. 051 775 556
PART OF THE LAND (SITE 302)
82. LEASE No 702833498 10/08/1998 at 12:17
COMMONWEALTH OF AUSTRALIA
PART OF THE LAND (SITE 122)
83. LEASE No 703056288 10/12/1998 at 09:52
WILLIAM HILTON WEIR
OF PART OF THE LAND (SITE 618)
84. LEASE No 703056309 10/12/1998 at 09:54
WILLIAM HILTON WEIR
OF PART OF THE LAND (SITE 619)
85. LEASE No 703056323 10/12/1998 at 09:55
WILLIAM HILTON WEIR
OF PART OF THE LAND (SITE 632)
86. LEASE No 703146442 02/02/1999 at 11:15
ARCHERFIELD AIRPORT CORPORATION PTY LTD A.C.N. 081 619 123
87. MORTGAGE No 703146455 02/02/1999 at 11:16
AUSTRALIA AND NEW ZEALAND BANKING GROUP LIMITED A.C.N. 005
357 522
over
LEASE: 703146442
88. TRANSFER No 704006574 19/04/2000 at 11:03
MORTGAGE: 703146455
WESTPAC BANKING CORPORATION A.R.B.N. 007 457 141

CURRENT TITLE SEARCH

DEPT OF NATURAL RESOURCES AND MINES, QUEENSLAND

Request No: 27406999

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EASEMENTS, ENCUMBRANCES AND INTERESTS

89. SUB LEASE No 703183525 22/02/1999 at 14:56
LEASE: 703146442
BRISBANE CITY COUNCIL
90. MORTGAGE No 704006584 19/04/2000 at 11:03
WESTPAC BANKING CORPORATION A.R.B.N. 007 457 141
over
LEASE: 703146442
91. SUB LEASE No 704323996 21/09/2000 at 11:03
LEASE: 703146442
BROOKFIELD AGENCIES PTY LTD A.C.N. 068 795 068
92. TRANSFER No 708248231 26/11/2004 at 15:52
SUB LEASE: 704323996
SUPERIOR AIR PARTS PTY LTD A.C.N. 059 693 640
93. AMENDMENT No 708248232 26/11/2004 at 15:52
SUB LEASE: 704323996
94. MORTGAGE No 708248233 26/11/2004 at 15:52
NATIONAL AUSTRALIA BANK LIMITED A.B.N. 12 004 044 937
over
SUB LEASE: 704323996
95. SUB LEASE No 704342373 02/10/2000 at 15:34
LEASE: 703146442
BP AUSTRALIA LIMITED A.C.N. 004 085 616
OF LEASE AFDEA ON SP129264
96. SUB LEASE No 704471517 08/12/2000 at 10:59
LEASE: 703146442
STEVE HART FAMILY HOLDINGS NO. 3 PTY LTD A.C.N. 010 623 560
TRUSTEE

UNDER INSTRUMENT 704471517
OF LEASE AFDJJ ON SP129269
97. CHANGE OF NAME No 705282364 20/12/2001 at 11:44
SUB LEASE: 704471517
YAK 3 INVESTMENTS PTY LTD A.C.N. 010 623 560 TRUSTEE
UNDER INSTRUMENT 704471517
98. MORTGAGE No 705282372 20/12/2001 at 11:44
PERPETUAL NOMINEES LIMITED A.C.N. 000 733 700
over
SUB LEASE: 704471517

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EASEMENTS, ENCUMBRANCES AND INTERESTS

99. TRANSFER No 708077434 23/09/2004 at 08:30
MORTGAGE: 705282372
EQUITITRUST LTD A.C.N. 061 383 944
100. SUB LEASE No 704879915 06/07/2001 at 16:41
LEASE: 703146442
BP AUSTRALIA LIMITED A.C.N. 004 085 616
OF LEASE AFABA ON SP129270
101. SUB LEASE No 705043089 14/09/2001 at 14:08
LEASE: 703146442
BRISBANE FLYING GROUP PTY LTD A.C.N. 009 876 742
OF LEASE AFBAC ON SP129263
102. SUB LEASE No 705078579 28/09/2001 at 14:38
LEASE: 703146442
MALTBY AEROSPACE PTY LTD A.C.N. 096 775 254
OF LEASE AFJAE ON SP142132
103. MORTGAGE No 705088986 04/10/2001 at 08:26
COMMONWEALTH BANK OF AUSTRALIA A.C.N. 123 123 124
over
SUB LEASE: 705078579
104. SUB LEASE No 705174248 08/11/2001 at 15:32
LEASE: 703146442
CIRRUS 5 PTY LTD A.C.N. 089 440 577
OF LEASE AFBBH ON SP142131
105. TRANSFER No 710594513 17/05/2007 at 13:56
SUB LEASE: 705174248
PETERS MEDICAL PTY LTD A.C.N. 010 617 811
106. SUB LEASE No 706320287 31/01/2003 at 15:49
LEASE: 703146442
SENEFRU PTY LTD A.C.N. 010 137 247 TRUSTEE
UNDER INSTRUMENT 706320287
107. SUB LEASE No 707608968 31/03/2004 at 15:57
LEASE: 703146442
ASK ENTERTAINMENT PTY LTD A.C.N. 073 958 764
OF LEASE AFFGA ON SP166080 (SITE 671)
TERM: 01/08/2003 TO 31/07/2013 OPTION NIL
108. SUB LEASE No 707912083 21/07/2004 at 16:23
LEASE: 703146442
THE STATE OF QUEENSLAND
LEASE AFDAB ON SP168310

CURRENT TITLE SEARCH

DEPT OF NATURAL RESOURCES AND MINES, QUEENSLAND

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EASEMENTS, ENCUMBRANCES AND INTERESTS

109. CHANGE OF NAME No 715566761 29/01/2014 at 10:49
SUB LEASE: 707912083
THE STATE OF QUEENSLAND
(REPRESENTED BY DEPARTMENT OF HOUSING AND PUBLIC WORKS)
110. AMENDMENT OF LEASE No 715566762 29/01/2014 at 10:49
SUB LEASE: 707912083
TERM: 22/09/2003 TO 21/09/2018 OPTION NIL
111. SUB LEASE No 708122012 08/10/2004 at 15:35
LEASE: 703146442
BRISBANE MINI MIX PTY LTD A.C.N. 070 962 695
OF LEASE AFFGC ON SP174684
112. AMENDMENT OF LEASE No 717305654 09/06/2016 at 14:50
SUB LEASE: 708122012
TERM: 01/04/2004 TO 31/03/2022 OPTION 3 YEARS
113. TRANSFER No 718401596 16/11/2017 at 12:27
SUB LEASE: 708122012
Q-CRETE PREMIX PTY LTD A.C.N. 160 844 173
114. SUB LEASE No 709346235 07/02/2006 at 14:45
LEASE: 703146442
QUEENSLAND RECYCLING HOLDINGS PROPRIETARY LIMITED A.C.N. 087 233 403
OF LEASE AFFGJ ON SP170602
TERM: 01/11/2002 TO 31/10/2016 OPTION 7 YEARS
115. SUB LEASE No 709346267 07/02/2006 at 14:50
LEASE: 703146442
QUEENSLAND RECYCLING HOLDINGS PROPRIETARY LIMITED A.C.N. 087 233 403
OF LEASE AFFGB ON SP172202
TERM: 01/02/2004 TO 31/10/2016 OPTION 7 YEARS
116. SUB LEASE No 709349657 08/02/2006 at 13:50
LEASE: 703146442
RAPAIR MAINTENANCE PTY LTD A.C.N. 055 375 678
OF THE WHOLE OF BUILDING 007 (LEASE AFJJG)
TERM: 01/12/2005 TO 28/03/2012 OPTION NIL
117. SUB LEASE No 710490130 11/04/2007 at 14:10
LEASE: 703146442
COLLEX PTY LTD A.C.N. 051 316 584
LEASE AFFGD ON SP198502 (SITE 674)
TERM: 01/04/2005 TO 31/03/2017 OPTION 6 YEARS

CURRENT TITLE SEARCH**DEPT OF NATURAL RESOURCES AND MINES, QUEENSLAND**

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EASEMENTS, ENCUMBRANCES AND INTERESTS

118. CHANGE OF NAME DLNG (COMPANY) No 717499073 07/09/2016 at 16:14
SUB LEASE: 710490130
VEOLIA ENVIRONMENTAL SERVICES (AUSTRALIA) PTY LTD A.C.N. 051
316 584
119. AMENDMENT OF LEASE No 717500596 08/09/2016 at 12:24
SUB LEASE: 710490130
TERM: 01/04/2005 TO 31/03/2023 OPTION 4 YEARS
120. SUB LEASE No 710550600 02/05/2007 at 14:06
LEASE: 703146442
THE STATE OF QUEENSLAND
(REPRESENTED BY DEPARTMENT OF PUBLIC WORKS)
OF LEASE AFDABB ON SP198503
TERM: 01/02/2006 TO 21/09/2013 OPTION NIL
121. AMENDMENT OF LEASE No 711976488 09/10/2008 at 15:05
SUB LEASE: 710550600
TERM: 01/02/2006 TO 21/09/2013 OPTION NIL
122. CHANGE OF NAME No 715566759 29/01/2014 at 10:49
SUB LEASE: 710550600
THE STATE OF QUEENSLAND
(REPRESENTED BY DEPARTMENT OF HOUSING AND PUBLIC
WORKS)
123. AMENDMENT OF LEASE No 715566760 29/01/2014 at 10:49
SUB LEASE: 710550600
TERM: 01/02/2006 TO 21/09/2018 OPTION NIL
124. SUB LEASE No 711406838 07/02/2008 at 15:33
LEASE: 703146442
SOUTHEAST AUTOMOTIVE GROUP PTY LTD A.C.N. 103 071 290
OF LEASE AFFGE ON SP193495 (SITE 675)
TERM: 16/10/2006 TO 15/10/2016 OPTION NIL
125. SUB LEASE No 711828111 30/07/2008 at 16:03
LEASE: 703146442
AVIALL AUSTRALIA PTY LIMITED A.C.N. 006 224 764
OF PART OF THE GROUND FLOOR (LEASE AFJJEB) (SITE 005B)
TERM: 01/07/2007 TO 30/06/2010 OPTION NIL
126. SUB LEASE No 712161518 14/01/2009 at 16:02
LEASE: 703146442
IAN AVIATION PTY LTD A.C.N. 010 653 700
OF PART OF THE GROUND FLOOR (LEASE AFAJE) (SITE 105)
TERM: 01/07/2008 TO 31/08/2016 OPTION NIL

CURRENT TITLE SEARCH

DEPT OF NATURAL RESOURCES AND MINES, QUEENSLAND

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Title Reference: 50686740

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EASEMENTS, ENCUMBRANCES AND INTERESTS

127. SUB LEASE No 712606927 21/07/2009 at 09:02
LEASE: 703146442
HELICOPTERS (AUSTRALIA) PTY LTD A.C.N. 008 932 189
OF PART OF THE GROUND FLOOR (LEASE AFDJD - SITE 404)
TERM: 01/08/2008 TO 31/07/2011 OPTION NIL
128. SUB LEASE No 712642784 04/08/2009 at 14:48
LEASE: 703146442
SUNLAND AVIATION SERVICE PTY LTD A.C.N. 009 736 538
PART OF THE GROUND FLOOR (LEASE AFJJEAC) (SITE 005A)
TERM: 1/4/2006 TO 31/3/2014 OPTION NIL
129. SUB LEASE No 713481614 24/09/2010 at 10:43
LEASE: 703146442
LAKSHMI CHAND
PART OF THE GROUND FLOOR (LEASE AFJBG) (SITE 027)
TERM: 01/01/2010 TO 31/12/2014 OPTION NIL
130. TRANSFER No 714845537 17/12/2012 at 14:38
SUB LEASE: 713481614
IAN ROBERT TUDDENHAM
131. SUB LEASE No 713496002 01/10/2010 at 15:27
LEASE: 703146442
AEROSPORT AND COMMERCIAL AVIATION PTY LTD A.C.N. 069 256 426
OF PART OF THE GROUND FLOOR (LEASE AFFJI) (SITE 609)
TERM: 01/02/2010 TO 31/01/2016 OPTION NIL
132. SUB LEASE No 713558676 08/11/2010 at 15:38
LEASE: 703146442
AUSTRALIAN SOFTWARE DISTRIBUTION PTY LTD A.C.N. 085 046 331
OF PART OF THE GROUND FLOOR (LEASE AFBABH) (SITE 212H)
TERM: 01/09/2010 TO 31/08/2013 OPTION NIL
133. AMENDMENT OF LEASE No 715287154 30/08/2013 at 13:54
SUB LEASE: 713558676
TERM: 01/09/2010 TO 31/08/2016 OPTION NIL
134. SUB LEASE No 715208039 17/07/2013 at 15:06
LEASE: 703146442
THE STATE OF QUEENSLAND
(REPRESENTED BY DEPARTMENT OF HOUSING AND PUBLIC WORKS)
OF LEASE AFDAD ON SP253193
TERM: 03/04/2012 TO 02/04/2022 OPTION 5 YEARS
135. AMENDMENT OF LEASE No 715208041 17/07/2013 at 15:06
SUB LEASE: 715208039
TERM: 03/04/2012 TO 02/04/2022 OPTION 5 YEARS

CURRENT TITLE SEARCH

DEPT OF NATURAL RESOURCES AND MINES, QUEENSLAND

Request No: 27406999

Search Date: 23/11/2017 10:40

Title Reference: 50686740

Date Created: 11/10/2007

EASEMENTS, ENCUMBRANCES AND INTERESTS

136. SUB LEASE No 715665992 20/03/2014 at 11:36
LEASE: 703146442
THE STATE OF QUEENSLAND
(REPRESENTED BY THE DEPARTMENT OF HOUSING AND PUBLIC WORKS)
OF PART OF THE GROUND FLOOR (LEASE AFDAAD) (SITE 411 4)
TERM: 01/12/2013 TO 30/11/2018 OPTION 3 YEARS
137. CHANGE OF NAME No 710965519 04/09/2007 at 15:00
LEASE: 700806443
KOMPOWER AUSTRALIA PTY LTD A.C.N. 010 860 992
138. LEASE No 714760574 31/10/2012 at 16:24
AVIALL AUSTRALIA PTY LIMITED A.C.N. 006 224 764
OF PART OF THE GROUND FLOOR (LEASES AFAAAO AND AFAAAW) AND
PART OF THE MEZZANINE FLOOR (LEASE AFAAM) (SITE 111)
TERM: 04/06/2012 TO 03/06/2022 OPTION 5 YEARS

ADMINISTRATIVE ADVICES - NIL

UNREGISTERED DEALINGS - NIL

CERTIFICATE OF TITLE ISSUED - No

Corrections have occurred - Refer to Historical Search

Caution - Charges do not necessarily appear in order of priority

** End of Current Title Search **

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Requested By: D-ENQ CITEC CONFIRM

converting waste into clean energy



TI TREE
bioENERGY

A.B.N. 67 450 387 919
166 Boundary Road
Rocklea, Q 4106
PO Box 933
Archerfield Q 4108
T: 07 3275 0111
F: 07 3275 0142

May 23, 2018

Ref: **RRS - REM - 3476A1**

Lined Landfill Disposal

Brisbane Aero
920 Boundary Rd
Richlands

Attention: [REDACTED] (6) Personal information

Reference: **LINED LANDFILL DISPOSAL AT TI TREE BIOENERGY OF 300m³ OF
CONTAMINATED MATERIALS FROM THE LOT 2/SP200283
PROJECT**

SITUATED AT 108 DITCHMEN AVE ARCHERFIELD AIRPORT QLD

Dear [REDACTED] (5) Personal information

Veolia Environmental Services has reviewed the Total and TCLP concentrations data recently provided by Brisbane Aero. We can confirm that the material, represented by the sample numbers listed in the attached table and estimated at a total of 300m³ in volume (approximately), is acceptable for Lined Landfill Disposal at our Ti Tree bioENERGY Facility.

Site: Ti Tree bioENERGY
Description: Stage 1 of the Veolia Environmental Services (Australia) Pty Ltd landfill at Champions Way, Willowbank, Qld 4306.
RP Address: Lot 4 on RP24574,
County of Churchill, Parish of Jeebropilly.

DA Number: **EPPR00573913**

Site Address: 55 Champions Way, Willowbank, Queensland 4306.
Lot 3 Plan SP168875; & Lot 8 Plan RP24574.



Acceptance is subject to the following conditions:

1. Materials in each load are to be appropriately managed to eliminate dust generation and loss. This is to including, however may not be limited to, the covering of loads during transportation.
2. The Queensland Department of Environment & Heritage Protection (QLD DEHP) must approve the disposal of the material via their contaminated land removal permit process or a written confirmation identifying that this process is not applicable.
3. The soil must not contain any other contaminants in exceedance of the limits as set out in schedule G of the concurrence agency response to the sites Development Approval, as attached.
4. The name of the haulage contractor and relevant truck registration numbers (if not supplied by Veolia Environmental Services) must be notified to us in advance of material deliveries to allow pre-registration on the sites weighbridge system.

If there is any additional information you require please do not hesitate to contact me on the numbers listed below.

Yours Sincerely,

[Redacted Signature] (6) Personal inform

Remediation Services Sales Representative

Tel: 07 3275 0134

Mob: (6) Personal inform

Fax: 07 3275 0101

Email: Personal i@veolia.com

qld.remediation@veolia.com.au

[illegible]

Permit and Licence Management
Department of Environment and Science
Level 3, 400 George Street
Brisbane QLD 40001

16 May 2018

Project No: BC170078.01

To whom it may concern,

Re: Archerfield Airport - Stockpile Classification for Off-Site Disposal

1 INTRODUCTION

Epic Environmental (Epic) was engaged by Brisbane Aero Engineering to undertake a waste classification investigation of a stockpile of soil excavated from Building 108 & 109, Archerfield Airport.

2 BACKGROUND

The site forms part of the Archerfield Airport which is included on the Department of Environment and Heritage Protection (EHP) Environmental Management Register (EMR) for the notifiable activity of *Petroleum product or oil storage - storing petroleum products or oil*.

The site is currently subject to an environmental assessment. As part of the works, odourous soil was encountered in the vicinity of a former triple interceptor trap. Preliminary laboratory analysis indicated that the soil contained elevated levels of TRH. The soil was excavated as part of remedial works and stockpiled on site, with approximately 300 m³ stockpiled.

3 OBJECTIVE

The objective of this assessment was to characterise approximately 300 m³ of stockpiled soil located on site. The soil has been excavated and stockpiled on site as part of site remediation works.

The investigation was completed in accordance with the NEPM (2013) guidelines and suitable for the assessment for the purposes of waste disposal classification.

4 SCOPE OF WORKS

The scope of the assessment comprised:

- Excavation and temporary stockpiling of odourous soil;
- Collection of ten (10) representative samples from the stockpile;
- Laboratory analysis of stockpile samples for contaminants of concern; and
- Preparation of this report outlining the soil analytical results.

4.1 Site Description

The site is located at Building 108 and 109, Ditchman Avenue, Archerfield Airport. The site was most recently used for small engine repair and was occupied by Brisbane Aero Engineers.

4.2 Site Locality

The site is bound to the east by Ditchman Avenue. Airport buildings are located to the north, south and west of the Site.

4.3 Geology and Soils

Reference to the Geological Survey of Queensland's 1:31,680 City of Brisbane Map Sheet 1 indicates the area is mapped as Tertiary-aged Archerfield Basalt of the Corinda formation, which forms a subsection of the Oxley group. Approximately 1 km south features Quaternary age alluvial sand, semi-consolidated sandy clays, silt, mud and gravel.

5 INVESTIGATION METHODOLOGY

As part of site remediation works, approximately 300 m³ of soil was excavated and stockpiled on site. To characterise the stockpile, ten (10) representative samples were collected from a minimum of 0.2 m into the stockpile by hand (protected by a disposable nitrile glove) with material placed into a laboratory prepared sampling jar. The collected samples were placed on ice and dispatched to ALS.

The approximate location of the stockpile and sampling locations is shown in **Figure 1**.

6 RESULTS

The results of the laboratory analysis have been summarised in attached **Table T1** and **T2**. Laboratory certificates are presented in **Attachment A**.

6.1 Soil Observations

Material comprised within the stockpile comprises a mixture of natural dark grey shale and a brown silty clay to clay.

6.2 Soil Analytical Results

Concentrations of total recoverable hydrocarbons (TRH), polycyclic aromatic hydrocarbons (PAH), benzene, toluene, ethylbenzene, xylene and naphthalene (BTEXN) and metals reported were less than the unlined landfill criteria. Detectable concentrations of perfluorooctanesulfonic acid (PFOS) were reported in the four (4) samples analysed for PFAS. TCLP analysis for PFAS reported concentrations less than the maximum landfill criteria.

7 CONCLUSION

Based on the analytical results reported, the stockpile of soil may be disposed of at a lined landfill.

Regards,

[Redacted signature block]

n4p4(6) Personal informati

Project Environmental Consultant

Enclosures:

CC:

Published on DES Disclosure Log
RTI Act 2009

Table T1: Soil Analytical Results - ELTs and HILs

Sample Date	Sample Number	PAH			Perfluoroalkyl Sulfonic Acids (PSA)			Organics (mg/kg)			Fluorotelomer Sulfonic Acids (FSA)			Fluorotelomer Sulfonic Acids (FSA)			Inorganics (mg/kg)						
		Total	Benzo (a) pyrene	Benzo (a) pyrene TEQ	PFOS	PFHxS	PFOS + PFHxS	Total PSA	PFOA	PFHxA	Total PCA	6:2 FTS	8:2 FTS	Total FSA	Total PFAS	As	Cd	Total Cr*	Cu	Pb	Hg* ¹	Ni	Zn
Background Levels		0.95-5	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2-30	0.04-2	0.5-110	1-190	<2,200	0.001-0.1	2-400	2-180
Landfill Criteria - Unlined (mg/kg)		500	-	-	-	-	-	-	-	-	-	-	-	-	-	200	40	240,000	2,000	600	30	600	14,000
Landfill Criteria - Maximum (mg/kg)		1,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Laboratory Level of Reporting (mg/kg)		0.5	0.5	1.2	0.0002	0.0002	0.0004	0.0002	0.0002	0.0002	0.0005	0.0005	0.0005	0.0005	0.0002	5	1	2	5	5	0.1	2	5
Stockpile Samples																							
19/03/2018	SP-01	<0.5	<0.5	<1.2	0.0004	<0.0002	0.0004	0.0004	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	0.0004	<5	<1	117	68	5	<0.1	130	73	
19/03/2018	SP-02	<0.5	<0.5	<1.2	0.001	<0.0002	0.001	0.001	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	0.001	<5	<1	113	66	21	<0.1	135	95	
19/03/2018	SP-03	<0.5	<0.5	<1.2	0.0004	<0.0002	0.0004	0.0004	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	0.0004	<5	<1	122	63	7	<0.1	132	102	
19/03/2018	SP-04	<0.5	<0.5	<1.2	0.0007	<0.0002	0.0007	0.0007	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	0.0007	<5	1	123	65	30	<0.1	120	92	
19/03/2018	SP-05	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	<1	99	65	8	<0.1	126	83	
19/03/2018	SP-06	<0.5	<0.5	<1.2	-	-	-	-	-	-	-	-	-	-	<5	2	93	57	85	<0.1	116	97	
19/03/2018	SP-07	<0.5	<0.5	<1.2	-	-	-	-	-	-	-	-	-	-	<5	3	68	52	66	<0.1	71	94	
19/03/2018	SP-08	<0.5	<0.5	<1.2	-	-	-	-	-	-	-	-	-	-	<5	2	100	63	122	<0.1	102	105	
19/03/2018	SP-09	<0.5	<0.5	<1.2	-	-	-	-	-	-	-	-	-	-	<5	<1	115	71	15	<0.1	110	66	
19/03/2018	SP-10	<0.5	<0.5	<1.2	-	-	-	-	-	-	-	-	-	-	<5	3	88	63	81	<0.1	94	97	

NOTES: 1
1

Table T2: Soil Analytical Results - ESLs and HSLs

Sample Date	Sample Number	Organics (mg/kg)										
		TRH						BTEXN				
		C ₆ -C ₁₀ minus BTEX (F1)	C ₆ -C ₁₀	>C ₁₀ -C ₁₆ minus naphthalene (F2)	>C ₁₀ -C ₁₆	>C ₁₆ -C ₃₄	>C ₃₄	Benzene	Toluene	Ethylbenzene	Xylenes	Naphthalene
Soil Saturation Concentration (Csat) - Sand Silt Clay		950 910 850	950 910 850	560 570 560	560 570 560	-	-	360 440 430	560 640 630	64 69 68	300 330 330	9 10 10
Landfill Criteria - Unlined (mg/kg)		-	500*	-	5,000*	10,000*	10,000*	10	500	300	250	-
Landfill Criteria - Maximum (mg/kg)		-	1,000*	-	10,000*	50,000*	50,000*	20	1,000	600	500	-
Laboratory Level of Reporting (mg/kg)		10	10	50	50	100	100	0.2	0.5	0.5	0.5	0.5
Stockpile Samples												
19/03/2018	SP-01	13	13	<50	<50	<100	<100	<0.2	<0.5	<0.5	<0.5	<1
19/03/2018	SP-02	18	18	<50	<50	<100	<100	<0.2	<0.5	<0.5	<0.5	<1
19/03/2018	SP-03	<10	<10	<50	<50	<100	<100	<0.2	<0.5	<0.5	<0.5	<1
19/03/2018	SP-04	28	28	160	160	<100	<100	<0.2	<0.5	<0.5	<0.5	<1
19/03/2018	SP-06	46	46	220	220	<100	<100	<0.2	<0.5	<0.5	<0.5	<1
19/03/2018	SP-07	24	24	<50	<50	<100	<100	<0.2	<0.5	<0.5	<0.5	<1
19/03/2018	SP-08	80	80	400	400	<100	<100	<0.2	<0.5	<0.5	<0.5	<1
19/03/2018	SP-09	21	21	190	190	<100	<100	<0.2	<0.5	<0.5	<0.5	<1
19/03/2018	SP-10	108	108	420	420	120	<100	<0.2	<0.5	<0.5	0.6	2

NOTES:

1	Analyte exceeds the Maximum Landfill Criteria
1	Analyte exceeds the Unlined Landfill Criteria

Epic File: BC170078.01
Site: Building 108 & 109 Archerfield Airport
Client: Brisbane Aero Engineers

Table T3: Leachate Analytical Results

Sample Date	Sample Location	Organics (µg/L)														PAH		
		Perfluoroalkyl Sulfonic Acids				Per- and poly-fluorinated alkyl substances (PFAS)				Fluorotelomer Sulfonic Acids						Naphthalene	Total	Benzo (a) pyrene
		Perfluoroalkyl Carboxylic Acids				Perfluoroalkyl Sulfonic Acids		Perfluoroalkyl Carboxylic Acids		Fluorotelomer Sulfonic Acids		Total PFAS						
		PFOS	PFHxS	PFOS + PFHxS	Total Perfluoroalkyl Sulfonic Acids	PFOA	PFHxA	Total Perfluoroalkyl Carboxylic Acids	6:2 FTS	8:2 FTS	Total Fluorotelomer Sulfonic Acids	Total PFAS						
Landfill Criteria - Unlined (mg/L)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	2		
Landfill Criteria - Maximum (mg/L)	-	-	-	-	-	-	-	-	-	-	-	50.00	-	-	1,000	20		
Laboratory Level of Reporting		0.02	0.02	0.02	0.02	0.01	0.02	0.01	0.05	0.05	0.05	0.02	1	1	1	1		
19/03/2018	SP-01	0.02	<0.02	0.02	0.02	<0.01	<0.02	<0.01	<0.05	<0.05	<0.05	0.02	<1	<1	<0.5	<0.5		
19/03/2018	SP-02	0.02	<0.02	0.02	0.02	<0.01	<0.02	<0.01	<0.05	<0.05	<0.05	0.02	<1	<1	<0.5	<0.5		
19/03/2018	SP-03	0.02	<0.02	0.02	0.02	0.030	<0.02	0.030	<0.05	<0.05	<0.05	0.24	<1	<1	<0.5	<0.5		
19/03/2018	SP-04	0.04	<0.02	0.04	0.04	0.030	<0.02	0.030	<0.05	<0.05	<0.05	0.07	1.2	1.2	1	1		

NOTES: 1 Analyte exceeds Landfill Criteria - Unlined
1 Analyte exceeds Landfill Criteria - Maximum



<p>SCALE: DRAWN TO SCALE AS SHOWN</p> <p>0 5 10 m</p>		<p>NORTH</p>
<p>LEGEND:</p> <p>○ Approximate Stockpile Sample Location</p> <p>□ Approximate Soil Stockpile Location</p> <p>■ Approximate Location of Triple Interceptor Trap</p>		
<p>Note: Scale and locations are approximate</p>		
		<p>REV: 0</p> <p>DATE: 06/04/2018</p> <p>DRAWN: SF</p> <p>APPROVED: SF</p> <p>STATUS: Final</p> <p>DWG NO: 1</p>
<p>CLIENT: Brisbane Aero Engineering</p> <p>PROJECT: Archerfield Airport</p> <p>PROJECT NUMBER: BC170078.01</p>		
<p>TITLE: Stockpile Sampling Figure</p>		<p>FIGURE: 1</p>



Environmental

Only samples SP-01 to SP-10 are applicable to the stockpiled material

CERTIFICATE OF ANALYSIS

Work Order : **EB1807412**
Client : **EPIC ENVIRONMENTAL**
Contact : **LUKE AMIES**
Address : **BP HOUSE SUITE 3, LEVEL 6 193 NORTH QUAY**
BRISBANE QLD, AUSTRALIA 4000
Telephone : **----**
Project : **BC170078.01**
Order number : **----**
C-O-C number : **----**
Sampler : **4(6) Personal inform**
Site : **Brisbane Aero**
Quote number : **EN/222/17**
No. of samples received : **31**
No. of samples analysed : **23**

Page : 1 of 22
Laboratory : Environmental Division Brisbane
Contact : **6) Personal inf**
Address : **2 Byth Street Stafford QLD Australia 4053**
Telephone : **+61-7-3243 7222**
Date Samples Received : **21-Mar-2018 12:50**
Date Analysis Commenced : **23-Mar-2018**
Issue Date : **29-Mar-2018 17:44**



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
- 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.

Signatories

4(6) Personal inform

Position

Organic Chemist
 Senior Inorganic Chemist
 2IC Organic Chemist
 Organic Coordinator
 Organic Coordinator

Analyst
 Senior Inorganic Chemist

Accreditation Category

Sydney Organics, Smithfield, NSW
 Brisbane Inorganics, Stafford, QLD
 Brisbane Organics, Stafford, QLD
 Sydney Inorganics, Smithfield, NSW
 Sydney Organics, Smithfield, NSW
 Sydney Organics, Smithfield, NSW
 Sydney Inorganics, Smithfield, NSW
 Brisbane Inorganics, Stafford, QLD

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Client : EPIC ENVIRONMENTAL
Project : BC170078.01



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.

- EP231: Low matrix spike recovery due to matrix interference
- **PFAS and leachate analysis will be conducted by ALS Environmental, Sydney, NATA accreditation no. 825, Site No. 10911 (Micro site no. 14913). Estimated date for results 03.04.2018**
- EP075(SIM): Sample 'TPV-04' required dilution prior to analysis due to matrix interferences. LOR values have been adjusted accordingly.
- 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), Dibenz(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.
- 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), Dibenz(a,h)anthracene (1.0), Benzo(g,h,i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero.



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID				
Client sampling date / time				TPV-01	TPV-02	TPV-03	TPV-04	TPV-05
				19-Mar-2018 00:00	19-Mar-2018 00:00	19-Mar-2018 00:00	19-Mar-2018 00:00	19-Mar-2018 00:00
Compound	CAS Number	LOR	Unit	EB1807412-001	EB1807412-002	EB1807412-003	EB1807412-004	EB1807412-005
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	12.1	15.9	18.3	22.1	21.6
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	1.7	<0.5	<0.5	16.2	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	<0.5	<1.6	<0.5
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	<0.5	<1.6	<0.5
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	<0.5	<1.6	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	<0.5	<1.6	<0.5
Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	<0.5	<1.6	<0.5
Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	<0.5	<1.6	<0.5
Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	<0.5	<1.6	<0.5
Benzo(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	<0.5	<1.6	<0.5
Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	<0.5	<1.6	<0.5
Benzo(b+j)fluoranthene	205-99-2	0.5	mg/kg	<0.5	<0.5	<0.5	<1.6	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	<0.5	<1.6	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	<0.5	<1.6	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	<0.5	<1.6	<0.5
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	<0.5	<1.6	<0.5
Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	<0.5	<1.6	<0.5
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	1.8	<0.5	<0.5	16.2	<0.5
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	<0.5	<0.5	<0.5	<1.6	<0.5
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg	0.6	0.6	0.6	1.9	0.6
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg	1.2	1.2	1.2	3.9	1.2
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	168	11	<10	387	<10
C10 - C14 Fraction	----	50	mg/kg	1120	440	<50	3960	<50
C15 - C28 Fraction	----	100	mg/kg	170	150	<100	440	<100
C29 - C36 Fraction	----	100	mg/kg	<100	<100	<100	220	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg	1290	590	<50	4620	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions								
C6 - C10 Fraction	C6_C10	10	mg/kg	627	29	<10	826	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg	620	29	<10	822	<10
>C10 - C16 Fraction	----	50	mg/kg	1080	520	<50	3770	<50
>C16 - C34 Fraction	----	100	mg/kg	130	<100	<100	320	<100



Analytical Results

Sub-Matrix: SOIL
(Matrix: SOIL)

Client sample ID

				TPV-01	TPV-02	TPV-03	TPV-04	TPV-05
Client sampling date / time				19-Mar-2018 00:00	19-Mar-2018 00:00	19-Mar-2018 00:00	19-Mar-2018 00:00	19-Mar-2018 00:00
Compound	CAS Number	LOR	Unit	EB1807412-001	EB1807412-002	EB1807412-003	EB1807412-004	EB1807412-005
				Result	Result	Result	Result	Result
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions - Continued								
>C34 - C40 Fraction	----	100	mg/kg	<100	<100	<100	200	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	1210	520	<50	4290	<50
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg	1080	520	<50	3750	<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	0.8	<0.5	<0.5	2.8	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	5.9	<0.5	<0.5	1.9	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	0.6	<0.5	<0.5	<0.5	<0.5
^ Sum of BTEX	----	0.2	mg/kg	7.3	<0.2	<0.2	4.7	<0.2
^ Total Xylenes	----	0.5	mg/kg	6.5	<0.5	<0.5	1.9	<0.5
Naphthalene	91-20-3	1	mg/kg	3	<1	<1	18	<1
EP231A: Perfluoroalkyl Sulfonic Acids								
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	----
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	----
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	----
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	----
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	0.0014	----
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	----
EP231B: Perfluoroalkyl Carboxylic Acids								
Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	<0.001	<0.001	<0.001	----
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	----
Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	----
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	----
Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	----
Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	----
Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	----



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	TPV-01	TPV-02	TPV-03	TPV-04	TPV-05
Client sampling date / time					19-Mar-2018 00:00	19-Mar-2018 00:00	19-Mar-2018 00:00	19-Mar-2018 00:00	19-Mar-2018 00:00
Compound	CAS Number	LOR	Unit		EB1807412-001	EB1807412-002	EB1807412-003	EB1807412-004	EB1807412-005
					Result	Result	Result	Result	Result
EP231B: Perfluoroalkyl Carboxylic Acids - Continued									
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	----
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	----
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	----
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	<0.0005	----
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	----
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	<0.0005	----
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	<0.0005	----
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	<0.0005	----
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	<0.0005	----
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	----
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	----
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	<0.0005	----
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	<0.0005	----
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	<0.0005	----
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	<0.0005	----
EP231P: PFAS Sums									
Sum of PFAS	18-446	----	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	0.0014	----

Page : 6 of 22
 Work Order : EB1807412
 Client : EPIC ENVIRONMENTAL
 Project : BC170078.01



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	TPV-01	TPV-02	TPV-03	TPV-04	TPV-05
Client sampling date / time					19-Mar-2018 00:00	19-Mar-2018 00:00	19-Mar-2018 00:00	19-Mar-2018 00:00	19-Mar-2018 00:00
Compound	CAS Number	LOR	Unit		EB1807412-001	EB1807412-002	EB1807412-003	EB1807412-004	EB1807412-005
					Result	Result	Result	Result	Result
EP231P: PFAS Sums - Continued									
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	0.0014	----
Sum of PFAS (WA DER List)	----	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	0.0014	----
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		96.5	95.8	87.2	82.2	93.1
2-Chlorophenol-D4	93951-73-6	0.5	%		105	100	90.4	79.5	95.4
2,4,6-Tribromophenol	118-79-6	0.5	%		107	97.1	59.0	55.1	67.7
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		86.6	83.9	96.5	78.8	99.4
Anthracene-d10	1719-06-8	0.5	%		95.5	91.4	93.2	91.9	98.5
4-Terphenyl-d14	1718-51-0	0.5	%		114	108	107	85.0	114
EP080S: TPH(V)/BTEX Surrogates									
1,2-Dichloroethane-D4	17060-07-0	0.2	%		84.1	87.8	87.6	80.3	89.6
Toluene-D8	2037-26-5	0.2	%		91.5	92.6	86.6	84.4	87.9
4-Bromofluorobenzene	460-00-4	0.2	%		104	101	95.8	103	95.4
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.0002	%		72.0	81.0	75.0	107	----
13C8-PFOA	----	0.0002	%		63.5	91.0	63.0	65.0	----



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	TPV-06	TPV-07	SP-01	SP-02	SP-03
Client sampling date / time					19-Mar-2018 00:00	19-Mar-2018 00:00	19-Mar-2018 00:00	19-Mar-2018 00:00	19-Mar-2018 00:00
Compound	CAS Number	LOR	Unit		EB1807412-006	EB1807412-007	EB1807412-008	EB1807412-009	EB1807412-010
					Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	1.0	%		17.6	19.9	18.6	20.2	18.8
EG005T: Total Metals by ICP-AES									
Arsenic	7440-38-2	5	mg/kg	----	----	----	<5	<5	<5
Cadmium	7440-43-9	1	mg/kg	----	----	----	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	----	----	----	117	113	122
Copper	7440-50-8	5	mg/kg	----	----	----	68	66	63
Lead	7439-92-1	5	mg/kg	----	----	----	5	21	7
Nickel	7440-02-0	2	mg/kg	----	----	----	130	135	132
Zinc	7440-66-6	5	mg/kg	----	----	----	73	95	102
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg	----	----	----	<0.1	<0.1	<0.1
EN33: TCLP Leach									
Initial pH	----	0.1	pH Unit	----	----	----	7.3	8.8	9.1
After HCl pH	----	0.1	pH Unit	----	----	----	1.7	1.6	1.6
Extraction Fluid Number	----	1	-	----	----	----	1	1	1
Final pH	----	0.1	pH Unit	----	----	----	6.2	6.2	5.8
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg	<0.5	1.2	<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	<0.5
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<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	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<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	<0.5
Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<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	<0.5
Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<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	<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	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<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	<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	<0.5
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<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	<0.5
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	1.2	<0.5	<0.5	<0.5	<0.5



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	TPV-06	TPV-07	SP-01	SP-02	SP-03
Client sampling date / time					19-Mar-2018 00:00	19-Mar-2018 00:00	19-Mar-2018 00:00	19-Mar-2018 00:00	19-Mar-2018 00:00
Compound	CAS Number	LOR	Unit		EB1807412-006	EB1807412-007	EB1807412-008	EB1807412-009	EB1807412-010
					Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
^ 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	69	<10	<10	<10
C10 - C14 Fraction	----	50	mg/kg		<50	600	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg		<100	110	<100	<100	<100
C29 - C36 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg		<50	710	<50	<50	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	247	13	18	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg		<10	245	13	18	<10
>C10 - C16 Fraction	----	50	mg/kg		<50	570	<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	570	<50	<50	<50
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg		<50	570	<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	1.6	<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	1.6	<0.2	<0.2	<0.2
^ Total Xylenes	----	0.5	mg/kg		<0.5	1.6	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg		<1	4	<1	<1	<1
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		85.5	98.5	94.2	90.1	89.1
2-Chlorophenol-D4	93951-73-6	0.5	%		89.9	100	89.1	84.3	81.1
2,4,6-Tribromophenol	118-79-6	0.5	%		65.7	107	71.6	65.8	60.0
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		91.1	83.1	96.6	86.5	88.3

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 Work Order : EB1807412
 Client : EPIC ENVIRONMENTAL
 Project : BC170078.01



Analytical Results

Sub-Matrix: SOIL
 (Matrix: SOIL)

Client sample ID

				TPV-06	TPV-07	SP-01	SP-02	SP-03
Client sampling date / time				19-Mar-2018 00:00	19-Mar-2018 00:00	19-Mar-2018 00:00	19-Mar-2018 00:00	19-Mar-2018 00:00
Compound	CAS Number	LOR	Unit	EB1807412-006	EB1807412-007	EB1807412-008	EB1807412-009	EB1807412-010
				Result	Result	Result	Result	Result
EP075(SIM)T: PAH Surrogates - Continued								
Anthracene-d10	1719-06-8	0.5	%	91.2	94.2	94.7	88.5	89.7
4-Terphenyl-d14	1718-51-0	0.5	%	105	117	110	92.8	94.8
EP080S: TPH(V)/BTEX Surrogates								
1,2-Dichloroethane-D4	17060-07-0	0.2	%	81.1	81.9	86.0	91.0	88.8
Toluene-D8	2037-26-5	0.2	%	78.5	82.8	90.7	96.8	96.6
4-Bromofluorobenzene	460-00-4	0.2	%	84.4	92.6	89.7	94.3	93.5



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	SP-04	SP-05	SP-06	SP-07	SP-08
Client sampling date / time					19-Mar-2018 00:00	19-Mar-2018 00:00	19-Mar-2018 00:00	19-Mar-2018 00:00	19-Mar-2018 00:00
Compound	CAS Number	LOR	Unit		EB1807412-011	EB1807412-012	EB1807412-013	EB1807412-014	EB1807412-015
					Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	1.0	%		22.6	18.9	23.7	15.5	27.4
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	2	3	2
Chromium	7440-47-3	2	mg/kg		123	99	93	68	100
Copper	7440-50-8	5	mg/kg		65	65	57	52	63
Lead	7439-92-1	5	mg/kg		30	8	85	66	122
Nickel	7440-02-0	2	mg/kg		120	126	116	71	102
Zinc	7440-66-6	5	mg/kg		92	83	97	94	105
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg		<0.1	<0.1	<0.1	<0.1	<0.1
EN33: TCLP Leach									
Initial pH	----	0.1	pH Unit		9.0	----	----	----	----
After HCl pH	----	0.1	pH Unit		1.6	----	----	----	----
Extraction Fluid Number	----	1	-		1	----	----	----	----
Final pH	----	0.1	pH Unit		5.5	----	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg		<0.5	----	<0.5	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg		<0.5	----	<0.5	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg		<0.5	----	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg		<0.5	----	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg		<0.5	----	<0.5	<0.5	<0.5
Anthracene	120-12-7	0.5	mg/kg		<0.5	----	<0.5	<0.5	<0.5
Fluoranthene	206-44-0	0.5	mg/kg		<0.5	----	<0.5	<0.5	<0.5
Pyrene	129-00-0	0.5	mg/kg		<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
Chrysene	218-01-9	0.5	mg/kg		<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
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg		<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
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		<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
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		<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

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Work Order : EB1807412
Client : EPIC ENVIRONMENTAL
Project : BC170078.01



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	SP-04	SP-05	SP-06	SP-07	SP-08
Client sampling date / time					19-Mar-2018 00:00	19-Mar-2018 00:00	19-Mar-2018 00:00	19-Mar-2018 00:00	19-Mar-2018 00:00
Compound	CAS Number	LOR	Unit		EB1807412-011	EB1807412-012	EB1807412-013	EB1807412-014	EB1807412-015
					Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		<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
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		1.2	----	1.2	1.2	1.2
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	----	13	<10	27
C10 - C14 Fraction	----	50	mg/kg		120	----	230	<50	420
C15 - C28 Fraction	----	100	mg/kg		<100	----	<100	<100	<100
C29 - C36 Fraction	----	100	mg/kg		<100	----	<100	<100	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg		120	----	230	<50	420
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		28	----	46	24	80
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg		28	----	46	24	80
>C10 - C16 Fraction	----	50	mg/kg		160	----	220	<50	400
>C16 - C34 Fraction	----	100	mg/kg		<100	----	<100	<100	<100
>C34 - C40 Fraction	----	100	mg/kg		<100	----	<100	<100	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg		160	----	220	<50	400
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg		160	----	220	<50	400
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	----	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg		<0.5	----	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg		<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
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	----	<0.5	<0.5	<0.5
^ Sum of BTEX	----	0.2	mg/kg		<0.2	----	<0.2	<0.2	<0.2
^ Total Xylenes	----	0.5	mg/kg		<0.5	----	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg		<1	----	<1	<1	1
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		92.6	----	99.8	100	97.4
2-Chlorophenol-D4	93951-73-6	0.5	%		85.1	----	103	102	98.5
2,4,6-Tribromophenol	118-79-6	0.5	%		72.5	----	116	84.5	107
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		89.6	----	85.9	103	82.9

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 Work Order : EB1807412
 Client : EPIC ENVIRONMENTAL
 Project : BC170078.01



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	SP-04	SP-05	SP-06	SP-07	SP-08
Client sampling date / time					19-Mar-2018 00:00	19-Mar-2018 00:00	19-Mar-2018 00:00	19-Mar-2018 00:00	19-Mar-2018 00:00
Compound	CAS Number	LOR	Unit		EB1807412-011	EB1807412-012	EB1807412-013	EB1807412-014	EB1807412-015
					Result	Result	Result	Result	Result
EP075(SIM)T: PAH Surrogates - Continued									
Anthracene-d10	1719-06-8	0.5	%		90.6	----	93.2	96.5	91.5
4-Terphenyl-d14	1718-51-0	0.5	%		87.8	----	112	120	112
EP080S: TPH(V)/BTEX Surrogates									
1,2-Dichloroethane-D4	17060-07-0	0.2	%		89.0	----	87.0	86.0	86.8
Toluene-D8	2037-26-5	0.2	%		99.6	----	86.7	87.5	92.6
4-Bromofluorobenzene	460-00-4	0.2	%		96.8	----	93.3	95.7	99.4



Analytical Results

Sub-Matrix: SOIL
 (Matrix: SOIL)

Client sample ID

				SP-09	SP-10	MW03-3.0 pfas	QC01	QC02
Client sampling date / time				19-Mar-2018 00:00	19-Mar-2018 00:00	20-Mar-2018 00:00	19-Mar-2018 00:00	19-Mar-2018 00:00
Compound	CAS Number	LOR	Unit	EB1807412-016	EB1807412-017	EB1807412-022	EB1807412-027	EB1807412-028
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	16.5	15.6	16.6	16.5	16.8
EG005T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	<5	<5	----	----	----
Cadmium	7440-43-9	1	mg/kg	<1	3	----	----	----
Chromium	7440-47-3	2	mg/kg	115	88	----	----	----
Copper	7440-50-8	5	mg/kg	71	63	----	----	----
Lead	7439-92-1	5	mg/kg	15	81	----	----	----
Nickel	7440-02-0	2	mg/kg	110	94	----	----	----
Zinc	7440-66-6	5	mg/kg	66	97	----	----	----
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	----	----	----
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
Benzo(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	27	<10	14	31

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Work Order : EB1807412
Client : EPIC ENVIRONMENTAL
Project : BC170078.01



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	SP-09	SP-10	MW03-3.0 pfas	QC01	QC02
Client sampling date / time					19-Mar-2018 00:00	19-Mar-2018 00:00	20-Mar-2018 00:00	19-Mar-2018 00:00	19-Mar-2018 00:00
Compound	CAS Number	LOR	Unit		EB1807412-016	EB1807412-017	EB1807412-022	EB1807412-027	EB1807412-028
					Result	Result	Result	Result	Result
EP080/071: Total Petroleum Hydrocarbons - Continued									
C10 - C14 Fraction	----	50	mg/kg		180	420	<50	330	500
C15 - C28 Fraction	----	100	mg/kg		<100	130	<100	100	130
C29 - C36 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg		180	550	<50	430	630
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		21	108	<10	37	74
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg		21	108	<10	37	74
>C10 - C16 Fraction	----	50	mg/kg		190	420	<50	390	560
>C16 - C34 Fraction	----	100	mg/kg		<100	120	<100	<100	<100
>C34 - C40 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg		190	540	<50	390	560
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg		190	420	<50	390	560
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	0.6	<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	0.6	<0.2	<0.2	<0.2
^ Total Xylenes	----	0.5	mg/kg		<0.5	0.6	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg		<1	2	<1	<1	<1
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg		----	----	<0.0002	<0.0002	<0.0002
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg		----	----	<0.0002	<0.0002	<0.0002
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg		----	----	<0.0002	<0.0002	<0.0002
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg		----	----	<0.0002	<0.0002	<0.0002
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg		----	----	<0.0002	<0.0002	<0.0002



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	SP-09	SP-10	MW03-3.0 pfas	QC01	QC02
Client sampling date / time					19-Mar-2018 00:00	19-Mar-2018 00:00	20-Mar-2018 00:00	19-Mar-2018 00:00	19-Mar-2018 00:00
Compound	CAS Number	LOR	Unit		EB1807412-016	EB1807412-017	EB1807412-022	EB1807412-027	EB1807412-028
					Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids - Continued									
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg		----	----	<0.0002	<0.0002	<0.0002
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg		----	----	<0.001	<0.001	<0.001
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg		----	----	<0.0002	<0.0002	<0.0002
Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg		----	----	<0.0002	<0.0002	<0.0002
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg		----	----	<0.0002	<0.0002	<0.0002
Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg		----	----	<0.0002	<0.0002	<0.0002
Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg		----	----	<0.0002	<0.0002	<0.0002
Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg		----	----	<0.0002	<0.0002	<0.0002
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg		----	----	<0.0002	<0.0002	<0.0002
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg		----	----	<0.0002	<0.0002	<0.0002
Perfluorotridecanoic acid (PFTTrDA)	72629-94-8	0.0002	mg/kg		----	----	<0.0002	<0.0002	<0.0002
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg		----	----	<0.0005	<0.0005	<0.0005
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg		----	----	<0.0002	<0.0002	<0.0002
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg		----	----	<0.0005	<0.0005	<0.0005
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg		----	----	<0.0005	<0.0005	<0.0005
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg		----	----	<0.0005	<0.0005	<0.0005
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg		----	----	<0.0005	<0.0005	<0.0005
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg		----	----	<0.0002	<0.0002	<0.0002
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg		----	----	<0.0002	<0.0002	<0.0002
EP231D: (n-2) Perfluorotelomer Sulfonic Acids									

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 Client : EPIC ENVIRONMENTAL
 Project : BC170078.01



Analytical Results

Sub-Matrix: SOIL
 (Matrix: SOIL)

Client sample ID

				SP-09	SP-10	MW03-3.0 pfas	QC01	QC02
Client sampling date / time				19-Mar-2018 00:00	19-Mar-2018 00:00	20-Mar-2018 00:00	19-Mar-2018 00:00	19-Mar-2018 00:00
Compound	CAS Number	LOR	Unit	EB1807412-016	EB1807412-017	EB1807412-022	EB1807412-027	EB1807412-028
				Result	Result	Result	Result	Result
EP231D: (n:2) Fluorotelomer Sulfonic Acids - Continued								
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	----	----	<0.0005	<0.0005	<0.0005
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	----	----	<0.0005	<0.0005	<0.0005
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	----	----	<0.0005	<0.0005	<0.0005
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	----	----	<0.0005	<0.0005	<0.0005
EP231P: PFAS Sums								
Sum of PFAS	----	0.0002	mg/kg	----	----	<0.0002	<0.0002	<0.0002
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.0002	mg/kg	----	----	<0.0002	<0.0002	<0.0002
Sum of PFAS (WA DER List)	----	0.0002	mg/kg	----	----	<0.0002	<0.0002	<0.0002
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.5	%	99.9	94.0	97.4	89.7	94.4
2-Chlorophenol-D4	93951-73-6	0.5	%	103	94.7	100	91.2	97.9
2,4,6-Tribromophenol	118-79-6	0.5	%	98.3	103	81.6	102	106
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.5	%	98.5	85.7	105	81.7	91.1
Anthracene-d10	1719-06-8	0.5	%	94.1	90.5	110	86.9	92.7
4-Terphenyl-d14	1718-51-0	0.5	%	118	112	132	104	110
EP080S: TPH(V)/BTEX Surrogates								
1,2-Dichloroethane-D4	17060-07-0	0.2	%	81.2	82.0	123	89.2	91.1
Toluene-D8	2037-26-5	0.2	%	81.2	77.9	122	90.4	91.6
4-Bromofluorobenzene	460-00-4	0.2	%	86.4	89.5	128	95.4	95.0
EP231S: PFAS Surrogate								
13C4-PFOS	----	0.0002	%	----	----	67.5	76.0	84.0
13C8-PFOA	----	0.0002	%	----	----	62.5	63.0	73.5

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 Work Order : EB1807412
 Client : EPIC ENVIRONMENTAL
 Project : BC170078.01



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID		QC03	QC04	Trip Blank	----	----
Client sampling date / time					19-Mar-2018 00:00	20-Mar-2018 00:00	19-Mar-2018 00:00	----	----
Compound	CAS Number	LOR	Unit	EB1807412-029	EB1807412-030	EB1807412-031	-----	-----	
				Result	Result	Result	----	----	
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	1.0	%	14.8	14.9	1.6	----	----	
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	----	----	----	
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	----	----	----	
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	----	----	----	
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	----	----	----	
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	----	----	----	
Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	----	----	----	
Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	----	----	----	
Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	----	----	----	
Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	----	----	----	
Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	----	----	----	
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	<0.5	----	----	----	
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	----	----	----	
Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	----	----	----	
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	----	----	----	
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	----	----	----	
Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	----	----	----	
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	<0.5	----	----	----	
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	<0.5	<0.5	----	----	----	
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg	0.6	0.6	----	----	----	
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg	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	----	----	----	
C15 - C28 Fraction	----	100	mg/kg	<100	<100	----	----	----	
C29 - C36 Fraction	----	100	mg/kg	<100	<100	----	----	----	
^ C10 - C36 Fraction (sum)	----	50	mg/kg	<50	<50	----	----	----	
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg	13	<10	<10	----	----	
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg	13	<10	<10	----	----	
>C10 - C16 Fraction	----	50	mg/kg	<50	<50	----	----	----	
>C16 - C34 Fraction	----	100	mg/kg	<100	<100	----	----	----	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	QC03	QC04	Trip Blank	----	----
Client sampling date / time					19-Mar-2018 00:00	20-Mar-2018 00:00	19-Mar-2018 00:00	----	----
Compound	CAS Number	LOR	Unit		EB1807412-029	EB1807412-030	EB1807412-031	-----	-----
					Result	Result	Result	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions - Continued									
>C34 - C40 Fraction	----	100	mg/kg		<100	<100	----	----	----
^ >C10 - C40 Fraction (sum)	----	50	mg/kg		<50	<50	----	----	----
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg		<50	<50	----	----	----
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	----	0.5	mg/kg		<0.5	<0.5	<0.5	----	----
Naphthalene	91-20-3	1	mg/kg		<1	<1	<1	----	----
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		90.1	91.0	----	----	----
2-Chlorophenol-D4	93951-73-6	0.5	%		93.9	94.6	----	----	----
2,4,6-Tribromophenol	118-79-6	0.5	%		76.6	68.5	----	----	----
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		97.2	99.6	----	----	----
Anthracene-d10	1719-06-8	0.5	%		90.8	107	----	----	----
4-Terphenyl-d14	1718-51-0	0.5	%		116	130	----	----	----
EP080S: TPH(V)/BTEX Surrogates									
1,2-Dichloroethane-D4	17060-07-0	0.2	%		81.7	84.2	88.6	----	----
Toluene-D8	2037-26-5	0.2	%		76.6	82.1	88.6	----	----
4-Bromofluorobenzene	460-00-4	0.2	%		85.7	90.8	93.5	----	----

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 Work Order : EB1807412
 Client : EPIC ENVIRONMENTAL
 Project : BC170078.01



Analytical Results

Sub-Matrix: TCLP LEACHATE
 (Matrix: WATER)

Client sample ID

				SP-01	SP-02	SP-03	SP-04	----
Client sampling date / time				19-Mar-2018 00:00	19-Mar-2018 00:00	19-Mar-2018 00:00	19-Mar-2018 00:00	----
Compound	CAS Number	LOR	Unit	EB1807412-008	EB1807412-009	EB1807412-010	EB1807412-011	-----
				Result	Result	Result	Result	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	1.0	µg/L	<1.0	<1.0	<1.0	1.2	----
Acenaphthylene	208-96-8	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	----
Acenaphthene	83-32-9	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	----
Fluorene	86-73-7	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	----
Phenanthrene	85-01-8	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	----
Anthracene	120-12-7	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	----
Fluoranthene	206-44-0	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	----
Pyrene	129-00-0	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	----
Benz(a)anthracene	56-55-3	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	----
Chrysene	218-01-9	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	----
Benzo(k)fluoranthene	207-08-9	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	----
Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	----
Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	----
Dibenz(a,h)anthracene	53-70-3	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	----
Benzo(g,h,i)perylene	191-24-2	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	----
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	µg/L	<0.5	<0.5	<0.5	1.2	----
^ Benzo(a)pyrene TEQ (zero)	----	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	----
EP231_TOP_A: Perfluoroalkyl Sulfonic Acids								
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	----
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	----
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	----
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	----
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.02	0.02	0.02	0.04	----
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	----
EP231_TOP_B: Perfluoroalkyl Carboxylic Acids								
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.2	<0.1	----
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	----
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	----

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 Work Order : EB1807412
 Client : EPIC ENVIRONMENTAL
 Project : BC170078.01



Analytical Results

Sub-Matrix: TCLP LEACHATE
 (Matrix: WATER)

Client sample ID

				SP-01	SP-02	SP-03	SP-04	----
Client sampling date / time				19-Mar-2018 00:00	19-Mar-2018 00:00	19-Mar-2018 00:00	19-Mar-2018 00:00	----
Compound	CAS Number	LOR	Unit	EB1807412-008	EB1807412-009	EB1807412-010	EB1807412-011	-----
				Result	Result	Result	Result	----
EP231_TOP_B: Perfluoroalkyl Carboxylic Acids - Continued								
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	----
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	0.02	0.03	----
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	----
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	----
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	----
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	----
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	----
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	----
EP231_TOP_C: Perfluoroalkyl Sulfonamides								
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	----
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	----
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	----
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	----
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	----
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	----
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	----
EP231_TOP_D: (n:2) Fluorotelomer Sulfonic Acids								
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	----
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	----
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	----

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 Client : EPIC ENVIRONMENTAL
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Analytical Results

Sub-Matrix: TCLP LEACHATE
 (Matrix: WATER)

Client sample ID

				SP-01	SP-02	SP-03	SP-04	----
Client sampling date / time				19-Mar-2018 00:00	19-Mar-2018 00:00	19-Mar-2018 00:00	19-Mar-2018 00:00	----
Compound	CAS Number	LOR	Unit	EB1807412-008	EB1807412-009	EB1807412-010	EB1807412-011	-----
				Result	Result	Result	Result	----
EP231_TOP_D: (n:2) Fluorotelomer Sulfonic Acids - Continued								
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	----
EP231_TOP_P: PFAS Sums								
Sum of PFAS	----	0.01	µg/L	0.02	0.02	0.24	0.07	----
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.02	0.02	0.02	0.04	----
Sum of TOP C4 - C14 Carboxylates and C4 - C8 Sulfonates	----	0.01	µg/L	0.02	0.02	0.24	0.07	----
^ Sum of TOP C4 - C14 as Fluorine	----	0.01	µg/L	0.01	0.01	0.15	0.05	----
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	1.0	%	20.5	20.6	22.3	20.4	----
2-Chlorophenol-D4	93951-73-6	1.0	%	49.8	61.0	62.6	53.9	----
2,4,6-Tribromophenol	118-79-6	1.0	%	72.6	97.2	97.6	95.9	----
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	1.0	%	79.3	96.3	87.6	89.9	----
Anthracene-d10	1719-06-8	1.0	%	90.8	93.7	83.1	80.9	----
4-Terphenyl-d14	1718-51-0	1.0	%	79.6	101	87.5	86.0	----
EP231_TOP_S: PFAS Surrogate								
13C4-PFOS	----	0.02	%	100	86.0	88.0	88.0	----
13C8-PFOA	----	0.02	%	108	102	97.5	99.0	----

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Surrogate Control Limits

Sub-Matrix: SOIL		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	35	155
2-Chlorophenol-D4	93951-73-6	42	153
2,4,6-Tribromophenol	118-79-6	26	157
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	34	157
Anthracene-d10	1719-06-8	37	153
4-Terphenyl-d14	1718-51-0	42	172
EP080S: TPH(V)/BTEX Surrogates			
1,2-Dichloroethane-D4	17060-07-0	53	134
Toluene-D8	2037-26-5	60	131
4-Bromofluorobenzene	460-00-4	59	127
EP231S: PFAS Surrogate			
13C4-PFOS	----	60	130
13C8-PFOA	----	60	130

Sub-Matrix: TCLP LEACHATE		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	10	44
2-Chlorophenol-D4	93951-73-6	14	94
2,4,6-Tribromophenol	118-79-6	17	125
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	20	104
Anthracene-d10	1719-06-8	27	113
4-Terphenyl-d14	1718-51-0	32	112
EP231_TOP_S: PFAS Surrogate			
13C4-PFOS	----	60	130
13C8-PFOA	----	60	130

QUALITY CONTROL REPORT

Work Order	: EB1807412	Page	: 1 of 19
Client	: EPIC ENVIRONMENTAL	Laboratory	: Environmental Division Brisbane
Contact	: (6) Personal info	Contact	: (6) Personal info
Address	: BP HOUSE SUITE 3, LEVEL 6 193 NORTH QUAY BRISBANE QLD, AUSTRALIA 4000	Address	: 2 Byth Street Stafford QLD Australia 4053
Telephone	: ----	Telephone	: +61-7-3243 7222
Project	: BC170078.01	Date Samples Received	: 21-Mar-2018
Order number	: ----	Date Analysis Commenced	: 23-Mar-2018
C-O-C number	: ----	Issue Date	: 29-Mar-2018
Sampler	: 4(6) Personal info		
Site	: Brisbane Aero		
Quote number	: EN/222/17		
No. of samples received	: 31		
No. of samples analysed	: 23		



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 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.

Signatories	Position	Accreditation Category
(6) Personal info	Organic Chemist	Sydney Organics, Smithfield, NSW
	Senior Inorganic Chemist	Brisbane Inorganics, Stafford, QLD
	2IC Organic Chemist	Brisbane Organics, Stafford, QLD
	Organic Coordinator	Sydney Inorganics, Smithfield, NSW
	Organic Coordinator	Sydney Organics, Smithfield, NSW
	Analyst	Sydney Organics, Smithfield, NSW
	Senior Inorganic Chemist	Sydney Inorganics, Smithfield, NSW
		Brisbane Inorganics, Stafford, QLD

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 Work Order : EB1807412
 Client : EPIC ENVIRONMENTAL
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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

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

Laboratory Duplicate (DUP) Report

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**

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: 1517639)									
EB1807412-001	TPV-01	EA055: Moisture Content	----	1	%	12.1	12.9	6.50	0% - 50%
EB1807412-015	SP-08	EA055: Moisture Content	----	1	%	27.4	27.1	0.813	0% - 20%
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 1522761)									
EB1807412-010	SP-03	EA055: Moisture Content	----	1	%	18.8	18.9	0.677	0% - 50%
ES1808576-001	Anonymous	EA055: Moisture Content	----	1	%	32.2	32.6	1.40	0% - 20%
EG005T: Total Metals by ICP-AES (QC Lot: 1517629)									
EB1807412-012	SP-05	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.00	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	99	101	1.90	0% - 20%
		EG005T: Nickel	7440-02-0	2	mg/kg	126	130	2.42	0% - 20%
		EG005T: Lead	7439-92-1	5	mg/kg	8	18	79.2	No Limit
EB1807412-012	SP-05	EG005T: Arsenic	7440-38-2	5	mg/kg	<5	<5	0.00	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	65	58	12.6	0% - 50%
		EG005T: Zinc	7440-66-6	5	mg/kg	83	80	3.55	0% - 50%
EB1807443-002	Anonymous	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.00	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	12	12	0.00	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	11	9	20.1	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	<5	<5	0.00	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	10	9	10.7	No Limit
EG005T: Total Metals by ICP-AES (QC Lot: 1524000)									
EB1807412-008	SP-01	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.00	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	117	118	0.00	0% - 20%
		EG005T: Nickel	7440-02-0	2	mg/kg	130	130	0.00	0% - 20%

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 Client : EPIC ENVIRONMENTAL
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Sub-Matrix: SOIL

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: 1524000) - continued											
EB1807412-008	SP-01	EG005T: Arsenic	7440-38-2	5	mg/kg	<5	<5	0.00	No Limit		
		EG005T: Copper	7440-50-8	5	mg/kg	68	66	2.89	0% - 50%		
		EG005T: Lead	7439-92-1	5	mg/kg	5	9	54.6	No Limit		
		EG005T: Zinc	7440-66-6	5	mg/kg	73	74	1.70	0% - 50%		
ES1808478-007	Anonymous	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.00	No Limit		
		EG005T: Chromium	7440-47-3	2	mg/kg	24	27	9.37	0% - 50%		
		EG005T: Nickel	7440-02-0	2	mg/kg	6	6	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	11	14.2	No Limit		
		EG005T: Zinc	7440-66-6	5	mg/kg	<5	<5	0.00	No Limit		
		EG035T: Total Recoverable Mercury by FIMS (QC Lot: 1517630)									
EB1807412-012	SP-05	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.00	No Limit		
EB1807443-002	Anonymous	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: 1524001)											
EB1807412-008	SP-01	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.00	No Limit		
ES1808478-007	Anonymous	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.00	No Limit		
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 1517627)											
EB1807412-001	TPV-01	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	1.7	2.1	21.2	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): Dibenzo(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): Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	<0.5	<0.5	0.00	No Limit		
		EB1807412-016	SP-09	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		

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 Client : EPIC ENVIRONMENTAL
 Project : BC170078.01



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: 1517627) - continued									
EB1807412-016	SP-09	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): 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: 1519591)									
EB1807412-008	SP-01	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
		ES1808751-001	Anonymous	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5
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

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 Work Order : EB1807412
 Client : EPIC ENVIRONMENTAL
 Project : BC170078.01



Sub-Matrix: SOIL

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: 1519591) - continued									
ES1808751-001	Anonymous	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: 1517626)									
EB1807412-001	TPV-01	EP080: C6 - C9 Fraction	----	10	mg/kg	168	189	11.8	0% - 50%
EB1807412-016	SP-09	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.00	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 1517628)									
EB1807412-001	TPV-01	EP071: C15 - C28 Fraction	----	100	mg/kg	170	180	0.00	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	1120	1250	10.7	0% - 20%
EB1807412-016	SP-09	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	180	110	50.4	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 1519581)									
EB1807412-008	SP-01	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.00	No Limit
ES1808680-014	Anonymous	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.00	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 1519592)									
EB1807412-008	SP-01	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
ES1808751-001	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
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 1517626)									
EB1807412-001	TPV-01	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	627	722	14.0	0% - 20%
EB1807412-016	SP-09	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	21	27	25.1	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 1517628)									

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 Work Order : EB1807412
 Client : EPIC ENVIRONMENTAL
 Project : BC170078.01



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 Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 1517628) - continued									
EB1807412-001	TPV-01	EP071: >C16 - C34 Fraction	----	100	mg/kg	130	130	0.00	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	1080	1210	11.1	0% - 20%
EB1807412-016	SP-09	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	190	110	50.6	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 1519581)									
EB1807412-008	SP-01	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	13	14	8.72	No Limit
ES1808680-014	Anonymous	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: 1519592)									
EB1807412-008	SP-01	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
ES1808751-001	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
EP080: BTEXN (QC Lot: 1517626)									
EB1807412-001	TPV-01	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	0.8	0.8	0.00	No Limit
		EP080: meta- & para-Xylene	108-38-3	0.5	mg/kg	5.9	6.9	14.6	0% - 50%
			106-42-3						
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	0.6	0.7	16.2	No Limit
EB1807412-016	SP-09	EP080: Naphthalene	91-20-3	1	mg/kg	3	4	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
EP080: BTEXN (QC Lot: 1519581)									
EB1807412-008	SP-01	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
ES1808680-014	Anonymous	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

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 Work Order : EB1807412
 Client : EPIC ENVIRONMENTAL
 Project : BC170078.01



Sub-Matrix: SOIL

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: 1519581) - continued									
ES1808680-014	Anonymous	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
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 1520948)									
EB1807412-001	TPV-01	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	<0.0002	0.00	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	<0.0002	<0.0002	0.00	No Limit
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	<0.0002	<0.0002	0.00	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	<0.0002	<0.0002	0.00	No Limit
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	<0.0002	<0.0002	0.00	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0002	<0.0002	0.00	No Limit
EM1804950-022	Anonymous	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	<0.0002	0.00	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	<0.0002	<0.0002	0.00	No Limit
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	<0.0002	<0.0002	0.00	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	<0.0002	<0.0002	0.00	No Limit
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	<0.0002	0.0002	0.00	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0002	<0.0002	0.00	No Limit
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 1520948)									
EB1807412-001	TPV-01	EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	<0.0002	0.00	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0002	<0.0002	0.00	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	<0.0002	0.00	No Limit
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0002	<0.0002	0.00	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	<0.0002	0.00	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0002	<0.0002	0.00	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0002	<0.0002	0.00	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0002	<0.0002	0.00	No Limit
		EP231X: Perfluorotridecanoic acid (PFTTrDA)	72629-94-8	0.0002	mg/kg	<0.0002	<0.0002	0.00	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0005	<0.0005	0.00	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	<0.001	0.00	No Limit
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	<0.0002	0.00	No Limit
EM1804950-022	Anonymous	EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0002	<0.0002	0.00	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	<0.0002	0.00	No Limit
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0002	<0.0002	0.00	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	<0.0002	0.00	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0002	<0.0002	0.00	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0002	<0.0002	0.00	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0002	<0.0002	0.00	No Limit
		EP231X: Perfluorotridecanoic acid (PFTTrDA)	72629-94-8	0.0002	mg/kg	<0.0002	<0.0002	0.00	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	<0.001	0.00	No Limit
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	<0.0002	0.00	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0002	<0.0002	0.00	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	<0.0002	0.00	No Limit

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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 (%)
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 1520948) - continued									
EM1804950-022	Anonymous	EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0005	<0.0005	0.00	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	<0.001	0.00	No Limit
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 1520948)									
EB1807412-001	TPV-01	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0002	<0.0002	0.00	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0002	<0.0002	0.00	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0002	<0.0002	0.00	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	<0.0005	0.00	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0005	<0.0005	0.00	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0005	<0.0005	0.00	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	<0.0005	0.00	No Limit
EM1804950-022	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0002	<0.0002	0.00	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0002	<0.0002	0.00	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0002	<0.0002	0.00	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	<0.0005	0.00	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0005	<0.0005	0.00	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0005	<0.0005	0.00	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	<0.0005	0.00	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 1520948)									
EB1807412-001	TPV-01	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	<0.0005	0.00	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	<0.0005	0.00	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	<0.0005	0.00	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	<0.0005	0.00	No Limit
EM1804950-022	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	<0.0005	0.00	No Limit

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 Work Order : EB1807412
 Client : EPIC ENVIRONMENTAL
 Project : BC170078.01



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 (%)
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 1520948) - continued									
EM1804950-022	Anonymous	EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	<0.0005	0.00	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	<0.0005	0.00	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	<0.0005	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 (%)
EP231_TOP_A: Perfluoroalkyl Sulfonic Acids (QC Lot: 1525422)									
EB1807412-008	SP-01	EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.02	0.02	0.00	No Limit
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.00	No Limit
EP231_TOP_B: Perfluoroalkyl Carboxylic Acids (QC Lot: 1525422)									
EB1807412-008	SP-01	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	0.00	No Limit
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorotridecanoic acid (PFTTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.00	No Limit
EP231_TOP_C: Perfluoroalkyl Sulfonamides (QC Lot: 1525422)									
EB1807412-008	SP-01	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.00	No Limit

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 Work Order : EB1807412
 Client : EPIC ENVIRONMENTAL
 Project : BC170078.01



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 (%)
EP231_TOP_C: Perfluoroalkyl Sulfonamides (QC Lot: 1525422) - continued									
EB1807412-008	SP-01	EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.00	No Limit
EP231_TOP_D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 1525422)									
EB1807412-008	SP-01	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.00	No Limit
EP231_TOP_P: PFAS Sums (QC Lot: 1525422)									
EB1807412-008	SP-01	EP231X: Sum of PFAS	----	0.01	µg/L	0.02	0.02	0.00	No Limit
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.02	0.02	0.00	No Limit
		EP231X: Sum of TOP C4 - C14 Carboxylates and C4 - C8 Sulfonates	----	0.01	µg/L	0.02	0.02	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**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	Spike Recovery (%) LCS	Recovery Limits (%)	
							Low	High
EG005T: Total Metals by ICP-AES (QCLot: 1517629)								
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	106 mg/kg	95.3	84	123
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	1.2 mg/kg	106	88	117
EG005T: Chromium	7440-47-3	2	mg/kg	<2	20.5 mg/kg	89.8	83	125
EG005T: Copper	7440-50-8	5	mg/kg	<5	52.9 mg/kg	95.4	86	122
EG005T: Lead	7439-92-1	5	mg/kg	<5	66.3 mg/kg	97.0	84	119
EG005T: Nickel	7440-02-0	2	mg/kg	<2	14.72 mg/kg	95.6	89	126
EG005T: Zinc	7440-66-6	5	mg/kg	<5	182.3 mg/kg	89.2	87	127
EG005T: Total Metals by ICP-AES (QCLot: 1524000)								
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	21.7 mg/kg	96.3	86	126
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	4.64 mg/kg	98.5	83	113
EG005T: Chromium	7440-47-3	2	mg/kg	<2	43.9 mg/kg	90.4	76	128
EG005T: Copper	7440-50-8	5	mg/kg	<5	32 mg/kg	97.3	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	100	87	123
EG005T: Zinc	7440-66-6	5	mg/kg	<5	60.8 mg/kg	106	80	122
EG035T: Total Recoverable Mercury by FIMS (QCLot: 1517630)								
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	0.09821 mg/kg	79.9	78	122
EG035T: Total Recoverable Mercury by FIMS (QCLot: 1524001)								
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	2.57 mg/kg	77.4	70	105
EN33: TCLP Leach (QCLot: 1520929)								
EN33a: Initial pH	----	0.1	pH Unit	6.9	----	----	----	----
EN33a: After HCl pH	----	0.1	pH Unit	6.9	----	----	----	----
EN33a: Final pH	----	0.1	pH Unit	4.0	----	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 1517627)								
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	1.5 mg/kg	95.2	74	119
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	1.5 mg/kg	101	74	118
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	1.5 mg/kg	101	83	121
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	1.5 mg/kg	96.2	81	116
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	1.5 mg/kg	94.8	72	117
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	1.5 mg/kg	105	72	115
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	1.5 mg/kg	106	70	116
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	1.5 mg/kg	105	70	134
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	1.5 mg/kg	96.7	64	120
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	1.5 mg/kg	97.5	66	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
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 1517627) - continued								
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2	0.5	mg/kg	<0.5	1.5 mg/kg	104	59	129
	205-82-3							
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	1.5 mg/kg	100	70	129
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	1.5 mg/kg	99.5	76	121
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	1.5 mg/kg	86.7	53	135
EP075(SIM): Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	1.5 mg/kg	85.8	45	134
EP075(SIM): Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	<0.5	1.5 mg/kg	89.5	64	131
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 1519591)								
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	6 mg/kg	105	77	125
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	6 mg/kg	96.4	72	124
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	6 mg/kg	99.4	73	127
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	6 mg/kg	81.1	72	126
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	6 mg/kg	105	75	127
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	6 mg/kg	103	77	127
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	6 mg/kg	88.6	73	127
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	6 mg/kg	89.7	74	128
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	6 mg/kg	96.8	69	123
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	6 mg/kg	107	75	127
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2	0.5	mg/kg	<0.5	6 mg/kg	97.1	68	116
	205-82-3							
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	6 mg/kg	124	74	126
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	6 mg/kg	91.0	70	126
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	6 mg/kg	91.3	61	121
EP075(SIM): Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	6 mg/kg	88.8	62	118
EP075(SIM): Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	<0.5	6 mg/kg	91.9	63	121
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1517626)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	16 mg/kg	81.8	72	120
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1517628)								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	318 mg/kg	96.4	79	123
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	531 mg/kg	98.4	77	123
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	----	----	----	----
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1519581)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	26 mg/kg	78.3	68	128
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1519592)								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	200 mg/kg	106	75	129
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	300 mg/kg	100.0	77	131
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	200 mg/kg	104	71	129
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 1517626)								

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 Work Order : EB1807412
 Client : EPIC ENVIRONMENTAL
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Sub-Matrix: SOIL

Method Blank (MB) Report				Laboratory Control Spike (LCS) Report				
				Spike Concentration	Spike Recovery (%)	Recovery Limits (%)		
Method: Compound	CAS Number	LOR	Unit	Result		LCS	Low	High
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 1517626) - continued								
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	18.5 mg/kg	81.2	70	119
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 1517628)								
EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	428 mg/kg	98.0	81	122
EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	395 mg/kg	97.8	74	122
EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	----	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 1519581)								
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	31 mg/kg	78.2	68	128
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 1519592)								
EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	250 mg/kg	103	77	125
EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	350 mg/kg	102	74	138
EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	150 mg/kg	97.6	63	131
EP080: BTEXN (QCLot: 1517626)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	1 mg/kg	91.4	69	118
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	1 mg/kg	92.5	73	123
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	1 mg/kg	92.6	73	115
EP080: meta- & para-Xylene	108-38-3	0.5	mg/kg	<0.5	2 mg/kg	85.0	75	115
	106-42-3							
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	1 mg/kg	90.0	75	115
EP080: Naphthalene	91-20-3	1	mg/kg	<1	1 mg/kg	88.1	71	113
EP080: BTEXN (QCLot: 1519581)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	1 mg/kg	95.6	62	116
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	1 mg/kg	90.3	67	121
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	1 mg/kg	85.0	65	117
EP080: meta- & para-Xylene	108-38-3	0.5	mg/kg	<0.5	2 mg/kg	84.9	66	118
	106-42-3							
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	1 mg/kg	86.9	68	120
EP080: Naphthalene	91-20-3	1	mg/kg	<1	1 mg/kg	99.9	63	119
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 1520948)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	0.00125 mg/kg	72.0	57	121
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	<0.0002	0.00125 mg/kg	61.2	55	125
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	<0.0002	0.00125 mg/kg	110	52	126
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	<0.0002	0.00125 mg/kg	74.8	54	123
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	79.6	55	127
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0002	0.00125 mg/kg	82.4	54	125
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 1520948)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	0.00625 mg/kg	66.6	52	128
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	0.00125 mg/kg	101	54	129
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0002	0.00125 mg/kg	63.6	55	127



Sub-Matrix: SOIL

Sub-Matrix: SOIL				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 1520948) - continued								
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	0.00125 mg/kg	69.2	57	128
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	72.4	60	134
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	68.8	63	130
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0002	0.00125 mg/kg	62.0	55	130
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0002	0.00125 mg/kg	80.8	62	130
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	80.0	53	134
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg	<0.0002	0.00125 mg/kg	80.0	49	129
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0005	0.00312 mg/kg	80.1	59	129
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 1520948)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0002	0.00125 mg/kg	74.8	52	132
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	0.00312 mg/kg	76.0	65	126
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0005	0.00312 mg/kg	123	64	126
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0005	0.00312 mg/kg	88.5	63	124
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	0.00312 mg/kg	69.4	58	125
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0002	0.00125 mg/kg	76.8	61	130
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0002	0.00125 mg/kg	100	55	130
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 1520948)								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	0.00125 mg/kg	62.4	54	130
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	0.00125 mg/kg	72.8	61	130
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	0.00125 mg/kg	64.4	62	130
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	0.00125 mg/kg	70.8	60	130

Sub-Matrix: WATER

Sub-Matrix: WATER				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike Concentration	Spike Recovery (%) LCS	Recovery Limits (%) LowHigh	
Method: Compound	CAS Number	LOR	Unit	Result				
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 1522183)								
EP075(SIM): Naphthalene	91-20-3	1	µg/L	<1.0	5 µg/L	72.6	50	94
EP075(SIM): Acenaphthylene	208-96-8	1	µg/L	<1.0	5 µg/L	91.7	64	114
EP075(SIM): Acenaphthene	83-32-9	1	µg/L	<1.0	5 µg/L	85.8	62	113
EP075(SIM): Fluorene	86-73-7	1	µg/L	<1.0	5 µg/L	82.3	64	115
EP075(SIM): Phenanthrene	85-01-8	1	µg/L	<1.0	5 µg/L	89.5	63	116
EP075(SIM): Anthracene	120-12-7	1	µg/L	<1.0	5 µg/L	92.1	64	116
EP075(SIM): Fluoranthene	206-44-0	1	µg/L	<1.0	5 µg/L	98.6	64	118
EP075(SIM): Pyrene	129-00-0	1	µg/L	<1.0	5 µg/L	98.6	63	118
EP075(SIM): Benzo(a)anthracene	56-55-3	1	µg/L	<1.0	5 µg/L	91.0	64	117

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Sub-Matrix: WATER

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
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 1522183) - continued								
EP075(SIM): Chrysene	218-01-9	1	µg/L	<1.0	5 µg/L	80.8	63	116
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2	1	µg/L	<1.0	5 µg/L	90.3	62	119
	205-82-3							
EP075(SIM): Benzo(k)fluoranthene	207-08-9	1	µg/L	<1.0	5 µg/L	73.3	63	115
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	5 µg/L	87.4	63	117
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	1	µg/L	<1.0	5 µg/L	88.0	60	118
EP075(SIM): Dibenz(a,h)anthracene	53-70-3	1	µg/L	<1.0	5 µg/L	89.2	61	117
EP075(SIM): Benzo(g,h,i)perylene	191-24-2	1	µg/L	<1.0	5 µg/L	88.6	59	118
EP231_TOP_A: Perfluoroalkyl Sulfonic Acids (QCLot: 1525422)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	----	----	----	----
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	----	----	----	----
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	<0.02	1 µg/L	89.7	50	150
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	----	----	----	----
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	1 µg/L	98.8	50	150
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	----	----	----	----
EP231_TOP_B: Perfluoroalkyl Carboxylic Acids (QCLot: 1525422)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	----	----	----	----
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	----	----	----	----
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	----	----	----	----
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	----	----	----	----
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	1 µg/L	116	50	150
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	----	----	----	----
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	----	----	----	----
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	----	----	----	----
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	----	----	----	----
EP231X: Perfluorotridecanoic acid (PFTriDA)	72629-94-8	0.02	µg/L	<0.02	----	----	----	----
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	----	----	----	----
EP231_TOP_C: Perfluoroalkyl Sulfonamides (QCLot: 1525422)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	----	----	----	----
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	----	----	----	----
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	----	----	----	----
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	----	----	----	----
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	----	----	----	----
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	----	----	----	----
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	----	----	----	----

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Sub-Matrix: **WATER**

Sub-Matrix: WATER				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				
EP231_TOP_D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 1525422)								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	----	----	----	----
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.05 µg/L	50.0	0	200
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	----	----	----	----
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	----	----	----	----
EP231_TOP_P: PFAS Sums (QCLot: 1525422)								
EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFHxS and PFOS	355-46-4/17 63-23-1	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of TOP C4 - C14 Carboxylates and C4 - C8 Sulfonates	----	0.01	µg/L	<0.01	----	----	----	----

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**

				Matrix Spike (MS) Report			
				Spike Concentration	Spike Recovery(%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number		MS	Low	High
EG005T: Total Metals by ICP-AES (QCLot: 1517629)							
EB1807412-013	SP-06	EG005T: Lead	7439-92-1	50 mg/kg	109	70	130
		EG005T: Nickel	7440-02-0	50 mg/kg	99.4	70	130
EB1807412-013	SP-06	EG005T: Arsenic	7440-38-2	50 mg/kg	76.0	70	130
		EG005T: Cadmium	7440-43-9	25 mg/kg	90.2	70	130
		EG005T: Chromium	7440-47-3	50 mg/kg	83.8	70	130
		EG005T: Copper	7440-50-8	50 mg/kg	110	70	130
		EG005T: Zinc	7440-66-6	50 mg/kg	109	70	130
EG005T: Total Metals by ICP-AES (QCLot: 1524000)							
EB1807412-008	SP-01	EG005T: Arsenic	7440-38-2	50 mg/kg	92.2	70	130
		EG005T: Cadmium	7440-43-9	50 mg/kg	103	70	130
		EG005T: Chromium	7440-47-3	50 mg/kg	94.8	70	130
		EG005T: Copper	7440-50-8	250 mg/kg	107	70	130
		EG005T: Lead	7439-92-1	250 mg/kg	101	70	130
		EG005T: Nickel	7440-02-0	50 mg/kg	117	70	130
		EG005T: Zinc	7440-66-6	250 mg/kg	102	70	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 1517630)							
EB1807412-013	SP-06	EG035T: Mercury	7439-97-6	5 mg/kg	86.1	70	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 1524001)							
EB1807412-008	SP-01	EG035T: Mercury	7439-97-6	5 mg/kg	80.3	70	130

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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: 1517627)							
EB1807412-002	TPV-02	EP075(SIM): Acenaphthene	83-32-9	1.5 mg/kg	100	70	130
		EP075(SIM): Pyrene	129-00-0	1.5 mg/kg	88.8	70	130
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 1519591)							
EB1807412-008	SP-01	EP075(SIM): Acenaphthene	83-32-9	10 mg/kg	104	70	130
		EP075(SIM): Pyrene	129-00-0	10 mg/kg	96.6	70	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1517626)							
EB1807412-002	TPV-02	EP080: C6 - C9 Fraction	----	8 mg/kg	80.0	70	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1517628)							
EB1807412-002	TPV-02	EP071: C10 - C14 Fraction	----	318 mg/kg	106	70	130
		EP071: C15 - C28 Fraction	----	531 mg/kg	96.9	70	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1519581)							
EB1807412-008	SP-01	EP080: C6 - C9 Fraction	----	32.5 mg/kg	72.8	70	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1519592)							
EB1807412-008	SP-01	EP071: C10 - C14 Fraction	----	523 mg/kg	102	73	137
		EP071: C15 - C28 Fraction	----	2319 mg/kg	122	53	131
		EP071: C29 - C36 Fraction	----	1714 mg/kg	125	52	132
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 1517626)							
EB1807412-002	TPV-02	EP080: C6 - C10 Fraction	C6_C10	8 mg/kg	70.3	70	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 1517628)							
EB1807412-002	TPV-02	EP071: >C10 - C16 Fraction	----	428 mg/kg	106	70	130
		EP071: >C16 - C34 Fraction	----	395 mg/kg	94.6	70	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 1519581)							
EB1807412-008	SP-01	EP080: C6 - C10 Fraction	C6_C10	37.5 mg/kg	93.9	70	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 1519592)							
EB1807412-008	SP-01	EP071: >C10 - C16 Fraction	----	860 mg/kg	99.4	73	137
		EP071: >C16 - C34 Fraction	----	3223 mg/kg	119	53	131
		EP071: >C34 - C40 Fraction	----	1058 mg/kg	121	52	132
EP080: BTEXN (QCLot: 1517626)							
EB1807412-002	TPV-02	EP080: Benzene	71-43-2	2 mg/kg	86.0	70	130
		EP080: Toluene	108-88-3	2 mg/kg	88.4	70	130
EP080: BTEXN (QCLot: 1519581)							
EB1807412-008	SP-01	EP080: Benzene	71-43-2	2.5 mg/kg	77.2	70	130
		EP080: Toluene	108-88-3	2.5 mg/kg	75.7	70	130
		EP080: Ethylbenzene	100-41-4	2.5 mg/kg	77.0	70	130

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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	
EP080: BTEXN (QCLot: 1519581) - continued								
EB1807412-008	SP-01	EP080: meta- & para-Xylene	108-38-3	2.5 mg/kg	78.3	70	130	
			106-42-3					
		EP080: ortho-Xylene	95-47-6	2.5 mg/kg	78.0	70	130	
		EP080: Naphthalene	91-20-3	2.5 mg/kg	90.5	70	130	
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 1520948)								
EB1807412-001	TPV-01	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.00125 mg/kg	88.0	50	130	
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.00125 mg/kg	63.2	50	130	
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.00125 mg/kg	67.2	50	130	
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.00125 mg/kg	68.0	50	130	
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.00125 mg/kg	61.2	50	130	
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.00125 mg/kg	60.8	50	130	
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 1520948)								
EB1807412-001	TPV-01	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.00625 mg/kg	63.0	30	130	
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.00125 mg/kg	92.4	50	130	
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.00125 mg/kg	80.8	50	130	
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.00125 mg/kg	80.8	50	130	
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.00125 mg/kg	61.6	50	130	
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.00125 mg/kg	62.8	50	130	
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.00125 mg/kg	62.4	50	130	
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.00125 mg/kg	64.8	50	130	
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.00125 mg/kg	58.4	50	130	
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.00125 mg/kg	61.6	30	130	
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.00312 mg/kg	75.6	30	130	
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 1520948)								
EB1807412-001	TPV-01	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.00125 mg/kg	# 44.4	50	130	
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.00312 mg/kg	65.4	30	130	
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.00312 mg/kg	93.4	30	130	
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.00312 mg/kg	76.8	30	130	
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.00312 mg/kg	68.8	30	130	
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.00125 mg/kg	81.2	30	130	
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.00125 mg/kg	69.2	30	130	
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 1520948)								
EB1807412-081446	TPV-01	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.00125 mg/kg	79.6	50	130	

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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
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 1520948) - continued							
EB1807412-001	TPV-01	EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.00125 mg/kg	64.4	50	130
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.00125 mg/kg	65.6	50	130
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.00125 mg/kg	61.2	50	130

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: EB1807412	Page	: 1 of 12
Client	: EPIC ENVIRONMENTAL	Laboratory	: Environmental Division Brisbane
Contact	: (6) Personal info	Telephone	: +61-7-3243 7222
Project	: BC170078.01	Date Samples Received	: 21-Mar-2018
Site	: Brisbane Aero	Issue Date	: 29-Mar-2018
Sampler	: p4(6) Personal inform	No. of samples received	: 31
Order number	:	No. of samples analysed	: 23

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.
- Matrix Spike outliers exist - please see following pages for full details.
- Surrogate recovery outliers exist for all regular sample matrices - please see following pages for full details.

Outliers : Analysis Holding Time Compliance

- **NO** Analysis Holding Time Outliers exist.

Outliers : Frequency of Quality Control Samples

- Quality Control Sample Frequency Outliers exist - please see following pages for full details.

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Outliers : Quality Control Samples

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **SOIL**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Matrix Spike (MS) Recoveries							
EP231C: Perfluoroalkyl Sulfonamides	EB1807412--001	TPV-01	Perfluorooctane sulfonamide (FOSA)	754-91-6	44.4 %	50-130%	Recovery less than lower data quality objective

Regular Sample Surrogates

Sub-Matrix: **SOIL**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Samples Submitted							
EP080S: TPH(V)/BTEX Surrogates	EB1807412-022	MW03-3.0 pfas	4-Bromofluorobenzene	460-00-4	128 %	59-127 %	Recovery greater than upper data quality objective

Outliers : Frequency of Quality Control Samples

Matrix: **WATER**

Quality Control Sample Type Method	Count		Rate (%)		Quality Control Specification
	QC	Regular	Actual	Expected	
Laboratory Duplicates (DUP)					
PAH/Phenols (GC/MS - SIM)	0	10	0.00	10.00	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)					
PAH/Phenols (GC/MS - SIM)	0	10	0.00	5.00	NEPM 2013 B3 & ALS QC Standard

Analysis Holding Time Compliance

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 Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation

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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)		19-Mar-2018	----	----	----	23-Mar-2018	02-Apr-2018	✓
TPV-01,	TPV-02,							
TPV-03,	TPV-04,							
TPV-05,	TPV-06,							
TPV-07,	SP-05,							
SP-06,	SP-07,							
SP-08,	SP-09,							
SP-10,	QC01,							
QC02,	QC03,							
Trip Blank								
Soil Glass Jar - Unpreserved (EA055)		19-Mar-2018	----	----	----	26-Mar-2018	02-Apr-2018	✓
SP-01,	SP-02,							
SP-03,	SP-04							
Soil Glass Jar - Unpreserved (EA055)		20-Mar-2018	----	----	----	23-Mar-2018	03-Apr-2018	✓
MW03-3.0 pfas,	QC04							
EG005T: Total Metals by ICP-AES								
Soil Glass Jar - Unpreserved (EG005T)		19-Mar-2018	24-Mar-2018	15-Sep-2018	✓	27-Mar-2018	15-Sep-2018	✓
SP-05,	SP-06,							
SP-07,	SP-08,							
SP-09,	SP-10							
Soil Glass Jar - Unpreserved (EG005T)		19-Mar-2018	26-Mar-2018	15-Sep-2018	✓	26-Mar-2018	15-Sep-2018	✓
SP-01,	SP-02,							
SP-03,	SP-04							
EG035T: Total Recoverable Mercury by FIMS								
Soil Glass Jar - Unpreserved (EG035T)		19-Mar-2018	24-Mar-2018	16-Apr-2018	✓	27-Mar-2018	16-Apr-2018	✓
SP-05,	SP-06,							
SP-07,	SP-08,							
SP-09,	SP-10							
Soil Glass Jar - Unpreserved (EG035T)		19-Mar-2018	26-Mar-2018	16-Apr-2018	✓	27-Mar-2018	16-Apr-2018	✓
SP-01,	SP-02,							
SP-03,	SP-04							
EN33: TCLP Leach								
Non-Volatile Leach: 14 day HT(e.g. SV organics) (EN33a)		19-Mar-2018	24-Mar-2018	02-Apr-2018	✓	----	----	----
SP-01,	SP-02,							
SP-03,	SP-04							

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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
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Soil Glass Jar - Unpreserved (EP075(SIM))		19-Mar-2018	24-Mar-2018	02-Apr-2018	✔	26-Mar-2018	03-May-2018	✔
TPV-01,	TPV-02,							
TPV-03,	TPV-04,							
TPV-05,	TPV-06,							
TPV-07,	SP-06,							
SP-07,	SP-08,							
SP-09,	SP-10,							
QC01,	QC02,							
QC03								
Soil Glass Jar - Unpreserved (EP075(SIM))		19-Mar-2018	26-Mar-2018	02-Apr-2018	✔	27-Mar-2018	05-May-2018	✔
SP-01,	SP-02,							
SP-03,	SP-04							
Soil Glass Jar - Unpreserved (EP075(SIM))		20-Mar-2018	24-Mar-2018	03-Apr-2018	✔	26-Mar-2018	03-May-2018	✔
MW03-3.0 pfas,	QC04							

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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
EP080/071: Total Petroleum Hydrocarbons								
Soil Glass Jar - Unpreserved (EP080)								
TPV-01, TPV-03, TPV-05, TPV-07, SP-07, SP-09, QC01, QC03,	TPV-02, TPV-04, TPV-06, SP-06, SP-08, SP-10, QC02, Trip Blank	19-Mar-2018	23-Mar-2018	02-Apr-2018	✔	23-Mar-2018	02-Apr-2018	✔
Soil Glass Jar - Unpreserved (EP080)								
SP-01, SP-03,	SP-02, SP-04	19-Mar-2018	23-Mar-2018	02-Apr-2018	✔	26-Mar-2018	02-Apr-2018	✔
Soil Glass Jar - Unpreserved (EP071)								
TPV-01, TPV-03, TPV-05, TPV-07, SP-07, SP-09, QC01, QC03	TPV-02, TPV-04, TPV-06, SP-06, SP-08, SP-10, QC02,	19-Mar-2018	24-Mar-2018	02-Apr-2018	✔	26-Mar-2018	03-May-2018	✔
Soil Glass Jar - Unpreserved (EP071)								
SP-01, SP-03,	SP-02, SP-04	19-Mar-2018	26-Mar-2018	02-Apr-2018	✔	27-Mar-2018	05-May-2018	✔
Soil Glass Jar - Unpreserved (EP080)								
MW03-3.0 pfas,	QC04	20-Mar-2018	23-Mar-2018	03-Apr-2018	✔	23-Mar-2018	03-Apr-2018	✔
Soil Glass Jar - Unpreserved (EP071)								
MW03-3.0 pfas,	QC04	20-Mar-2018	24-Mar-2018	03-Apr-2018	✔	26-Mar-2018	03-May-2018	✔

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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
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions								
Soil Glass Jar - Unpreserved (EP080)								
TPV-01,	TPV-02,	19-Mar-2018	23-Mar-2018	02-Apr-2018	✓	23-Mar-2018	02-Apr-2018	✓
TPV-03,	TPV-04,							
TPV-05,	TPV-06,							
TPV-07,	SP-06,							
SP-07,	SP-08,							
SP-09,	SP-10,							
QC01,	QC02,							
QC03,	Trip Blank							
Soil Glass Jar - Unpreserved (EP080)								
SP-01,	SP-02,	19-Mar-2018	23-Mar-2018	02-Apr-2018	✓	26-Mar-2018	02-Apr-2018	✓
SP-03,	SP-04							
Soil Glass Jar - Unpreserved (EP071)								
TPV-01,	TPV-02,	19-Mar-2018	24-Mar-2018	02-Apr-2018	✓	26-Mar-2018	03-May-2018	✓
TPV-03,	TPV-04,							
TPV-05,	TPV-06,							
TPV-07,	SP-06,							
SP-07,	SP-08,							
SP-09,	SP-10,							
QC01,	QC02,							
QC03								
Soil Glass Jar - Unpreserved (EP071)								
SP-01,	SP-02,	19-Mar-2018	26-Mar-2018	02-Apr-2018	✓	27-Mar-2018	05-May-2018	✓
SP-03,	SP-04							
Soil Glass Jar - Unpreserved (EP080)								
MW03-3.0 pfas,	QC04	20-Mar-2018	23-Mar-2018	03-Apr-2018	✓	23-Mar-2018	03-Apr-2018	✓
Soil Glass Jar - Unpreserved (EP071)								
MW03-3.0 pfas,	QC04	20-Mar-2018	24-Mar-2018	03-Apr-2018	✓	26-Mar-2018	03-May-2018	✓

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 Work Order : EB1807412
 Client : EPIC ENVIRONMENTAL
 Project : BC170078.01



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)		19-Mar-2018	23-Mar-2018	02-Apr-2018	✔	23-Mar-2018	02-Apr-2018	✔							
TPV-01, TPV-03, TPV-05, TPV-07, SP-07, SP-09, QC01, QC03,									TPV-02, TPV-04, TPV-06, SP-06, SP-08, SP-10, QC02, Trip Blank						
Soil Glass Jar - Unpreserved (EP080)									19-Mar-2018	23-Mar-2018	02-Apr-2018	✔	26-Mar-2018	02-Apr-2018	✔
SP-01, SP-03,															
Soil Glass Jar - Unpreserved (EP080)									20-Mar-2018	23-Mar-2018	03-Apr-2018	✔	23-Mar-2018	03-Apr-2018	✔
MW03-3.0 pfas,															
EP231A: Perfluoroalkyl Sulfonic Acids															
HDPE Soil Jar (EP231X)		19-Mar-2018	27-Mar-2018	15-Sep-2018	✔	27-Mar-2018	06-May-2018	✔							
TPV-01, TPV-03, QC01,									TPV-02, TPV-04, QC02						
HDPE Soil Jar (EP231X)									20-Mar-2018	27-Mar-2018	16-Sep-2018	✔	27-Mar-2018	06-May-2018	✔
MW03-3.0 pfas															
EP231B: Perfluoroalkyl Carboxylic Acids															
HDPE Soil Jar (EP231X)		19-Mar-2018	27-Mar-2018	15-Sep-2018	✔	27-Mar-2018	06-May-2018	✔							
TPV-01, TPV-03, QC01,									TPV-02, TPV-04, QC02						
HDPE Soil Jar (EP231X)									20-Mar-2018	27-Mar-2018	16-Sep-2018	✔	27-Mar-2018	06-May-2018	✔
MW03-3.0 pfas															
EP231C: Perfluoroalkyl Sulfonamides															
HDPE Soil Jar (EP231X)		19-Mar-2018	27-Mar-2018	15-Sep-2018	✔	27-Mar-2018	06-May-2018	✔							
TPV-01, TPV-03, QC01,									TPV-02, TPV-04, QC02						
HDPE Soil Jar (EP231X)									20-Mar-2018	27-Mar-2018	16-Sep-2018	✔	27-Mar-2018	06-May-2018	✔
MW03-3.0 pfas															
EP231D: (n:2) Fluorotelomer Sulfonic Acids															
HDPE Soil Jar (EP231X)		19-Mar-2018	27-Mar-2018	15-Sep-2018	✔	27-Mar-2018	06-May-2018	✔							
TPV-01, TPV-03, QC01,									TPV-02, TPV-04, QC02						
HDPE Soil Jar (EP231X)									20-Mar-2018	27-Mar-2018	16-Sep-2018	✔	27-Mar-2018	06-May-2018	✔
MW03-3.0 pfas															
EP231D: (n:2) Fluorotelomer Sulfonic Acids															
HDPE Soil Jar (EP231X)		19-Mar-2018	27-Mar-2018	15-Sep-2018	✔	27-Mar-2018	06-May-2018	✔							
TPV-01, TPV-03, QC01,									TPV-02, TPV-04, QC02						
HDPE Soil Jar (EP231X)									20-Mar-2018	27-Mar-2018	16-Sep-2018	✔	27-Mar-2018	06-May-2018	✔
MW03-3.0 pfas															

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File A 20-Mar-201827-Mar-201816-Sep-2018✔27-Mar-201806-May-2018✔



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	
EP231P: PFAS Sums								
HDPE Soil Jar (EP231X) TPV-01, TPV-03, QC01,	TPV-02, TPV-04, QC02	19-Mar-2018	27-Mar-2018	15-Sep-2018	✔	27-Mar-2018	06-May-2018	✔
HDPE Soil Jar (EP231X) MW03-3.0 pfas		20-Mar-2018	27-Mar-2018	16-Sep-2018	✔	27-Mar-2018	06-May-2018	✔

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
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Amber Glass Bottle - Unpreserved (EP075(SIM))								
SP-01,	SP-02,	24-Mar-2018	26-Mar-2018	31-Mar-2018	✓	26-Mar-2018	05-May-2018	✓
SP-03,	SP-04							
EP231_TOP_A: Perfluoroalkyl Sulfonic Acids								
HDPE (no PTFE) (EP231X (TOP))								
SP-01,	SP-02,	24-Mar-2018	27-Mar-2018	20-Sep-2018	✓	28-Mar-2018	20-Sep-2018	✓
SP-03,	SP-04							
EP231_TOP_B: Perfluoroalkyl Carboxylic Acids								
HDPE (no PTFE) (EP231X (TOP))								
SP-01,	SP-02,	24-Mar-2018	27-Mar-2018	20-Sep-2018	✓	28-Mar-2018	20-Sep-2018	✓
SP-03,	SP-04							
EP231_TOP_C: Perfluoroalkyl Sulfonamides								
HDPE (no PTFE) (EP231X (TOP))								
SP-01,	SP-02,	24-Mar-2018	27-Mar-2018	20-Sep-2018	✓	28-Mar-2018	20-Sep-2018	✓
SP-03,	SP-04							
EP231_TOP_D: (n:2) Fluorotelomer Sulfonic Acids								
HDPE (no PTFE) (EP231X (TOP))								
SP-01,	SP-02,	24-Mar-2018	27-Mar-2018	20-Sep-2018	✓	28-Mar-2018	20-Sep-2018	✓
SP-03,	SP-04							
EP231_TOP_P: PFAS Sums								
HDPE (no PTFE) (EP231X (TOP))								
SP-01,	SP-02,	24-Mar-2018	27-Mar-2018	20-Sep-2018	✓	28-Mar-2018	20-Sep-2018	✓
SP-03,	SP-04							



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	Method	Count		Rate (%)		Evaluation	Quality Control Specification
Analytical Methods		QC	Regular	Actual	Expected		
Laboratory Duplicates (DUP)							
Moisture Content	EA055	2	20	10.00	10.00	✔	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	2	17	11.76	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	2	20	10.00	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	2	14	14.29	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	3	19	15.79	10.00	✔	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	2	17	11.76	10.00	✔	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	2	18	11.11	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
PAH/Phenols (SIM)	EP075(SIM)	1	17	5.88	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	20	5.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	14	7.14	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	19	5.26	5.00	✔	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	17	5.88	5.00	✔	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	18	5.56	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
PAH/Phenols (SIM)	EP075(SIM)	1	17	5.88	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	20	5.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
TCLP for Non & Semivolatile Analytes	EN33a	1	11	9.09	9.09	✔	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	14	7.14	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	19	5.26	5.00	✔	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	17	5.88	5.00	✔	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	18	5.56	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
PAH/Phenols (SIM)	EP075(SIM)	1	17	5.88	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	20	5.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	14	7.14	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	2	19	10.53	5.00	✔	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	17	5.88	5.00	✔	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	18	5.56	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	Method	Count		Rate (%)		Evaluation	Quality Control Specification
Analytical Methods		QC	Regular	Actual	Expected		
Laboratory Duplicates (DUP)							
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	0	10	0.00	10.00	✖	NEPM 2013 B3 & ALS QC Standard
PFAS by LCMSMS after oxidation (TOP)	EP231X (TOP)	1	5	20.00	10.00	✔	NEPM 2013 B3 & ALS QC Standard

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 Client : EPIC ENVIRONMENTAL
 Project : BC170078.01

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 Control Samples (LCS)							
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	10	10.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
PFAS by LCMSMS after oxidation (TOP)	EP231X (TOP)	1	5	20.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	10	10.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
PFAS by LCMSMS after oxidation (TOP)	EP231X (TOP)	1	5	20.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	0	10	0.00	5.00	✗	NEPM 2013 B3 & ALS QC Standard

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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).
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)
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.
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	SOIL	In-House. A portion of soil is extracted with MTBE. The extract is taken to dryness, made up in mobile phase. Analysis is by LC/MSMS, ESI Negative Mode using MRM. Where commercially available, isotopically labelled analogues of the target analytes are used as internal standards for quantification. Where a labelled analogue is not commercially available, the internal standard with similar chemistry and the closest retention time to the target is used for quantification. The DQO for internal standard response is 50-150% of that established at initial calibration. PFOS is quantified using a certified, traceable standard consisting of linear and branched PFOS isomers. This method complies with the quality control definitions as stated in QSM 5.1. Data is reviewed in line with the DQOs as stated in QSM5.1
PFAS by LCMSMS after oxidation (TOP)	EP231X (TOP)	SOIL	In house, following oxidation per Houtz,Erika F.; Sedlak,David L. (2012): Oxidative Conversion as a Means of Detecting Precursors to Perfluoroalkyl Acids in Urban Runoff. In Environmental Science & Technology 46 (17),pp. 9342-9349. A portion of the oxidised sample is mixed with methanol (1:1) prior to analysis by LC-Electrospray-MS-MS,Negative Mode using MRM. Where commercially available, isotopically labelled analogues of the target analytes are used as internal standards for quantification. Where a labelled analogue is not commercially available, the internal standard with similar chemistry and the closest retention time to the target is used for quantification. PFOS is quantified using a certified, traceable standard consisting of linear and branched PFOS isomers.



Preparation Methods	Method	Matrix	Method Descriptions
TCLP for Non & Semivolatile Analytes	EN33a	SOIL	In house QWI-EN/33 referenced to USEPA SW846-1311: The TCLP procedure is designed to determine the mobility of both organic and inorganic analytes present in wastes. The standard TCLP leach is for non-volatile and Semivolatile test parameters.
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)
Sample Extraction for PFAS	EP231-PR	SOIL	In house
Separatory Funnel Extraction of Liquids	ORG14	SOIL	In house: Referenced to USEPA SW 846 - 3510B 100 mL to 1L of sample is transferred to a separatory funnel and serially extracted three times using 60mL DCM for each extract. The resultant extracts are combined, dehydrated and concentrated for analysis. This method is compliant with NEPM (2013) Schedule B(3) . ALS default excludes sediment which may be resident in the container.
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.
Total Oxidisable Precursor Digest for PFAS	* ORG70-W	SOIL	In-House with oxidation per Houtz, Erika F.; Sedlak, David L. (2012): Oxidative Conversion as a Means of Detecting Precursors to Perfluoroalkyl Acids in Urban Runoff. In Environmental Science & Technology 46 (17), pp. 9342,9349: A 5 mL sample is digested with persulfate under alkaline conditions, neutralised and prepared for analysis per EP231.

SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order : EB1807412

<p>Client : EPIC ENVIRONMENTAL</p> <p>Contact : (6) Personal info</p> <p>Address : BP HOUSE SUITE 3, LEVEL 6 193 NORTH QUAY BRISBANE QLD, AUSTRALIA 4000</p> <p>E-mail : persona@epicenvironmental.com.au</p> <p>Telephone : ----</p> <p>Facsimile : ----</p> <p>Project : BC170078.01</p> <p>Order number : ----</p> <p>C-O-C number : ----</p> <p>Site : Brisbane Aero</p> <p>Sampler : (6) Personal info</p>	<p>Laboratory : Environmental Division Brisbane</p> <p>Contact : relevant inform</p> <p>Address : 2 Byth Street Stafford QLD Australia 4053</p> <p>E-mail : (6) Personal info@alsglobal.com</p> <p>Telephone : +61-7-3243 7222</p> <p>Facsimile : +61-7-3243 7218</p> <p>Page : 1 of 3</p> <p>Quote number : EB2017EPIENV0004 (EN/222/17)</p> <p>QC Level : NEPM 2013 B3 & ALS QC Standard</p>
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Dates

Date Samples Received : 21-Mar-2018 12:50	Issue Date : 26-Mar-2018
Client Requested Due Date : 28-Mar-2018	Scheduled Reporting Date : 28-Mar-2018

Delivery Details

Mode of Delivery : Client Drop Off	Security Seal : Not Available
No. of coolers/boxes : 1	Temperature : 5.4°C - Ice present
Receipt Detail : MEDIUM ESKY RECEIVED	No. of samples received / analysed : 31 / 23

General Comments

- This report contains the following information:
 - Sample Container(s)/Preservation Non-Compliances
 - Summary of Sample(s) and Requested Analysis
 - Proactive Holding Time Report
 - Requested Deliverables
- **26.03.2018: SRN has been resent to acknowledge PFAS TOPA has replaced PFAS analysis from leachate samples #8-11 as per email request 23.03.2018 9:46am. For any further information regarding these adjustments please contact client services at ALSEnviro.Brisbane@alsglobal.com.**
- Please be advised that ALS Suite S-26 has been assigned to ALS samples # 13 & 17, analysis has been removed from ALS samples #19 & 25 as per email request 22.03.2018 2:02PM
- Discounted Package Prices apply only when specific ALS Group Codes ('W', 'S', 'NT' suites) are referenced on COCs.
- **PFAS and leachate analysis will be conducted by ALS Environmental, Sydney, NATA accreditation no. 825, Site No. 10911 (Micro site no. 14913). Estimated date for results 03.04.2018**
- Please direct any turn around / technical queries to the laboratory contact designated above.
- Sample Disposal - Aqueous (3 weeks), Solid (2 months) from receipt of samples.
- Analysis will be conducted by ALS Environmental, Brisbane, NATA accreditation no. 825, Site No. 818 (Micro site no. 18958).
- **Breaches in recommended extraction / analysis holding times (if any) are displayed overleaf in the Proactive Holding Time Report table.**



Sample Container(s)/Preservation Non-Compliances

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

- No sample container / preservation non-compliance exists.

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process necessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.

If no sampling time is provided, the sampling time will default 00:00 on the date of sampling. If no sampling date is provided, the sampling date will be assumed by the laboratory and displayed in brackets without a time component

Matrix: SOIL

Laboratory sample ID	Client sampling date / time	Client sample ID	SOIL - EA055-103 Moisture Content	SOIL - EP075 SIM PAH only SIM - PAH only	SOIL - EP231X (solids) PFAS - Full Suite (28 analytes)	SOIL - EP231X (TOP) PFAS - Total Oxidisable Precursor (TOP) Assay	SOIL - S-02 8 Metals (incl. Digestion)	SOIL - S-07 TRH/BTEX/PAH (SIM)	SOIL - TCLP TCLP Leach
EB1807412-001	19-Mar-2018 00:00	TPV-01	✓		✓			✓	
EB1807412-002	19-Mar-2018 00:00	TPV-02	✓		✓			✓	
EB1807412-003	19-Mar-2018 00:00	TPV-03	✓		✓			✓	
EB1807412-004	19-Mar-2018 00:00	TPV-04	✓		✓			✓	
EB1807412-005	19-Mar-2018 00:00	TPV-05	✓					✓	
EB1807412-006	19-Mar-2018 00:00	TPV-06	✓					✓	
EB1807412-007	19-Mar-2018 00:00	TPV-07	✓					✓	
EB1807412-008	19-Mar-2018 00:00	SP-01	✓	✓		✓	✓	✓	✓
EB1807412-009	19-Mar-2018 00:00	SP-02	✓	✓		✓	✓	✓	✓
EB1807412-010	19-Mar-2018 00:00	SP-03	✓	✓		✓	✓	✓	✓
EB1807412-011	19-Mar-2018 00:00	SP-04	✓	✓		✓	✓	✓	✓
EB1807412-012	19-Mar-2018 00:00	SP-05	✓				✓		
EB1807412-013	19-Mar-2018 00:00	SP-06	✓						
EB1807412-014	19-Mar-2018 00:00	SP-07	✓						
EB1807412-015	19-Mar-2018 00:00	SP-08	✓						
EB1807412-016	19-Mar-2018 00:00	SP-09	✓						
EB1807412-017	19-Mar-2018 00:00	SP-10	✓						
EB1807412-022	20-Mar-2018 00:00	MW03-3.0 pfas	✓		✓			✓	
EB1807412-027	19-Mar-2018 00:00	QC01	✓		✓			✓	
EB1807412-028	19-Mar-2018 00:00	QC02	✓		✓			✓	
EB1807412-029	19-Mar-2018 00:00	QC03	✓					✓	
EB1807412-030	20-Mar-2018 00:00	QC04	✓					✓	



Matrix: SOIL

Laboratory sample ID	Client sampling date / time	Client sample ID	(On Hold) SOIL No analysis requested	SOIL - S-18 TRH(C6-C9)/BTEXN	SOIL - S-26 g metals/TRH/BTEXN/PAH
EB1807412-013	19-Mar-2018 00:00	SP-06			✓
EB1807412-014	19-Mar-2018 00:00	SP-07			✓
EB1807412-015	19-Mar-2018 00:00	SP-08			✓
EB1807412-016	19-Mar-2018 00:00	SP-09			✓
EB1807412-017	19-Mar-2018 00:00	SP-10			✓
EB1807412-018	19-Mar-2018 00:00	MW04-1.5	✓		
EB1807412-019	19-Mar-2018 00:00	MW04-3.0	✓		
EB1807412-020	20-Mar-2018 00:00	MW04-4.7	✓		
EB1807412-021	20-Mar-2018 00:00	MW03-1.5	✓		
EB1807412-023	20-Mar-2018 00:00	MW03-4.5	✓		
EB1807412-024	20-Mar-2018 00:00	MW02-1.5	✓		
EB1807412-025	20-Mar-2018 00:00	MW02-3.0 pfas	✓		
EB1807412-026	20-Mar-2018 00:00	MW02-4.5	✓		
EB1807412-031	19-Mar-2018 00:00	Trip Blank		✓	

Proactive Holding Time Report

Sample(s) have been received within the recommended holding times for the requested analysis.

Requested Deliverables

p4(6) Personal inform

- *AU Certificate of Analysis - NATA (COA)	Email	ckosecki@epicenvironmental.com.au
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	ckosecki@epicenvironmental.com.au
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	ckosecki@epicenvironmental.com.au
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	ckosecki@epicenvironmental.com.au
- Chain of Custody (CoC) (COC)	Email	ckosecki@epicenvironmental.com.au
- EDI Format - XTab (XTAB)	Email	ckosecki@epicenvironmental.com.au

(6) Personal info

- *AU Certificate of Analysis - NATA (COA)	Email	lamies@epicenvironmental.com.au
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	lamies@epicenvironmental.com.au
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	lamies@epicenvironmental.com.au
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	lamies@epicenvironmental.com.au
- A4 - AU Tax Invoice (INV)	Email	lamies@epicenvironmental.com.au
- Chain of Custody (CoC) (COC)	Email	lamies@epicenvironmental.com.au
- EDI Format - XTab (XTAB)	Email	lamies@epicenvironmental.com.au



Environmental Division
Brisbane
Work Order Reference
EB1807412



Telephone : + 61-7-3243 7222

Chain of Custody Record

Project No: BC170078.01
Project/Site: Brisbane Aero
Sampled By: CK
Phone / Email: 6) Personal info
Results to: persona@epicenvironmental.com.au

Lab: ALS
Lab Quote No: EN-222-17
Lab Batch No:
Date Results Required: 5 Day TAT

Page 1 of 1

Number of Eskies: 1

Sample Disposal After:

CONTAINER TYPE & PRESERVATIVE

LAB ID	Sample ID	Depth	Date/Time	Matrix													S-7 (TRH/ BTEXN/ PAH)	S-2 (8 Metals)	PFOS/ PFOA	TCCLP - PAH	TCCLP - PFAS	TRH c6-c10	S-26 (TRH/BTEXN/PAH/Metals)	Hold
					Soil Jars	PFAS/PFOA Container																		
1	TPV - 01		19/03/2018	Soil	X	X											X		X					
2	TPV - 02		19/03/2018	Soil	X	X											X		X					
3	TPV - 03		19/03/2018	Soil	X	X											X		X					
4	TPV - 04		19/03/2018	Soil	X	X											X		X					
5	TPV - 05		19/03/2018	Soil	X	X											X							
6	TPV - 06		19/03/2018	Soil	X	X											X							
7	TPV - 07		19/03/2018	Soil	X	X											X							
8	SP-01		19/03/2018	Soil	X	X											X	X		X	X			
9	SP-02		19/03/2018	Soil	X	X											X	X		X	X			
10	SP-03		19/03/2018	Soil	X	X											X	X		X	X			
11	SP-04		19/03/2018	Soil	X	X											X	X		X	X			
12	SP-05		19/03/2018	Soil	X													X						
13	SP-06		19/03/2018	Soil	X																			
14	SP-07		19/03/2018	Soil	X																	X		X
15	SP-08		19/03/2018	Soil	X																	X		
16	SP-09		19/03/2018	Soil	X																	X		
17	SP-10		19/03/2018	Soil	X																			
18	MW04 - 1.5		20/03/2018	Soil	X																			X
19	MW04 - 3.0		20/03/2018	Soil	X												X							X
20	MW04 - 4.7		20/03/2018	Soil	X																			X
21	MW03 - 1.5		20/03/2018	Soil	X																			X
22	MW03 - 3.0 pfas		20/03/2018	Soil	X	X											X		X					X
23	MW03 - 4.5		20/03/2018	Soil	X																			X
24	MW02 - 1.5		20/03/2018	Soil	X																			X
25	MW02 - 3.0 pfas		20/03/2018	Soil	X	X											X		X					X
26	MW02 - 4.5		20/03/2018	Soil	X																			X
27	QC01		19/03/2018	Soil	X	X											X		X					
28	QC02		19/03/2018	Soil	X	X											X		X					
29	QC03		19/03/2018	Soil	X	X											X							
30	QC04		20/03/2018	Soil	X												X							



Epic Environmental Pty Ltd ABN 54 169 579 275
Level 6, 193 North Quay, Brisbane QLD 4000

web www.epicenvironmental.com.au
email lamies@epicenvironmental.com.au

Rec'd 21-310 6250
2m

COVER SHEET

☐ Regional Info & Filing (hard copy) ☒ Electronic application received ☒ Regional - Action Required

PaLM Non-DA TEAM - ADMINISTRATION PROCESSING Application for Disposal Permit (Contaminated Land) Checklist	
Department/Office: Waste and Contaminated Land	AR No: AR111342
Project No: 417599	Permit No: CLEB06535618
Ecotrack Application ID reference:	
Client No:	EMR/CLR ID No: 75563
PaLM Contact: Annemarie Lewis	
Application Details Indicate by Yes ☒	
Applicant Name: Brisbane Aero Engineers Pty Ltd	
Contact Name: p4(6) Personal informa	
Site Location Address: Building 108 & 109 Archerfield Airport, Ditchman Avenue	
Lot/Plan: 2 SP200283	
Application Dates	
Date Received: 29/5/2018	Application Valid Date: 29/5/2018
Due Date: 12/6/2018 (10 business days after application deemed valid)	
Application Type: Non-DA Soil Disposal Permit	
Application Checks – Indicate by Yes ☒ Please note: A blank box may indicate an 'INVALID' application	
☒ Part A and Part B application forms supplied and completed ☒ Forms signed and dated ☒ All parts of the forms completed ☒ Letter of acceptance from Landfill, etc.	
WLCA ADMINISTRATION PROCESSING	
Applications are generally received by Email	
☐	SAVE COVER SHEET; ELECTRONIC AND/OR SCANNED HARD COPY FILE PARTS **
☐	LOCATE & ORDER FILE (eDOCS/Records) FILE Reference: ***Refer for eDOCS file path
☐	MOVE FILE TO WLCA OFFICER AND UPDATE eDOCS LOCATION
☐	FORWARD HARD COPY FILE TO WLCA OFFICER LOCATION
APPLICATION ASSESSMENT DECISION	
☐	PRINT DECISION NOTICE AND PERMIT; DELEGATE TO SIGN & SAVE *

☐	POST or EMAIL (if email address provided on application) NOTICE & PERMIT TO APPLICANT/OWNER/LGA
☐	UPDATE ECOTRACK (Decision, Permit Effective Date & Expiry Date; Officer Responsible, Delegate, File Reference, &.Upload Notices)
	➤ EMAIL COPY OF DECISION NOTICE TO: emr.clr.registry@ehp.qld.gov.au
☐	COPY OVER FILES FROM LOCAL DIRECTORY/FOLDER TO eDOCS (** to ***)

****Save to: "\\chqfile2\groupdir\Environmental Services\Contaminated Land\DISPOSAL PERMITS AND SITE ASSESSMENTS" under the corresponding year; month; project number; as e.g. "Cover Sheet-Ecotrack Permit Reference #"**

*****eDOCS save to: ENVIRONMENTAL MANAGEMENT\CONTAMINATED SITES MANAGEMENT\Notifiable Activities or by Local Government Authority (request file creation using lot/plan description)**

Date : 29/05/2018 11:34:35 AM

From : [REDACTED] Personal information

To : "PALM"

Cc : [REDACTED] Personal information

Subject : AR111342 Application for a disposal permit for contaminated soil

Attachment : Soil Disposal Permit Application BneAero.pdf;image001.png;image002.jpg;

To whom it may concern,

Please find attached an application for a soil disposal permit. Please let me know if you require any further information.

Cheers,

[REDACTED] Personal information

Project Environmental Scientist

Personal information [\[REDACTED\]@epicenvironmental.com.au](mailto:[REDACTED]@epicenvironmental.com.au)

Mt + [REDACTED] Personal information 1800 779 363

www.epicenvironmental.com.au



Date : 7/06/2018 11:40:44 AM
From : "BROWN Josh (DES)"
To : "Personal@brisbaneaero.com"
Subject : Archerfield Airport - Soil Disposal Permit stockpile volume
Attachment : image001.png;image002.png;
Hi Personal

Thankyou for our phone conversation. As discussed, could you please confirm whether you'd like to proceed with the permit for 300m³ or if you intend on pursuing an updated acceptance letter from the landfill for 500m³? The updated acceptance letter can be emailed directly through to myself and I will update the application.

Please note that the decision to approve the soil disposal permit must be made by 12 June 2018.

Kind regards,



Josh Brown
Senior Environmental Officer
PFAS Project Team
Waste and Contaminated Land I Industry & Development Assessment
Department of Environment and Science

P 07 3330 5576
E josh.brown@des.qld.gov.au
E PFASProjectTeam@des.qld.gov.au
400 George Street, Brisbane QLD 4000
GPO Box 2454, Brisbane QLD 4001



AR104220



L2 SP200283

11 May 2017

World Fuel Services (Australia) Pty Ltd
Level 12, 10-16 Queen Street,
Melbourne, VIC. 3000
Ph. 03 96782265

Letter of Notification to the Department of Environmental and Heritage Protection

Dear Land Owner,

We are writing to you as a courtesy to inform you that as an occupier of the fuel storage facility at Archerfield Airport we understand that we are obligated to provide the Queensland Department of Environment and Heritage Protection notification under the Environmental Protection Act 1994 that a notifiable activity is being carried out on land which World Fuel Services manages. Please find attached a copy of the Notice which is proposed to be lodged by the 15th May.

If you could please contact Stephen Ball prior to this date should you wish to discuss the notification or provide details on potential exemptions to the notification requirement. Should you wish to investigate further the notification process and obligations we refer you to: <https://www.qld.gov.au/environment/pollution/management/contaminated-land/about-registers/>

This authority is valid until notification from World Fuel Services (Australia) Pty Ltd.

Should you require further information please do not hesitate to contact me.

Regards,

[Redacted Signature] sch4p4(6) Personal information

[Redacted Name] 4(6) Personal information – Senior Operations Manager
World Fuel Services (Australia) Pty Ltd

Direct: +61 (0) 396 782 265

Cell: +61 [Redacted Phone Number] 4p4(6) Personal information

www.wfscorp.com

Personal 2 wfscorp.com

Notice

Environmental Protection Act 1994

Notifiable Activity

This is the template for use by land owners, occupiers, auditors or local government authorities when giving written notice to the administering authority that a notifiable activity has been, or is being, carried out on land under section s.320A of the Environmental Protection Act 1994 (the EP Act).

Please complete all fields below. You can use this template to provide notification of multiple land parcels and/or multiple instances of a notifiable activity. Where this is the case, please clearly identify which land parcel or notifiable activity the information relates to.

GUIDE

Please ensure that all information is current and correct.

In some circumstances the duty to notify about a notifiable activity may arise for a number of different people.

In such circumstances a number of persons may comply with their individual duty to notify by jointly providing this notice.

1. Details of person(s) giving notice

- ☐ I am the owner of the land
- ☐ I am the occupier of the land (e.g. tenant)
- ☐ I am a representative of the local government authority for the land
- ☐ I am an auditor performing an auditor's function for the land
- ☐ A joint notification is being provided by more than 1 person, the details of each person are attached.

FULL NAME		TITLE
COMPANY/ORGANISATION/LOCAL GOVERNMENT AUTHORITY World Fuel Services (Australia) Pty Ltd		
POSTAL ADDRESS Level 12, 10-16 Queen Street Melbourne		POSTCODE 3000
PHONE 03 9678 2236	FAX -	
EMAIL [redacted]@WFSCORP.COM		

2. Details of land subject to the notification

STREET ADDRESS 381 Beatty Road, Archerfield Queensland 4108

Lot and plan details can be obtained from the land title certificate, rates notice or your local government (local council).

If you do not know the lot and plan, please provide sufficient information about the land to enable it to be identified.

Notice

Notifiable Activity

LOCAL/PROPERTY NAME (IF APPLICABLE) <i>Archerfield Airport</i>
LOT ON PLAN <i>Lot 2 on</i> <i>2SP200283</i>
LOCAL GOVERNMENT AUTHORITY <i>Brisbane City Council.</i>

This should be a map, aerial photograph or GPS coordinates (e.g. MGA-Easting/Northing or GDA-Latitude/Longitude) which illustrate the actual location of the notifiable activity and any potential contamination on the property.

3. Map, locality plan or GPS coordinates

Provide a map, locality plan or GPS coordinates of the location of the notifiable activity

- ☐ Map attached
☐ Locality plan attached
☒ GPS coordinates provided below

-27.5728 , *153.0102*

4. Details of notifiable activity

If providing notification of multiple notifiable activities, provide answers to each of the questions below for each notifiable activity. Additional information can be included as attachments.

- ☐ The details of multiple notifiable activities are attached.

State the number and subtype of the activity as listed in Schedule 3 of the *Environmental Protection Act 1994*

29a

When did the notifiable activity commence?

Month: *N/A.*

Year: *1998*

Is the notifiable activity still being carried out?

- ☒ Yes
☐ No

If no, when did the notifiable activity cease?

Month: *-*

Year: *-*

Specific details of the notifiable activity (i.e. threshold amounts, type(s) of chemicals of dangerous goods being stored on the site)

Tank 1 - 55,000 L of Avgas
Tank 2 - 55,000 L of JET-A1

Notifiable activities are listed in Schedule 3 of the EP Act.

Example

14 Engine reconditioning works—carrying out engine reconditioning work at a place where more than 500 litre (L) of any of the following are stored:

- (a) halogenated and non-halogenated hydrocarbon solvents
 (b) dangerous goods in class 6.1 under the dangerous goods code
 (c) industrial degreasing solutions.

Where relevant state the subtype(s), the actual volume being stored/used/manufactured/disposed etc and other specifics about the activity

More information about notifiable activities can be found on the Queensland Government website www.qld.gov.au

Notice
Notifiable Activity

Actual volume(s) (where applicable)

5. Evidence and supporting information

Examples of the types of evidence that could be provided include (but are not limited to):

- If any investigation of the nature and extent of contamination has been undertaken on the site, provide details of the method used, sampling results and any recommendations about the future management of the contamination. If a written report about the contamination is available, please provide a copy of the report and maps where available.
- Any licences or approvals issued relevant to the activity being notified, for example licence or approvals under the EP Act or the Flammable and Combustible Liquids Regulation 1994.
- Evidence of relevant notifiable activities that are being or have been carried out on the land, e.g. business documentation outlining the activities being undertaken on the site or photographs of industrial activities.
- The results of any compliance monitoring done in relation to notifiable activities or possible contamination of the site.

PROVIDE DETAILS OF EVIDENCE AND SUPPORTING INFORMATION
INCLUDING TITLES OF ANY ATTACHMENTS

If you are not the landowner,
provide the details of the owner of
the property (if known).

6. Details of land owner

FULL NAME		TITLE
ARCHERFIELD MANAGEMENT CENTRE		
POSTAL ADDRESS		POSTCODE
BEATTY ROAD ARCHERFIELD QLD		4108
PHONE	FAX	
07-32775722		
EMAIL		

Notice
Notifiable Activity

If a joint notification is being provided by more than one person a signed declaration by each person must be attached.

7. Declaration

I declare that:

- The information I have provided within this form is true and correct to the best of my knowledge.
- I understand that all information within or attached to this written notice may be disclosed publicly in accordance with the *Right to Information Act 2009* and the *Evidence Act 1977*.
- I understand that it is an offence under section 480 of the *Environmental Protection Act 1994* to give the administering authority a document containing information that I know is false, misleading or incomplete in a material particular.

NAME	sch4p4(6) Personal information
SIGNATURE	sch4p4(6) Personal information
DATE	22/3/2017

Please submit this notice using one of the following methods:

Email: emr.clr.registry@ehp.qld.gov.au

The email subject line should state 'Written notice of a notifiable activity'.

The file size limit for submission via e-mail is 14MB. Any submission via email which exceeds 14 MB will need to be broken down into separate emails, with each email clearly Part X of X (e.g. Part 1 of 2), included in the subject line of the email.

Post to:

Permit and Licence Management
Department of Environment and Heritage
Protection
GPO Box 2454
BRISBANE QLD 4001

Courier or hand delivery to:

Permit and Licence Management
Department of Environment and Heritage
Protection
Level 3, 400 George Street
BRISBANE QLD 4001
Hours: 8.30am–5.00 pm business days

Privacy Statement

The Department of Environment and Heritage Protection (EHP) is assessing information provided on this form as notified under Section 320A of the *Environmental Protection Act 1994* to make a determination whether a site is to be listed on the Environmental Management Register (EMR). This register is publicly available. This information may be provided to other parties, including the owner of land, the local government authority and other government departments, under Chapter 7, Part 8 of the *Environmental Protection Act 1994* for the purposes of including land in a relevant land register. The information provided on this form will not otherwise be used or disclosed unless required or authorised by law. For queries about privacy matters email: privacy@ehp.qld.gov.au or telephone: (07) 3330 6270.

Release

SOIL DISPOSAL PERMIT ASSESSMENT REPORT

Contaminated Land Assessment

Assessment Report for Decisions made under 424(5)¹ of the Environmental Protection Act 1994 (EP Act).

1. Project Details

Item:	Details
Project AR:	AR111342
Edocs No:	101/0004691
Applicant:	Brisbane Aero Engineers Pty Ltd
Date Received:	29/05/2018
Due Date:	12/06/2018
Real Property Description:	Lot: 2 on Plan: SP200283
Address Detail:	Building 108 & 109, Archerfield Airport

2. Originating Site Location

The Act Reference	Legislative Requirement	Comments
424 1(a)(b) of the EP Act	Is the contaminated soil coming from land recorded on EMR, CLR Or from Interstate: Yes - Listed on the EMR	Details: Listed under base parcel Lot 2 RP196230 for notifiable activity 29 – petroleum product or oil storage

3. Administration Check

The Act Reference	Legislative Requirement	Comments
	An application for a disposal permit must—	
424 (2)(a) of the EP Act	be in an approved form: Application for soil disposal for contaminated soil: Yes	Details: The approved form was submitted
424 (2)(b) of the EP Act	be supported by enough information to enable the administering authority to decide the application, including, for example, relevant information about the likely risks to the environment and how it is intended to dispose of the contaminated soil:	Items: The below Items must be considered to enable the administering authority to decide the application.
Approximate volume of soil to be disposed of in M3 units and not tonnes.	Yes Volume: 300m ³	Details:
Approved form details matches the landfill acceptance letter ie. Volumes or locations.	Yes	Details: The stockpile size is 300m ³ as described in the stockpile assessment and in the landfill acceptance letter. The application form requested 500m ³ however this was confirmed in an email that the applicant agreed that the permit would be 300m ³ .
Period of time within which the soil will be disposed.	Yes	Details: 28 May 2018 to 28 October 2018
Soil management options considered. NOTE: Standard criteria defined in schedule 4 of the EP Act, which includes: <ul style="list-style-type: none"> the hierarchy of remediation options contained in the National Environmental Protection (Assessment of site contamination) Measure 1999 best practice environmental management for the removal, treatment and disposal of contaminated soil. 	Yes	Details: An environmental site assessment was previously undertaken at the Site which identified TRH and PFAS impacted soil. Contaminated soil was excavated as part of remediation works undertaken at the Site. Treatment was not considered viable due to the small volume of material impacted and due to the identified contaminants.

Guidance Notes - Soil Disposal Permit Assessment

<ul style="list-style-type: none"> any applicable Commonwealth, State or local government plans, standards, agreements or requirements. 		
History of land use for the originating location, which may be from a site investigation.	Yes	Details: The site at building 108 & 109 was most recently used for small engine repair, with the wider site being used as an airport.
Information about the method and results of soil sampling that supports the reported contamination in the soil to be removed.	Yes	Details: Information provided within 'Archerfield Airport – Stockpile Classification for Off-Site Disposal' prepared by Epic Environmental, 16 May 2018.
Where the disposal location accepting is a non-government landfill or another parcel of land on the EMR and/or CLR – a copy of the certificate of title and owners consent. <i>NOTE: Special attention must be considered to Sch 4 Standard criteria.</i>	Yes - certificate of title and owners consent	Details: Accepting facility is Ti Tree bioenergy, Veolia Environmental Services at Champions Way, Willowbank. EPPR00573913
For all soil disposal permits applications Sch 4 Standard criteria was considered under the EP Act.	Yes	Details:
Scaled plan/ Map/ Photo's showing soil sampling locations.	Yes	Details: Map of the stockpile and samples provided.
Contamination source(s) and tabulation of soil analysis results.	Yes	Details: Tabulated results provided
An explanation of location and depths of samples, how samples were collected, and how sample integrity was maintained.	Yes	Details: Information provided within 'Archerfield Airport – Stockpile Classification for Off-Site Disposal' prepared by Epic Environmental, 16 May 2018.
Toxicity Characteristic Leaching Procedure (TCLP) results from relevant soil samples.	Yes	Details: Information provided within 'Archerfield Airport – Stockpile Classification for Off-Site Disposal' prepared by Epic Environmental, 16 May 2018.

Guidance Notes - Soil Disposal Permit Assessment

Copies of all laboratory reports and sample receipt advices for all soil analysis.	Yes	Details: Information provided within 'Archerfield Airport – Stockpile Classification for Off-Site Disposal' prepared by Epic Environmental, 16 May 2018.
Complies with landfill conditions.	Yes	Details: Information provided within 'Archerfield Airport – Stockpile Classification for Off-Site Disposal' prepared by Epic Environmental, 16 May 2018.
Relevant numbers of sampling conducted. “For stockpile sampling see Schedule B2”.	Yes - Relvant Number of Samples Taken	Details: 10 samples were taken from the stockpile which complies with the NEPM adopted minimum samples from the VIC EPA soil sampling guideline.

4. Soil disposal permits for per- and poly-fluoroalkyl substances (PFAS)

<delete section 4 if not required>

Situation Soil not to be used as day cover Analysis requirements.	Analysis requirements The analysis are required for disposal of PFAS soils to landfill. Check that the appropriate analysis has been conducted. All potential contaminants must be analysed for having considered the history of activities on the site. For some sites PFAS may not be the only contaminate that should be investigated, for example, bulk fuel storage facilities should include analysis for hydrocarbons.	Items:
This is an extraction procedure. Either a TOF or TOPA analysis must be undertaken on leachate generated from using this procedure.	Toxicity Characteristic Leaching Procedure (TCLP) carried out: Yes	Details: Sum of TOPA TCLP results provided
Allows for direct comparison to maximum total contaminant levels in soils used as cover material in EA conditions.	Total organic fluorine (TOF) <i>Using combustion ion chromatography – in house method, linear and branch should be included:</i> N/A	Details: Not being used as cover material
TOPA involves an oxidation pre-treatment coupled with a standard PFAS analysis using US EPA Method 537. Ensure that full oxidation has occurred. For example, the presence of 6:2 and 8:2 Fluorotelomers indicates that full oxidation has not occurred and there may still be hidden PFAS. The sum of the oxidisable precursors (TOPA C4-C14) plus perfluoroalkyl sulfonates (PFBS, PFHxS, PFOS, PFOSA, PFDcS) can be taken as a surrogate for the total fluorinated organics (C4-C14) if a total organic fluorine analysis is not available. The sum of these compounds can be compared to acceptance criteria related to total fluorinated organics.	Total Oxidisable Precursor Assay (TOPA) - Method reference – Houtz et al. 2012 Yes	Details: TOPA TCLP results provided

Guidance Notes - Soil Disposal Permit Assessment

Soil not to be used as day cover Analysis requirements.	Leachability – TOF or TOPA, with TCLP. Yes	Details: TOPA TCLP results provided
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5. Delegate Decision

Assessing Officer	Josh Brown	Click here to enter a date.
Reviewing Officer	Amani Kowero	Click here to enter a date.
Delegate	Approved to Issue Notices Simone Ventura Signed	Click here to enter a date.

Information Notice

Environmental Protection Act 1994

Notice of decision to grant a soil disposal permit with conditions

This information notice is issued by the administering authority in accordance with section 424(5)¹ of the Environmental Protection Act 1994 (EP Act) to advise you of the decision to grant your application for a soil disposal permit, but to impose conditions on the permit, and to inform you of the reasons for the decision and your review and appeal rights.

Our reference: 101/0004691

Brisbane Aero Engineers Pty Ltd
920 Boundary Road
RICHLANDS QLD 4077

ATTN: [REDACTED] (6) Personal inform

Email: [REDACTED]@brisbaneaero.com

Dear [REDACTED] Personal in

Re: Application to remove and dispose of 300m³ of contaminated soil from Archerfield Airport, Ditchman Avenue, Archerfield QLD (Lot 2 on SP200283).

Decision

The administering authority has considered your application received on 29 May 2018 and has decided to grant the application, but to impose conditions on the permit.

Reasons for the decision

The granting of the permit subject to the conditions imposed is consistent with the standard criteria defined in Schedule 4 of the *Environmental Protection Act 1994* (EP Act).

¹ Section 424 continues to have effect under section 739 of the EP Act.

Notice of decision to grant a soil disposal permit with conditions

Assessment criteria used in making the decision

In accordance with section 424(4) of the EP Act in making its decision to grant the application for disposal permit the administering authority has considered the standard criteria listed in Schedule 4 of the EP Act including:

- best practice environmental management for removal treatment and disposal of contaminated soil
- any applicable environmental protection policy
- any applicable site investigation- report or validation report or site management plan
- any applicable Commonwealth, State or local government plans, standards, agreements or requirements.

Findings as a result of the administering authority's assessment of the application

The information provided in the disposal permit application is sufficient to justify the disposal of the soil

Information considered by the administering authority in making its determination

Information provided in the application submitted by Brisbane Aero Engineers Pty Ltd on 29 May 2018 including:

- Application form
- 'Archerfield Airport – Stockpile Classification for Off-Site Disposal' prepared by Epic Environmental, 16 May 2018.
- Letter of acceptance provided by Veolia Environmental Services dated 23 May 2018 stating they are willing to accept **300m³ of contaminated soil** from **Archerfield Airport, Ditchman Avenue, Archerfield QLD (Lot 2 on SP200283)** for **lined landfill disposal where leachate is not reused on or off-site** (licenced under EA **EPPR00573913**), located at Ti Tree bioenergy, Stage 1 of the Veolia Environmental Services (Australia) Pty Ltd landfill at Champions Way, Willowbank QLD 4306 (Lot 4 on RP24574)

Review and appeal details

This decision is not an original decision under the EP Act and so there are no formal review and appeal rights if you are dissatisfied with the decision made by the administering authority. If you are dissatisfied with this decision you may make an application to the administering authority to review the decision but the administering authority is not required to conduct a review. You may have other legal rights and should seek legal advice.

Should you have any questions in relation to this matter, please contact Josh Brown from Waste & Contaminated Land on 3330 5576.

Notice of decision to grant a soil disposal permit with conditions

Signature

Date

Enquiries:

Josh Brown

Ph: (07) 3330 5576

Waste and Contaminated Land Assessment

Department of Environment and Science

Level 8, 400 George Street

Brisbane QLD 4001

Email: josh.brown@des.qld.gov.au

Simone Ventura

Manager

Delegate of the Chief Executive

Environmental Protection Act 1994

SOIL DISPOSAL PERMIT
Environmental Protection Act 1994 (EP Act)

Disposal permit number: CLEB06535618

Commencement date: 12 June 2018

Expiry Date: 12 June 2019

Permit Holder: Brisbane Aero Engineers Pty Ltd

Authorised activity: Removal of **300m³** of **contaminated soil** from **Archerfield Airport, Ditchman Avenue, Archerfield QLD (Lot 2 on SP200283)** for **lined landfill disposal where leachate is not reused on or off-site** (licenced under EA **EPPR00573913**), located at Ti Tree bioenergy, Stage 1 of the Veolia Environmental Services (Australia) Pty Ltd landfill at Champions Way, Willowbank QLD 4306 (Lot 4 on RP24574)

Maximum volume: 300m³

This disposal permit is subject to the conditions endorsed hereon or attached hereto in Schedule A.

Signature

Date

Enquiries:

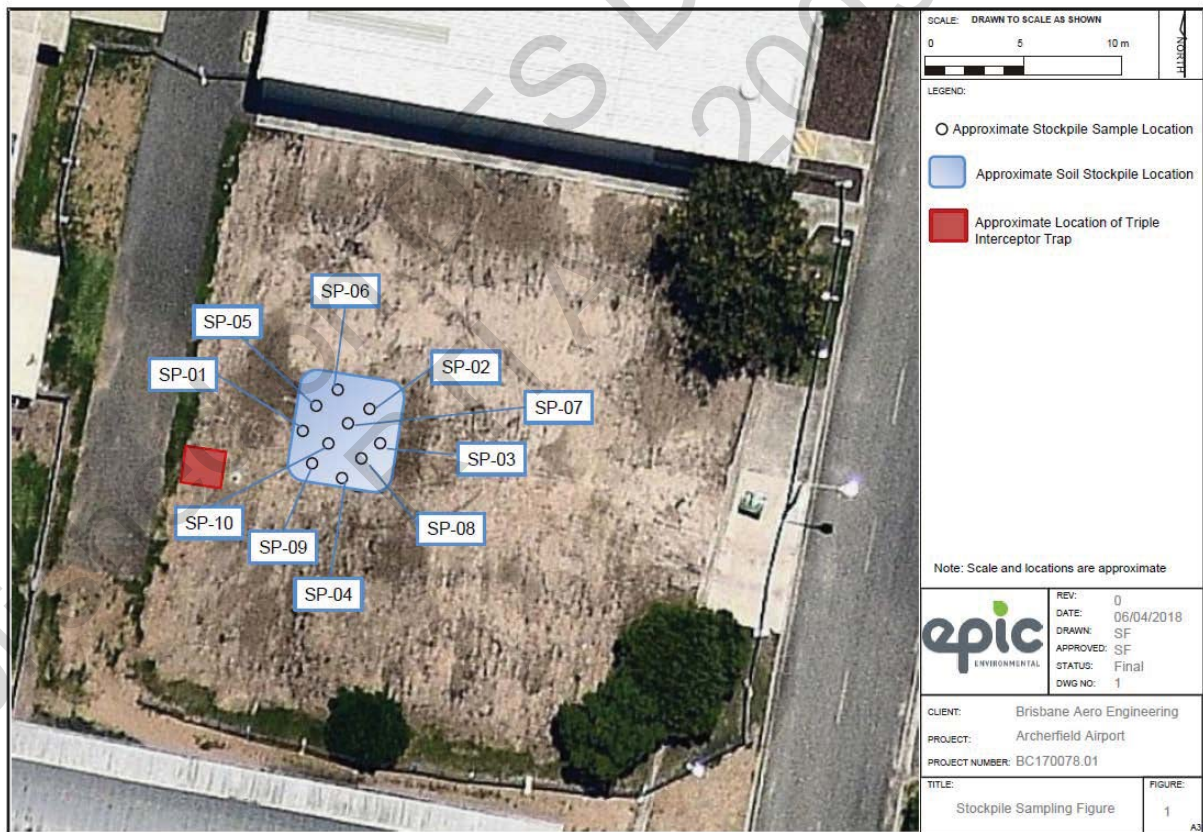
Josh Brown
Ph: (07) 3330 5576
Waste and Contaminated Land Assessment
Department of Environment and Science
Level 8, 400 George Street
Brisbane QLD 4001

Email: josh.brown@des.qld.gov.au

Simone Ventura
Manager
Delegate of the administering authority
Environmental Protection Act 1994

Schedule A - Conditions

1. Records of soil removal, treatment and disposal authorised under this permit must be kept for a period of no less than seven years and be available to the administering authority by request. The information to be kept in the records must include:
 - a) the quantity of material disposed; and
 - b) acceptance receipts from the waste disposal/treatment facility.
2. The permit holder must provide a copy of the permit to any person acting under the permit.
3. Contaminated soil must not be released to air, land or water during excavation, loading, storage, treatment and transport of the soil in a manner that causes environmental harm.
4. Contaminated soil to be disposed under this permit must only be removed from the area marked 'approximate soil stockpile location' in the attached figure 'Stockpile Sampling Figure, Drawing No 1, Prepared by Epic Environmental, 06/04/2018'.



Release

SOIL DISPOSAL PERMIT ASSESSMENT REPORT

Contaminated Land Assessment

Assessment Report for Decisions made under 424(5)¹ of the Environmental Protection Act 1994 (EP Act).

1. Project Details

Item:	Details
Project AR:	AR111342
Edocs No:	101/0004691
Applicant:	Brisbane Aero Engineers Pty Ltd
Date Received:	29/05/2018
Due Date:	12/06/2018
Real Property Description:	Lot: 2 on Plan: SP200283
Address Detail:	Building 108 & 109, Archerfield Airport

2. Originating Site Location

The Act Reference	Legislative Requirement	Comments
424 1(a)(b) of the EP Act	Is the contaminated soil coming from land recorded on EMR, CLR Or from Interstate: Yes - Listed on the EMR	Details: Listed under base parcel Lot 2 RP196230 for notifiable activity 29 – petroleum product or oil storage



Guidance Notes - Soil Disposal Permit Assessment

3. Administration Check

The Act Reference	Legislative Requirement	Comments
	An application for a disposal permit must—	
424 (2)(a) of the EP Act	be in an approved form: Application for soil disposal for contaminated soil: Yes	Details: The approved form was submitted
424 (2)(b) of the EP Act	be supported by enough information to enable the administering authority to decide the application, including, for example, relevant information about the likely risks to the environment and how it is intended to dispose of the contaminated soil:	Items: The below Items must be considered to enable the administering authority to decide the application.
Approximate volume of soil to be disposed of in M3 units and not tonnes.	Yes Volume: 300m ³	Details:
Approved form details matches the landfill acceptance letter ie. Volumes or locations.	Yes	Details: The stockpile size is 300m ³ as described in the stockpile assessment and in the landfill acceptance letter. The application form requested 500m ³ however this was confirmed in an email that the applicant agreed that the permit would be 300m ³ .
Period of time within which the soil will be disposed.	Yes	Details: 28 May 2018 to 28 October 2018
Soil management options considered. NOTE: Standard criteria defined in schedule 4 of the EP Act, which includes: <ul style="list-style-type: none"> the hierarchy of remediation options contained in the National Environmental Protection (Assessment of site contamination) Measure 1999 best practice environmental management for the removal, treatment and disposal of contaminated soil. 	Yes	Details: An environmental site assessment was previously undertaken at the Site which identified TRH and PFAS impacted soil. Contaminated soil was excavated as part of remediation works undertaken at the Site. Treatment was not considered viable due to the small volume of material impacted and due to the identified contaminants.

Guidance Notes - Soil Disposal Permit Assessment

<ul style="list-style-type: none"> any applicable Commonwealth, State or local government plans, standards, agreements or requirements. 		
History of land use for the originating location, which may be from a site investigation.	Yes	Details: The site at building 108 & 109 was most recently used for small engine repair, with the wider site being used as an airport.
Information about the method and results of soil sampling that supports the reported contamination in the soil to be removed.	Yes	Details: Information provided within 'Archerfield Airport – Stockpile Classification for Off-Site Disposal' prepared by Epic Environmental, 16 May 2018.
Where the disposal location accepting is a non-government landfill or another parcel of land on the EMR and/or CLR – a copy of the certificate of title and owners consent. <i>NOTE: Special attention must be considered to Sch 4 Standard criteria.</i>	Yes - certificate of title and owners consent	Details: Accepting facility is Ti Tree bioenergy, Veolia Environmental Services at Champions Way, Willowbank. EPPR00573913
For all soil disposal permits applications Sch 4 Standard criteria was considered under the EP Act.	Yes	Details:
Scaled plan/ Map/ Photo's showing soil sampling locations.	Yes	Details: Map of the stockpile and samples provided.
Contamination source(s) and tabulation of soil analysis results.	Yes	Details: Tabulated results provided
An explanation of location and depths of samples, how samples were collected, and how sample integrity was maintained.	Yes	Details: Information provided within 'Archerfield Airport – Stockpile Classification for Off-Site Disposal' prepared by Epic Environmental, 16 May 2018.
Toxicity Characteristic Leaching Procedure (TCLP) results from relevant soil samples.	Yes	Details: Information provided within 'Archerfield Airport – Stockpile Classification for Off-Site Disposal' prepared by Epic Environmental, 16 May 2018.

Guidance Notes - Soil Disposal Permit Assessment

Copies of all laboratory reports and sample receipt advices for all soil analysis.	Yes	Details: Information provided within 'Archerfield Airport – Stockpile Classification for Off-Site Disposal' prepared by Epic Environmental, 16 May 2018.
Complies with landfill conditions.	Yes	Details: Information provided within 'Archerfield Airport – Stockpile Classification for Off-Site Disposal' prepared by Epic Environmental, 16 May 2018.
Relevant numbers of sampling conducted. <i>"For stockpile sampling see Schedule B2"</i> .	Yes - Relevant Number of Samples Taken	Details: 10 samples were taken from the stockpile which complies with the NEPM adopted minimum samples from the VIC EPA soil sampling guideline.

4. Soil disposal permits for per- and poly-fluoroalkyl substances (PFAS)

<delete section 4 if not required>

Situation Soil not to be used as day cover Analysis requirements.	Analysis requirements The analysis are required for disposal of PFAS soils to landfill. Check that the appropriate analysis has been conducted. All potential contaminants must be analysed for having considered the history of activities on the site. For some sites PFAS may not be the only contaminate that should be investigated, for example, bulk fuel storage facilities should include analysis for hydrocarbons.	Items:
This is an extraction procedure. Either a TOF or TOPA analysis must be undertaken on leachate generated from using this procedure.	Toxicity Characteristic Leaching Procedure (TCLP) carried out: Yes	Details: Sum of TOPA TCLP results provided
Allows for direct comparison to maximum total contaminant levels in soils used as cover material in EA conditions.	Total organic fluorine (TOF) <i>Using combustion ion chromatography – in house method, linear and branch should be included:</i> N/A	Details: Not being used as cover material
TOPA involves an oxidation pre-treatment coupled with a standard PFAS analysis using US EPA Method 537. Ensure that full oxidation has occurred. For example, the presence of 6:2 and 8:2 Fluorotelomers indicates that full oxidation has not occurred and there may still be hidden PFAS. The sum of the oxidisable precursors (TOPA C4-C14) plus perfluoroalkyl sulfonates (PFBS, PFHxS, PFOS, PFOSA, PFDcS) can be taken as a surrogate for the total fluorinated organics (C4-C14) if a total organic fluorine analysis is not available. The sum of these compounds can be compared to acceptance criteria related to total fluorinated organics.	Total Oxidisable Precursor Assay (TOPA) - <i>Method reference – Houtz et al. 2012</i> Yes	Details: TOPA TCLP results provided

Guidance Notes - Soil Disposal Permit Assessment

Soil not to be used as day cover Analysis requirements.	Leachability – TOF or TOPA, with TCLP. Yes	Details: TOPA TCLP results provided
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5. Delegate Decision

Assessing Officer	sch4p4(6) Personal information	Click here to enter a date. 7/6/18
Reviewing Officer		Click here to enter a date. 08/16/18
	Approved to Issue Notices	Click here to enter a date.
Delegate	sch4p4(6) Personal information	12/6/18

Information Notice

Environmental Protection Act 1994

Notice of decision to grant a soil disposal permit with conditions

This information notice is issued by the administering authority in accordance with section 424(5)¹ of the Environmental Protection Act 1994 (EP Act) to advise you of the decision to grant your application for a soil disposal permit, but to impose conditions on the permit, and to inform you of the reasons for the decision and your review and appeal rights.

Our reference: 101/0004691

Brisbane Aero Engineers Pty Ltd
920 Boundary Road
RICHLANDS QLD 4077
ATTN: Angela Barlow

Email: Personal i@brisbaneaero.com

Dear [Personal ir](#)

Re: Application to remove and dispose of 300m³ of contaminated soil from Archerfield Airport, Ditchman Avenue, Archerfield QLD (Lot 2 on SP200283).

Decision

The administering authority has considered your application received on 29 May 2018 and has decided to grant the application, but to impose conditions on the permit.

Reasons for the decision

The granting of the permit subject to the conditions imposed is consistent with the standard criteria defined in Schedule 4 of the *Environmental Protection Act 1994* (EP Act).

¹ Section 424 continues to have effect under section 739 of the EP Act.

Notice of decision to grant a soil disposal permit with conditions

Assessment criteria used in making the decision

In accordance with section 424(4) of the EP Act in making its decision to grant the application for disposal permit the administering authority has considered the standard criteria listed in Schedule 4 of the EP Act including:

- best practice environmental management for removal treatment and disposal of contaminated soil
- any applicable environmental protection policy
- any applicable site investigation- report or validation report or site management plan
- any applicable Commonwealth, State or local government plans, standards, agreements or requirements.

Findings as a result of the administering authority's assessment of the application

The information provided in the disposal permit application is sufficient to justify the disposal of the soil

Information considered by the administering authority in making its determination

Information provided in the application submitted by Brisbane Aero Engineers Pty Ltd on 29 May 2018 including:

- Application form
- 'Archerfield Airport – Stockpile Classification for Off-Site Disposal' prepared by Epic Environmental, 16 May 2018.
- Letter of acceptance provided by Veolia Environmental Services dated 23 May 2018 stating they are willing to accept **300m³ of contaminated soil** from **Archerfield Airport, Ditchman Avenue, Archerfield QLD (Lot 2 on SP200283)** for **lined landfill disposal where leachate is not reused on or off-site** (licenced under EA **EPPR00573913**), located at Ti Tree bioenergy, Stage 1 of the Veolia Environmental Services (Australia) Pty Ltd landfill at Champions Way, Willowbank QLD 4306 (Lot 4 on RP24574)

Review and appeal details

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Should you have any questions in relation to this matter, please contact Josh Brown from Waste & Contaminated Land on 3330 5576.

Notice of decision to grant a soil disposal permit with conditions

ch4p4(6) Personal information

Signature

12/6/18

Date

Enquiries:

Josh Brown

Ph: (07) 3330 5576

Waste and Contaminated Land Assessment

Department of Environment and Science

Level 8, 400 George Street

Brisbane QLD 4001

Email: josh.brown@des.qld.gov.au

Simone Ventura

Manager

Delegate of the Chief Executive

Environmental Protection Act 1994

SOIL DISPOSAL PERMIT
Environmental Protection Act 1994 (EP Act)

Disposal permit number: CLEB06535618

Commencement date: 12 June 2018

Expiry Date: 12 June 2019

Permit Holder: Brisbane Aero Engineers Pty Ltd

Authorised activity: Removal of 300m³ of contaminated soil from Archerfield Airport, Ditchman Avenue, Archerfield QLD (Lot 2 on SP200283) for *lined landfill disposal where leachate is not reused on or off-site* (licenced under EA EPPR00573913), located at Ti Tree bioenergy, Stage 1 of the Veolia Environmental Services (Australia) Pty Ltd landfill at Champions Way, Willowbank QLD 4306 (Lot 4 on RP24574)

Maximum volume: 300m³

This disposal permit is subject to the conditions endorsed hereon or attached hereto in Schedule A.

sch4p4(6) Personal information

Signature

12/6/18

Date

Enquiries:

Josh Brown
Ph: (07) 3330 5576
Waste and Contaminated Land Assessment
Department of Environment and Science
Level 8, 400 George Street
Brisbane QLD 4001

Email: josh.brown@des.qld.gov.au

Simone Ventura
Manager
Delegate of the administering authority
Environmental Protection Act 1994

Schedule A - Conditions

1. Records of soil removal, treatment and disposal authorised under this permit must be kept for a period of no less than seven years and be available to the administering authority by request. The information to be kept in the records must include:
 - a) the quantity of material disposed; and
 - b) acceptance receipts from the waste disposal/treatment facility.
2. The permit holder must provide a copy of the permit to any person acting under the permit.
3. Contaminated soil must not be released to air, land or water during excavation, loading, storage, treatment and transport of the soil in a manner that causes environmental harm.
4. Contaminated soil to be disposed under this permit must only be removed from the area marked 'approximate soil stockpile location' in the attached figure 'Stockpile Sampling Figure, Drawing No 1, Prepared by Epic Environmental, 06/04/2018'.



Date : 28/08/2017 2:39:28 PM

From : 4(6) Personal inform

To : "FRANCIS Karen"

Subject : FW: notification of land for Archerfield Airport AR104220

Attachment : Q501-IF01-Fire Fighting Manifest- Archerfield Airport Depot.pdf;Q501-IG01-Genrerel Layout- Archerfield Airport Depot.pdf;image001.png;image002.jpg;image004.png;

Hi Karen please find attached diagram for the underground tanks at Archerfield.

Please do not hesitate to contact me should you require further information.

Regards

4(6) Personal inform

Operations Manager - Australia/New Zealand
Global Physical Operations (Aviation)

Direct: +61 (0)3 9678 2236

Cell: 4(6) Personal inform

www.wfscorp.com

ersona@wfscorp.com

World Fuel Services (Australia) Pty Ltd

Level 12
10-16 Queen Street
Melbourne
VIC 3000
Australia



World Fuel Services (Australia) Pty Ltd. Registered in Australia. Register No. 150 375 063.
Registered address: Level 12, 10-16 Queen Street, Melbourne, VIC 3000

From: 5) Personal in

Sent: Monday, August 28, 2017 1:29 PM

To: 6) Personal info

Subject: FW: notification of land for Archerfield Airport AR104220

Please reply

(6) Personal info

Senior Operations Manager - Australia/New Zealand
Global Physical Operations (Aviation)

Direct: +61 (0) 396 782 265

Cell: 4(6) Personal inform

www.wfscorp.com

ersona@wfscorp.com

World Fuel Services (Australia) Pty Ltd

Level 12
10-16 Queen Street
Melbourne
VIC 3000
Australia



World Fuel Services (Australia) Pty Ltd. Registered in Australia. Register No. 150 375 063.
Registered address: Level 12, 10-16 Queen Street, Melbourne, VIC 3000

From: FRANCIS Karen [<mailto:Karen.Francis@ehp.qld.gov.au>]

Sent: 28 August 2017 11:54

To: 5) Personal in

Subject: [EXTERNAL]notification of land for Archerfield Airport AR104220

Thank you for your application Notice of Notifiable Activity for Archerfield Airport Lot 2 SP200283

The site is already listed on the Environmental Management Register (EMR) for petroleum product or oil storage (possibly for another part of the property that also has fuel stored)

I have attached a copy of the search response for your information

To enable me to clarify and update our records could you please supply a map or plan showing the location of the tanks and also advise whether the tanks are above or below ground

Regards
Karen



Karen Francis
Customer Service Officer
Waste and Contaminated Land Assessment | EMR/CLR Registry
Environmental Services and Regulation
Department of Environment and Heritage Protection

P 07 3181 2420 F 07 3330 5754 E emr.clr.registry@ehp.qld.gov.au
400 George Street BRISBANE QLD 4000
GPO Box 2454 BRISBANE QLD 4001

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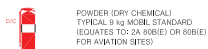
FIRE EQUIPMENT SCHEDULE (FOR FLAMMABLE STORAGE U.N.O., IF COMBUSTIBLE, REQUIREMENTS WILL BE REDUCED)					
LOCATION	EXT. TYPE & NO. REQ.		HOSE REEL	EXT. DISTANCE/ LOCATION	REFERENCE
	POWDER	FOAM			
TANK VEHICLE DELIVERY HOSE CONNECTION POINT	1 *			WITHIN 10000	CLAUSE 11.6.2 & 11.7.4
MAIN SWITCHBOARD	1			2000 - 20000	AS 2444-2001 CLAUSE 4.4.2
PUMPS	1			BETWEEN 3000 & 10000	CLAUSE 11.6.1
FUEL DISPENSER - LIGHT AIRCRAFT	1 *			WITHIN 10000 OF DISPENSER	CLAUSE 11.9.4
TIFS (BOTTOM LOADING)	1/VEHICLE	1 *		1 POWDER PER VEHICLE	CLAUSE 11.7.2
OFFICE (EXTERIOR)	1			ON OUTSIDE WALL ADJACENT TO DOOR	MBP
OFFICE (INTERIOR)	1 *			40m FROM COMPUTERS & PHOTOCOPIERS	AS 2444-2001 CLAUSE 4.4.3

* REFER COMMENTS COLUMN

MANIFEST - BULK							
TANK NO.	CAPACITY (M)	TANK TYPE	PRODUCT NAME	HAZ CHEM CODE	CLASS	UN No.	PACKAGE GROUP
1	45	U/G FRG SINGLE WALL	AVGAS	31YE	3	1203	PG II
2	45	U/G FRG SINGLE WALL	JET A1	31YI	3	1803	PG III
3	1	A/G VAULTED	DIESEL	-	-	-	-

FIRE EQUIPMENT LEGEND

PORTABLE FIRE EXTINGUISHERS



POWDER (DRY CHEMICAL) TYPICAL 9 kg MOBIL STANDARD (EQUATES TO 2A 80BIE) OR 80BIE FOR AVIATION SITES)

FIRE ALARM ACTIVATION DEVICE



SMOKE DETECTOR



MANUAL ACTUATION

MISCELLANEOUS



EMERGENCY PUMP STOP



SAFETY SHOWER & EYEWASH



ELECTRICAL SWITCHBOARD



SPILL KIT



EMERGENCY INFORMATION CONTAINER (MANIFEST)

ASSEMBLY POINT ASSEMBLY POINT AREA

NOTE: MOBIL STANDARD FOR AVIATION SITES - NO FOAM ALLOWED.

REFERENCE DRAWING: SITE GENERAL ARRANGEMENT SJD-1001

EMERGENCY CONTACT NUMBERS

COMPANY	NAME	TITLE	PHONE NO.
PEGASUS AEROFUELS	PETER FAGAN	SITE MANAGER	0408 787 689
MOBIL	EMERGENCY	NECS	1800 023 005
FIRE BRIGADE/AMBULANCE/POLICE			000

18-446

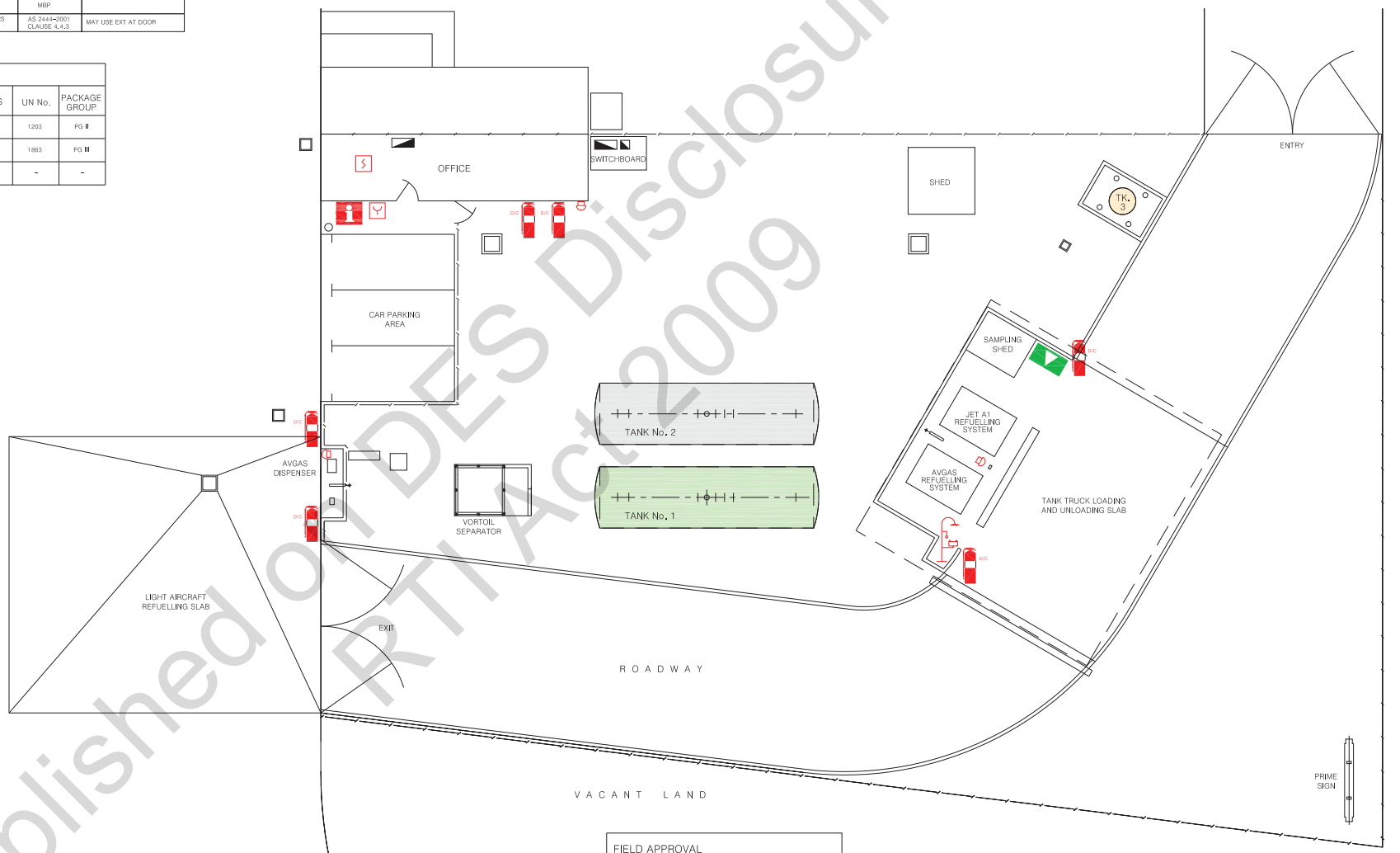
EQUIPMENT LOCATION GUIDANCE

- FOR ADDITIONAL GUIDANCE ON EQUIPMENT REQUIREMENTS REFER TO ME7-P314 FIRE PROTECTION SYSTEM DESIGN/AUDIT CHECKLIST.
- FIRE BLANKETS SHOULD BE LOCATED WHERE PRODUCT IS DRAINED.
- SAMPLE TANKS.
- EYEWASH UNITS SHOULD BE LOCATED AT TOP FILLING STANDS AND SHOWER & EYEWASH UNITS LOCATED AT BOTTOM FILL STANDS.
- SPILL KITS SHOULD BE PROVIDED IN CONVENIENT LOCATION AND

FIRE FIGHTING STANDARDS

- EXTINGUISHERS WILL HAVE THE FOLLOWING RATINGS UNLESS OTHERWISE NOTED.
 - POWDER TYPE EXTINGUISHER (DRY CHEMICAL) MINIMUM 2A 80BIE, EXCEPT FOR AVIATION SITES EXTINGUISHERS WHICH SHOULD BE A MINIMUM 60BIE
 - FOAM EXTINGUISHER - MINIMUM 2A 20S.
- FIRE EXTINGUISHERS SHALL BE MOUNTED IN ACCORDANCE WITH AS 2444-2001 (MIN 100mm ABOVEGROUND, MAX (TOP) 1200 ABOVEGROUND, INCLUDING APPLICABLE SIGNAGE TO CLAUSE 3.3.2).
- FOR TYPICAL WATER & FOAM CABINETS REFER MED-P303.
- WHERE FOAM HOSE REELS ARE REQUIRED, THEY SHALL BE FITTED WITH A FOAM-MAKING BRANCHPIPE WITH PICKUP TUBE CAPABLE OF PRODUCING 27L/MIN OF FOAM SOLUTION AT A MINIMUM OF 220 KPa FOR 30 MINS.

ASSEMBLY POINT



FIELD APPROVAL

PRINT NAME: Personal i

SIGNED & DATED: 17.3.2016



REDUCED SIZE SEE SCALE BAR

File A

	ISSUED FOR SITE INFORMATION & FIELD CHECK	ISSUED FOR FIELD CHECK	ISSUED FOR FIELD CHECK	ISSUED FOR FIELD CHECK	ISSUED FOR FIELD CHECK
A	ISSUED FOR SITE INFORMATION & FIELD CHECK	ISSUED FOR FIELD CHECK	ISSUED FOR FIELD CHECK	ISSUED FOR FIELD CHECK	ISSUED FOR FIELD CHECK
1	ISSUED FOR SITE INFORMATION & FIELD CHECK	ISSUED FOR FIELD CHECK	ISSUED FOR FIELD CHECK	ISSUED FOR FIELD CHECK	ISSUED FOR FIELD CHECK
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11	ISSUED FOR SITE INFORMATION & FIELD CHECK	ISSUED FOR FIELD CHECK	ISSUED FOR FIELD CHECK	ISSUED FOR FIELD CHECK	ISSUED FOR FIELD CHECK
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13	ISSUED FOR SITE INFORMATION & FIELD CHECK	ISSUED FOR FIELD CHECK	ISSUED FOR FIELD CHECK	ISSUED FOR FIELD CHECK	ISSUED FOR FIELD CHECK
14	ISSUED FOR SITE INFORMATION & FIELD CHECK	ISSUED FOR FIELD CHECK	ISSUED FOR FIELD CHECK	ISSUED FOR FIELD CHECK	ISSUED FOR FIELD CHECK
15	ISSUED FOR SITE INFORMATION & FIELD CHECK	ISSUED FOR FIELD CHECK	ISSUED FOR FIELD CHECK	ISSUED FOR FIELD CHECK	ISSUED FOR FIELD CHECK
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17	ISSUED FOR SITE INFORMATION & FIELD CHECK	ISSUED FOR FIELD CHECK	ISSUED FOR FIELD CHECK	ISSUED FOR FIELD CHECK	ISSUED FOR FIELD CHECK
18	ISSUED FOR SITE INFORMATION & FIELD CHECK	ISSUED FOR FIELD CHECK	ISSUED FOR FIELD CHECK	ISSUED FOR FIELD CHECK	ISSUED FOR FIELD CHECK
19	ISSUED FOR SITE INFORMATION & FIELD CHECK	ISSUED FOR FIELD CHECK	ISSUED FOR FIELD CHECK	ISSUED FOR FIELD CHECK	ISSUED FOR FIELD CHECK
20	ISSUED FOR SITE INFORMATION & FIELD CHECK	ISSUED FOR FIELD CHECK	ISSUED FOR FIELD CHECK	ISSUED FOR FIELD CHECK	ISSUED FOR FIELD CHECK

FIRE FIGHTING/MANIFEST LAYOUT
AIRPORT DEPOT
ARCHERFIELD
INTEGRITY CRITICAL DRAWING

Asia Pacific Fuels Operations			
Page 126 of 134	ISSUED FOR REVIEW	Q501-IF01	A
SCALE	1:100		



— — T — — TELECOM (UNDERGROUND)
MAINS
— — E — — MAINS ELECTRICAL (UNDERGROUND)
— — W — — DOMESTIC WATER SUPPLY (UNDERGROUND)

DRAINAGE LAYOUT	Q501-ID01
PIPING ROUTE LAYOUT	Q501-IR01
FIRE FIGHTING/MANIFEST LAYOUT	Q501-IF01
HAZARDOUS AREA LAYOUT	Q501-IH01
TYPICAL LOCATION OF SIGNS	MED-PG01



18-446

[illegible]

GENERAL LAYOUT
AIRPORT DEPOT
ARCHERFIELD
INTEGRITY CRITICAL DRAWING



 **Asia Pacific
Fuels Operations**

SHEET NO.	STATES: NOT APPROVED	DRAWING No.	RS
	ISSUED FOR REVIEW		
A1	SCALE: 1:100	Q501-IG01	A

Date : 2/10/2017 2:58:25 PM

From : "4(6) Personal inform

To : "FRANCIS Karen"

Cc : 4(6) Personal inform

Subject : notification of land for Archerfield Airport AR104220

Attachment : Q501-IF01-Fire Fighting Manifest- Archerfield Airport Depot.pdf;Q501-IG01-Genrerel Layout- Archerfield Airport Depot.pdf;Q501-IH01-Hazardous Area Layout- Archerfield Airport Depot.pdf;image001.jpg;

Hi Karen please find attached copy of the plans for the previously Mobil owned Archerfield airport. The tanks are both single skinned underground tanks as marked on the plans.

Please do not hesitate to contact me should you require further information.

Regards

4(6) Personal inform

Operations Manager - Australia/New Zealand
Global Physical Operations (Aviation)

Direct: +61 (0)3 9678 2236

Cell: 4(6) Personal inform

www.wfscorp.com

Personal wfscorp.com

World Fuel Services (Australia) Pty Ltd

Level 12
10-16 Queen Street
Melbourne
VIC 3000
Australia



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Registered address: Level 12, 10-16 Queen Street, Melbourne, VIC 3000

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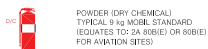
FIRE EQUIPMENT SCHEDULE (FOR FLAMMABLE STORAGE U.N.O., IF COMBUSTIBLE, REQUIREMENTS WILL BE REDUCED).					
LOCATION	EXT. TYPE & NO. REQ.		HOSE REEL	EXT. DISTANCE/ LOCATION	REFERENCE
	POWDER	FOAM			
TANK VEHICLE DELIVERY HOSE CONNECTION POINT	1 *			WITHIN 10000	CLAUSE 11.6.2 & 11.7.4
MAIN SWITCHBOARD	1			2000 - 20000	AS 2444-2001 CLAUSE 4.4.2
PUMPS	1			BETWEEN 3000 & 10000	CLAUSE 11.6.1
FUEL DISPENSER - LIGHT AIRCRAFT	1 *			WITHIN 10000 OF DISPENSER	CLAUSE 11.9.4
TIFS (BOTTOM LOADING)	1/VEHICLE	1 *		1 POWDER PER VEHICLE	MIN 1: FOAM PER 2 VEHICLES LOADING, REFER CLAUSE 11.7.3 FOR EXTRA REQUIREMENTS FOR DOUBLE LOADING
OFFICE (EXTERIOR)	1			ON OUTSIDE WALL ADJACENT TO DOOR	MBP
OFFICE (INTERIOR)	1 *			40m FROM COMPUTERS & PHOTOCOPIERS	AS 2444-2001 CLAUSE 4.4.3

* REFER COMMENTS COLUMN

MANIFEST - BULK							
TANK NO.	CAPACITY (M)	TANK TYPE	PRODUCT NAME	HAZ CHEM CODE	CLASS	UN No.	PACKAGE GROUP
1	45	U/G FRG SINGLE WALL	AVGAS	31YE	3	1203	PG II
2	45	U/G FRG SINGLE WALL	JET A1	31YI	3	1803	PG III
3	1	A/G VAULTED	DIESEL	-	-	-	-

FIRE EQUIPMENT LEGEND

PORTABLE FIRE EXTINGUISHERS



POWDER (DRY CHEMICAL) TYPICAL 9 kg MOBIL STANDARD (EQUATES TO 2A 80BIE) OR 80BIE FOR AVIATION SITES)

FIRE ALARM ACTIVATION DEVICE



SMOKE DETECTOR



MANUAL ACTUATION

MISCELLANEOUS



EMERGENCY PUMP STOP



SAFETY SHOWER & EYEWASH



ELECTRICAL SWITCHBOARD



SPILL KIT



EMERGENCY INFORMATION CONTAINER (MANIFEST)

ASSEMBLY POINT ASSEMBLY POINT AREA

NOTE: MOBIL STANDARD FOR AVIATION SITES - NO FOAM ALLOWED.

REFERENCE DRAWING: SITE GENERAL ARRANGEMENT SJD-1001

EMERGENCY CONTACT NUMBERS

COMPANY	NAME	TITLE	PHONE NO.
PEGASUS AEROFUELS	PETER FAGAN	SITE MANAGER	0408 787 689
MOBIL	EMERGENCY	NECS	1800 023 005
FIRE BRIGADE/AMBULANCE/POLICE			000

18-446

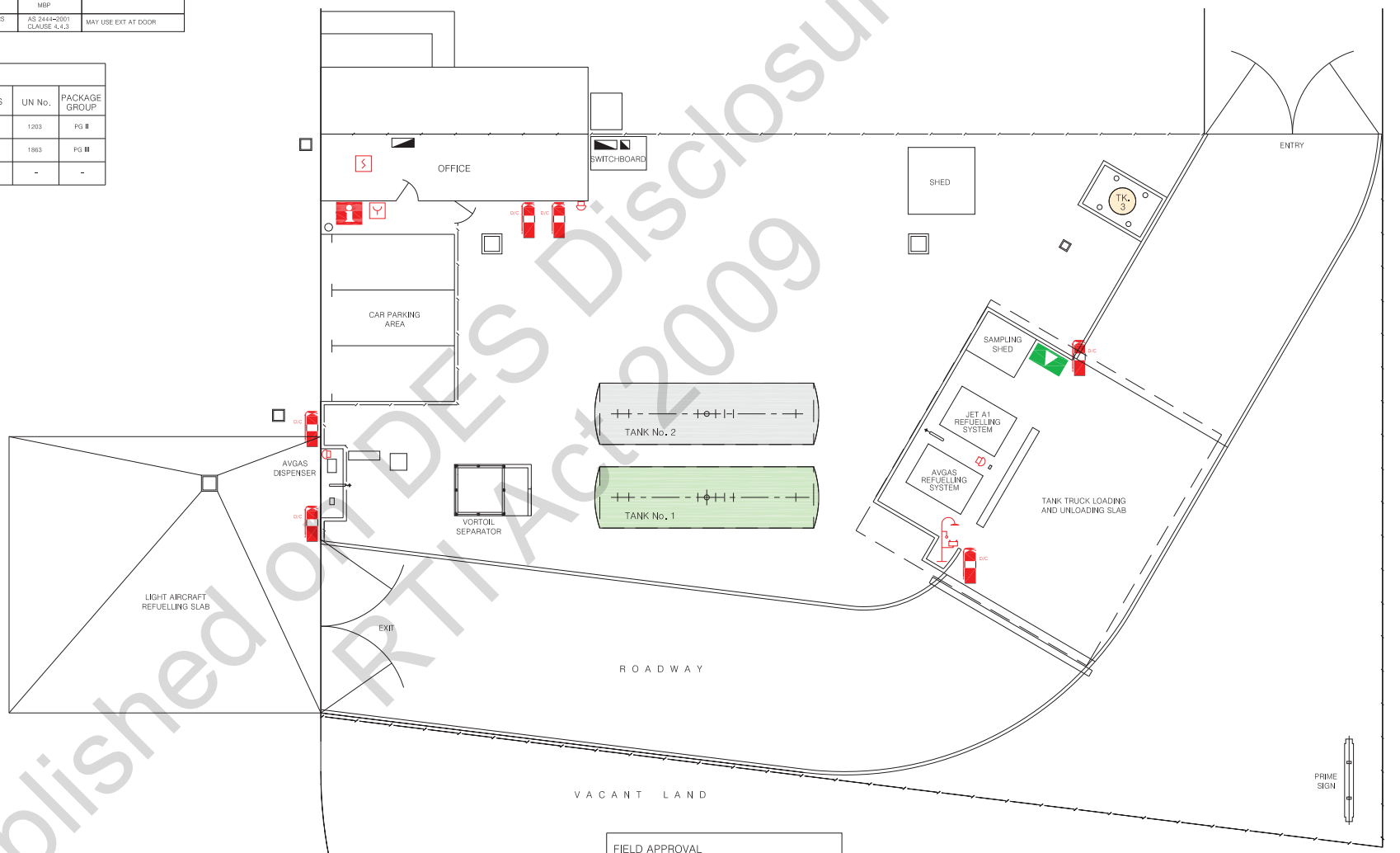
EQUIPMENT LOCATION GUIDANCE

- FOR ADDITIONAL GUIDANCE ON EQUIPMENT REQUIREMENTS REFER TO ME7-P314 FIRE PROTECTION SYSTEM DESIGN/AUDIT CHECKLIST.
- FIRE BLANKETS SHOULD BE LOCATED WHERE PRODUCT IS DRAINED.
- SAMPLE TANKS.
- EYEWASH UNITS SHOULD BE LOCATED AT TOP FILLING STANDS AND SHOWER & EYEWASH UNITS LOCATED AT BOTTOM FILL STANDS.
- SPILL KITS SHOULD BE PROVIDED IN CONVENIENT LOCATION AND

FIRE FIGHTING STANDARDS

- EXTINGUISHERS WILL HAVE THE FOLLOWING RATINGS UNLESS OTHERWISE NOTED.
 - POWDER TYPE EXTINGUISHER (DRY CHEMICAL) MINIMUM 2A 80BIE, EXCEPT FOR AVIATION SITES EXTINGUISHERS WHICH SHOULD BE A MINIMUM 60BIE
 - FOAM EXTINGUISHER - MINIMUM 2A 20S.
- FIRE EXTINGUISHERS SHALL BE MOUNTED IN ACCORDANCE WITH AS 2444-2001 (MIN 100mm ABOVEGROUND, MAX (TOP) 1200 ABOVEGROUND, INCLUDING APPLICABLE SIGNAGE TO CLAUSE 3.3.2).
- FOR TYPICAL WATER & FOAM CABINETS REFER MED-P303.
- WHERE FOAM HOSE REELS ARE REQUIRED, THEY SHALL BE FITTED WITH A FOAM-MAKING BRANCH PIPE WITH PICKUP TUBE CAPABLE OF PRODUCING 27L/MIN OF FOAM SOLUTION AT A MINIMUM OF 220 KPa FOR 30 MINS.

ASSEMBLY POINT



FIELD APPROVAL

PRINT NAME: **Personal in**
SIGNED & DATED: 17.3.2016



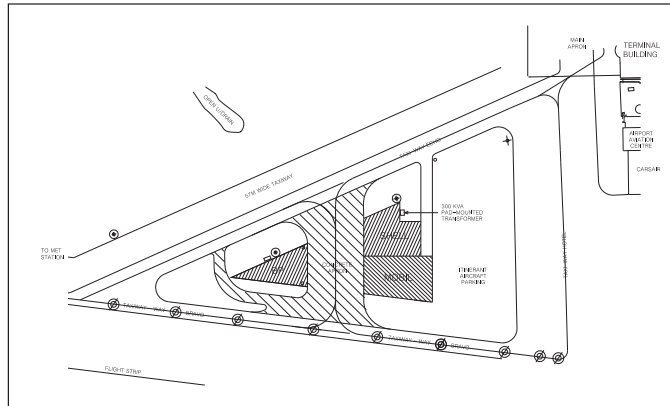
REDUCED SIZE SEE SCALE BAR

File A

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ALTERNATIONS					
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CHECKED	DATE: 17.3.2016	DATE: 17.3.2016	DATE: 17.3.2016	DATE: 17.3.2016	DATE: 17.3.2016
APPROVED	DATE: 17.3.2016	DATE: 17.3.2016	DATE: 17.3.2016	DATE: 17.3.2016	DATE: 17.3.2016

FIRE FIGHTING/MANIFEST LAYOUT
AIRPORT DEPOT
ARCHERFIELD
INTEGRITY CRITICAL DRAWING

Asia Pacific Fuels Operations
Page 129 of 134
ISSUED FOR REVIEW
SCALE 1:100
Q501-IF01 A



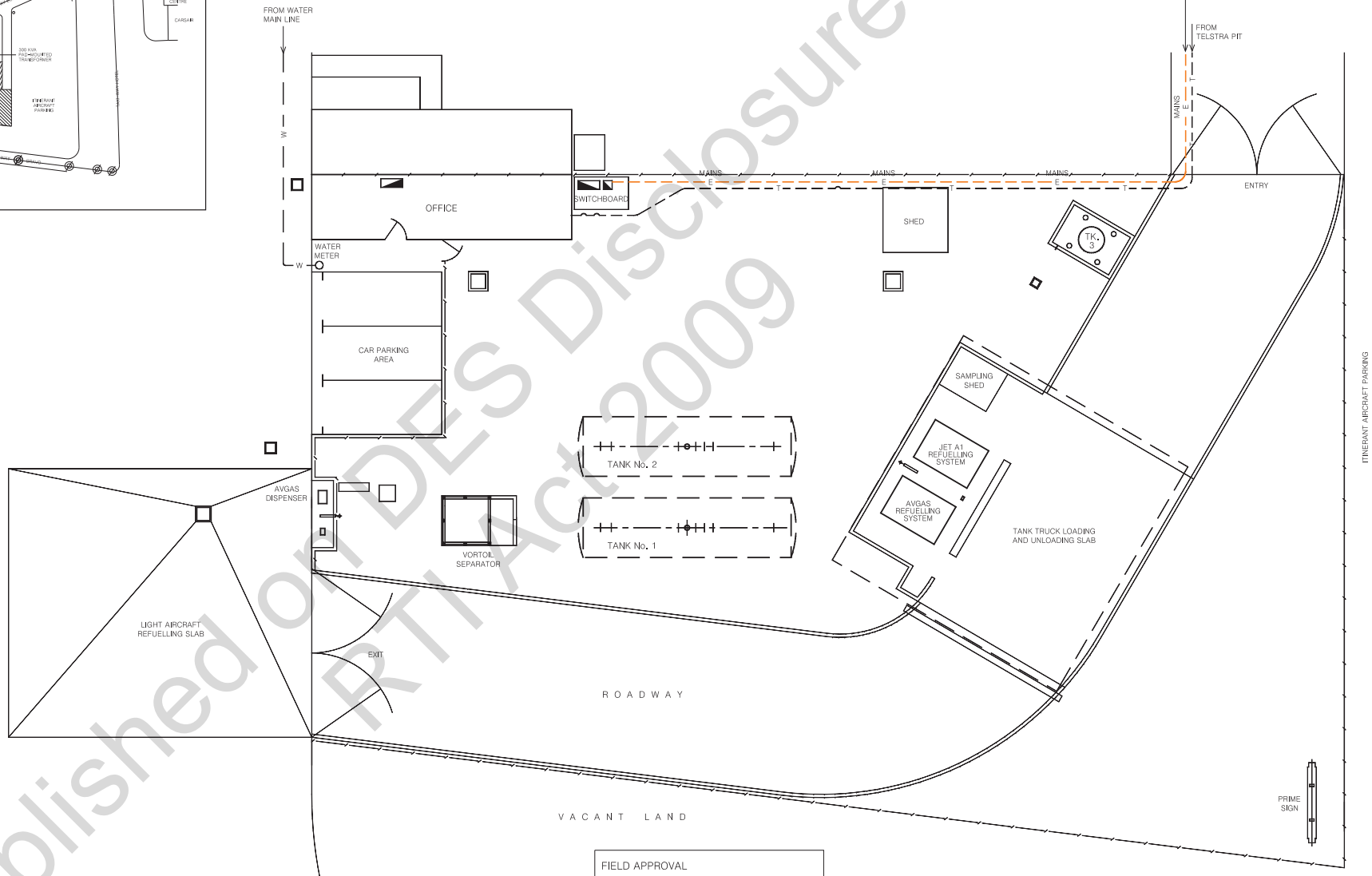
LOCALITY PLAN
NOT TO SCALE

LEGEND:

- T — TELECOM (UNDERGROUND)
- M — MAINS
- E — MAINS ELECTRICAL (UNDERGROUND)
- W — DOMESTIC WATER SUPPLY (UNDERGROUND)

REFERENCE DRAWINGS:

- DRAINAGE LAYOUT — Q501-ID01
- PIPING ROUTE LAYOUT — Q501-IR01
- FIRE FIGHTING/MANIFEST LAYOUT — Q501-IF01
- HAZARDOUS AREA LAYOUT — Q501-HI01
- TYPICAL LOCATION OF SIGNS — MED-PG01



FIELD APPROVAL

PRINT NAME: **Personal i**

SIGNED & DATED: 17.3.2016



REDUCED SIZE SEE SCALE BAR



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GENERAL LAYOUT
AIRPORT DEPOT
ARCHERFIELD
INTEGRITY CRITICAL DRAWING

Asia Pacific
Fuels Operations

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Q501-IG01

LEGEND:

AREA CLASSIFICATION IN ACCORDANCE WITH AS/NZS 60079.10.1:2009 (TANKS WITH IFR's ARE IN ACCORDANCE WITH API RP 500 & 505).

- HAZARDOUS AREA ZONE 1
 - HAZARDOUS AREA ZONE 2
 - DESIGNATED WORK AREA (INCLUDE 1000 MAX. OUTSIDE WALLS OF BUILDING AS INDICATED)
- GENERAL GAS & TEMPERATURE CLASSIFICATIONS:
GAS GROUP IIA
TEMP. CLASS T3
- SMALL QUANTITIES OF PETROLEUM PRODUCT MUST REMAIN CLOSED & BE STORED SAFELY ON A SHELF OR IN A CABINET.

NOTES:

1. TANKS & FITTINGS

- INTERIOR OF ALL TANK**
CONFINED SPACE -
ENTRY BY PERMIT ONLY
- a. INSIDE FLAMMABLE TANKS -
ZONE 0 - THE SPACE INSIDE THE TANK ABOVE THE LIQUID LEVEL FOR ABOVE & UNDERGROUND TANKS.
EMPTY TANKS -
ZONE 0 - THE ENTIRE INTERIOR OF THE TANK.
 - b. FOR U/G TANK VENT POINTS -
ZONE 1 - WITHIN 1500 RADIUS IN ALL DIRECTIONS FROM VENT PIPE OUTLET.
ZONE 2 - THE CYLINDRICAL VOLUME BELOW THE ZONE 1 SPHERICAL VOLUME, DOWN TO GROUND LEVEL.
 - c. FOR U/G TANK FILL/DRIP POINTS -
ZONE 2 - A CYLINDRICAL VOLUME FROM GROUND LEVEL TO 500 ABOVE AND 3000 LATERALLY FROM ANY FILL PIPE OR DIP PIPE OPENING.
 - d. EMPTY TANKS WITH OPEN MAN-HOLE -
ZONE 2 - WHEN INSIDE ZONE 2 COMPOUND AND MAN-HOLE BELOW EXTERIOR BUND HEIGHT.

2. PIPES, PUMPS & FITTINGS

- a. ABOVEGROUND PIPELINES -
ZONE 2 - WITHIN 1500 IN ALL DIRECTIONS OF VALVES OR FITTINGS AND DOWN TO GROUND LEVEL.
- b. PUMPS -
FOR A PUMP WITH A SINGLE MECHANICAL SEAL, A ZONE 1 AREA WITHIN 300mm OF THE SEAL SHALL APPLY.

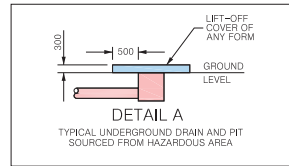
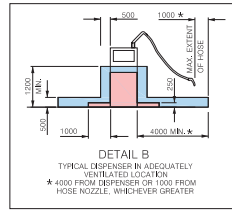
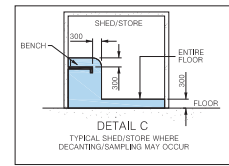
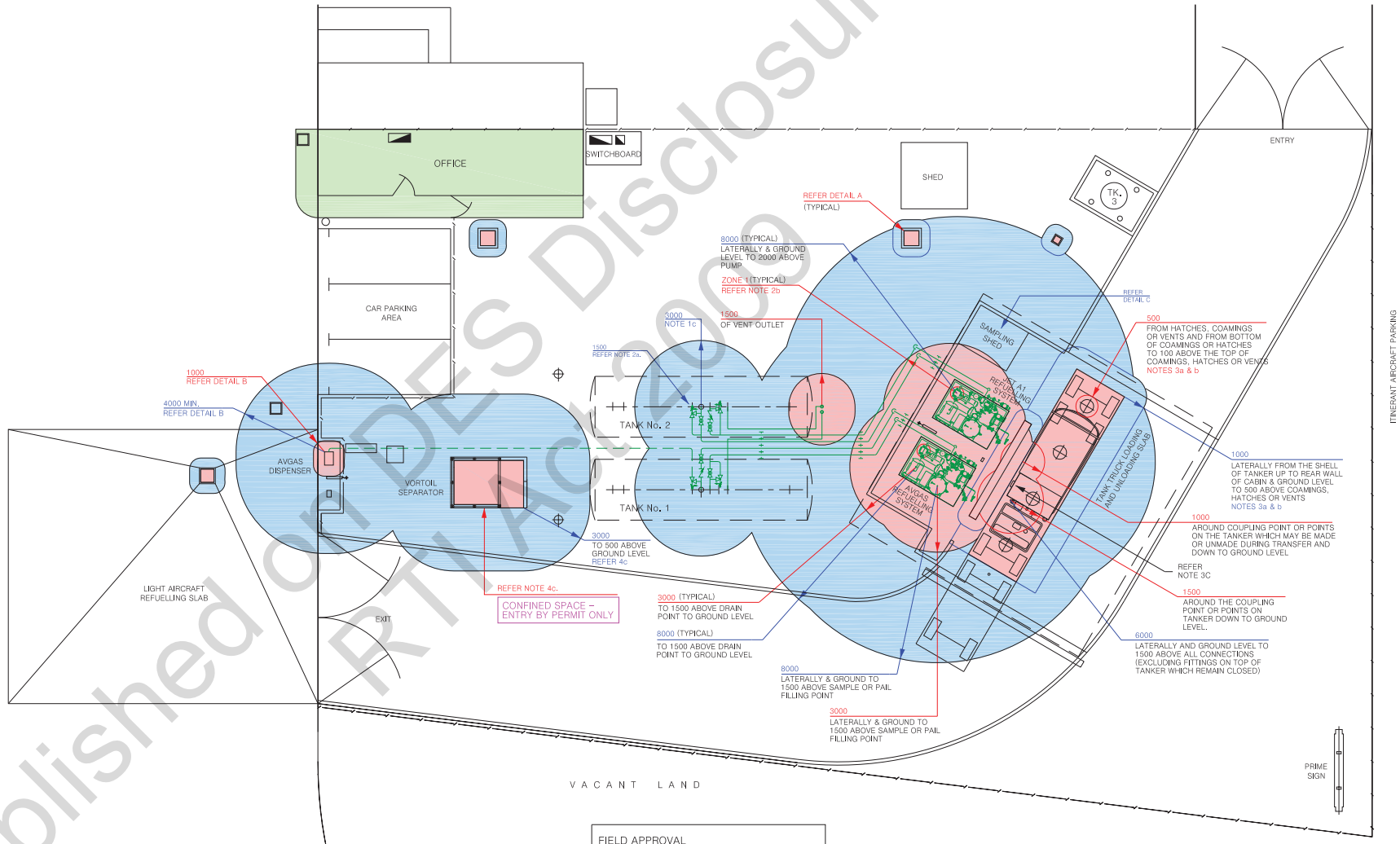
3. TANKER CONNECTIONS

- a. VEHICLE LOADING/UNLOADING SHALL INCLUDE ALLOWANCE FOR VARIABLE TANKER POSITION.
- b. VEHICLE LOADING/UNLOADING HAZARDOUS ZONES ARE DEEMED TO EXIST DURING THE WHOLE PERIOD OF CARGO TRANSFER AND FOR 5 MINUTES THEREAFTER.
- c. HOSES USED FOR LOADING/UNLOADING -
WHEN DISCONNECTED FROM TANKER:
ZONE 1 - WITHIN THE SPACE 1500 RADIUS AROUND WET HOSE END AND EXTENDING DOWN TO GROUND LEVEL.
ZONE 2 - OUTSIDE ZONE 1 BUT WITHIN THE SPACE FROM GROUND LEVEL TO 1500 ABOVE AND 3000 LATERALLY FROM WET HOSE END.
NON-HAZARDOUS - DRY HOSE DRAINED OF LIQUID.
- d. FOR AVIATION VEHICLE HAZARDOUS ZONES REFER STANDARD DRAWINGS: MED-PE30, MED-PE31, MED-PE32 & MED-PE33.

4. DRAINAGE FACILITIES

- a. ALL U/G DRAINS & PITS SOURCED FROM A HAZARDOUS AREA. SEE DETAIL -A.
- b. ANY OPEN PITS, DRAINS OR U/G ENCLOSURES (eg CONDUITS) WITHIN THE HAZARDOUS AREA SHALL BE CLASSIFIED AS ZONE 1 FOR THE ENTIRE LENGTH.
- c. ALL INTERCEPTOR DRAINAGE PITS & SEPARATOR PITS SHALL BE CLASSIFIED:
CLASS 1, ZONE 1 - FROM LIQUID LEVEL TO TANK TOP OR GROUND LEVEL.
CLASS 2, ZONE 2 - FOR 3000 EXTENDING ALL DIRECTIONS AT 500 HIGH ABOVE GROUND LEVEL (A.G.L.).

REFERENCE DRAWING:
SITE GENERAL ARRANGEMENT Q501-IH01



FIELD APPROVAL

PRINT NAME: **Personal i**

SIGNED & DATED: 17.3.2016



HAZARDOUS AREA LAYOUT
AIRPORT DEPOT
ARCHERFIELD
INTEGRITY CRITICAL DRAWING

Asia Pacific
Fuels Operations

Page 131 of 134

Sheet No. **A1** Scale **1:1000**

Drawing No. **Q501-IH01**

Rev. **A**

File A

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Date : 7/06/2018 1:49:08 PM

From : p4(6) Personal inform

To : "BROWN Josh (DES)"

Subject : Re: Archerfield Airport - Soil Disposal Permit stockpile volume

Attachment : image002.png;image001.png;

Hi Josh

We have re-measured the stockpile. H is 2.6 metres, L is 11.1 metres, W is 9.8 metres = 283 cubic meters.

I'm happy to go with 300 cubic meters on the approval.

Kind regards

p4(6) Personal inform

Quality & Safety Manager
Business Manager



www.brisbaneaero.com

BRISBANE AERO ENGINEERS PTY LTD 920 Boundary Road, Richlands Qld 4077
BAE Management Services Pty Ltd (07) 3375 1787

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*****IMPORTANT MESSAGE*****

On 7 June 2018 at 11:40, BROWN Josh (DES) <Josh.Brown@des.qld.gov.au> wrote:

Hi Personal

Thankyou for our phone conversation. As discussed, could you please confirm whether you'd like to proceed with the permit for 300m³ or if you intend on pursuing an updated acceptance letter from the landfill for 500m³? The updated acceptance letter can be emailed directly through to myself and I will update the application.

Please note that the decision to approve the soil disposal permit must be made by 12 June 2018.

Kind regards,

Josh Brown

Senior Environmental Officer

PFAS Project Team

Waste and Contaminated Land I Industry & Development Assessment

Department of Environment and Science



P 07 3330 5576

E josh.brown@des.qld.gov.au

E PFASProjectTeam@des.qld.gov.au

[400 George Street, Brisbane QLD 4000](#)

GPO Box 2454, Brisbane QLD 4001

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Published on DES Disclosure Log
RTI Act 2009

Date : 13/06/2018 10:15:29 AM

From : "BROWN Josh (DES)"

To : "(6) Personal infor

Subject : Soil Disposal Permit - CLEB06535618

Attachment : Soil Disposal Permit signed - CLEB06535618.pdf;image001.png;image002.png;

Hi Personal

Please find attached an information notice and soil disposal permit for Archerfield Airport – Reference CLEB06535618

Kind regards,



Josh Brown
Senior Environmental Officer
PFAS Project Team
Waste and Contaminated Land I Industry & Development Assessment
Department of Environment and Science

P 07 3330 5576
E josh.brown@des.qld.gov.au
E PFASProjectTeam@des.qld.gov.au
400 George Street, Brisbane QLD 4000
GPO Box 2454, Brisbane QLD 4001